



---

General Catalogs

---

8-1-2010

# The University of Iowa General Catalog 2010-11

University of Iowa

---

Copyright © 2010 The University of Iowa

Hosted by [Iowa Research Online](#). For more information please contact: [lib-ir@uiowa.edu](mailto:lib-ir@uiowa.edu).

# The University of Iowa 2010-11 General Catalog

## Table of Contents

The University of Iowa 2010-11 General Catalog	6
Academics at Iowa	7
Undergraduate Study	8
Undergraduate Majors and Pre-majors	9
Undergraduate Certificates	14
Undergraduate Minors	15
General Education Program	17
Four-Year Graduation Plan	18
Graduate and Professional Study	19
Course Numbering	20
Grading	28
Supporting Offices	29
Colleges and Other Academic Units	30
College of Liberal Arts and Sciences	31
African American Studies	34
Aging Studies	42
American Indian and Native Studies	47
American Sign Language	52
American Studies	56
Anthropology	70
Art and Art History	92
Asian and Slavic Languages and Literatures	128
Bachelor of Liberal Studies	152
Biochemistry	154
Biology	161
Chemistry	180
Cinema and Comparative Literature	191
Classics	206
Communication Sciences and Disorders	220
Communication Studies	234
Computer Science	253
Creative Writing (Iowa Writers' Workshop)	276
Critical Cultural Competence	278
Dance	280
Division of Performing Arts	293
Economics	294
Elementary Education	308
English	309
English as a Second Language	344
Environmental Sciences	348
Ethics and Public Policy	359
French and Italian	362
Gender, Women's, and Sexuality Studies	376
General Education Program	386
Geography	403
Geoscience	418
German	434
Global Health Studies	445
Health and Human Physiology	450

# The University of Iowa 2010-11 General Catalog

## Table of Contents

Health and Sport Studies	474
History	482
Interdepartmental Studies	502
International Business	517
International Studies	526
Journalism and Mass Communication	546
Latin American Studies	558
Leisure Studies	562
Linguistics	571
Mathematics	580
Medieval Studies	596
Microbiology	600
Museum Studies	606
Music	609
Performing Arts Entrepreneurship	641
Philosophies and Ethics of Politics, Law, and Economics	648
Philosophy	651
Physics and Astronomy	657
Political Science	674
Psychology	689
Religious Studies	706
Rhetoric	721
Science Education	725
Sexuality Studies	730
Social Work	734
Sociology	750
Spanish and Portuguese	762
Statistics and Actuarial Science	783
Theatre Arts	799
Tippie College of Business	813
Accounting	829
Economics	839
Entrepreneurship	853
Finance	858
International Business	865
Management and Organizations	874
Management Sciences	881
Marketing	886
Master of Business Administration Program	891
Risk Management and Insurance	898
College of Dentistry	900
Endodontics	906
Family Dentistry	909
Hospital General Dentistry	910
Operative Dentistry	911
Oral and Maxillofacial Surgery	914
Oral Pathology, Radiology, and Medicine	917
Oral Science	921
Orthodontics	923

# The University of Iowa 2010-11 General Catalog

## Table of Contents

Pediatric Dentistry .....	926
Periodontics .....	928
Preventive and Community Dentistry .....	930
Prosthodontics .....	933
College of Education .....	936
Educational Policy and Leadership Studies .....	952
Psychological and Quantitative Foundations .....	969
Rehabilitation and Counselor Education .....	986
Teaching and Learning .....	1003
College of Engineering .....	1046
Biomedical Engineering .....	1069
Chemical and Biochemical Engineering .....	1082
Civil and Environmental Engineering .....	1095
Electrical and Computer Engineering .....	1111
Mechanical and Industrial Engineering .....	1124
Graduate College .....	1150
Alliances for Graduate Education and the Professoriate Summer Program .....	1174
Applied Mathematical and Computational Sciences .....	1175
Biosciences .....	1177
Center for the Book .....	1181
Genetics .....	1186
Human Toxicology .....	1189
Immunology .....	1192
Informatics .....	1195
International Writing Program .....	1198
Library and Information Science .....	1199
Molecular and Cellular Biology .....	1209
Neuroscience .....	1212
Rhetorics of Inquiry (POROI) .....	1215
Second Language Acquisition .....	1219
Translational Biomedicine .....	1229
Transportation Studies .....	1232
Urban and Regional Planning .....	1234
College of Law .....	1243
Carver College of Medicine .....	1283
Anatomy and Cell Biology .....	1304
Anesthesiology .....	1309
Biochemistry .....	1313
Cardiothoracic Surgery .....	1320
Clinical Laboratory Sciences .....	1322
Dermatology .....	1324
Dietetic Internship .....	1325
Emergency Medicine .....	1326
Family Medicine .....	1328
Free Radical and Radiation Biology .....	1331
Internal Medicine .....	1334
Medical Education Program .....	1338
Medical Scientist Training Program .....	1340
Microbiology .....	1342

# The University of Iowa 2010-11 General Catalog

## Table of Contents

Molecular Physiology and Biophysics .....	1348
Neurology .....	1351
Neurosurgery .....	1353
Nuclear Medicine Technology .....	1354
Obstetrics and Gynecology .....	1356
Ophthalmology and Visual Sciences .....	1358
Orthopaedics and Rehabilitation .....	1360
Otolaryngology-Head and Neck Surgery .....	1362
Pathology .....	1364
Pediatrics .....	1368
Pharmacology .....	1373
Physical Therapy and Rehabilitation Science .....	1377
Physician Assistant Program .....	1388
Psychiatry .....	1395
Radiation Oncology .....	1397
Radiation Sciences .....	1398
Radiology .....	1402
Surgery .....	1404
Urology .....	1406
College of Nursing .....	1408
College of Pharmacy .....	1433
College of Public Health .....	1453
Agricultural Safety and Health .....	1455
Biostatistics .....	1456
Certificate in Public Health .....	1462
Community and Behavioral Health .....	1463
Emerging Infectious Disease Epidemiology .....	1470
Epidemiology .....	1471
Health Management and Policy .....	1482
Master of Public Health Program .....	1490
Occupational and Environmental Health .....	1501
Public Health Genetics .....	1510
University College .....	1513
Aerospace Studies (Air Force ROTC) .....	1514
Bachelor of Applied Studies .....	1517
Belin-Blank Center for Gifted Education .....	1519
Career Center Programs .....	1521
Center for Diversity & Enrichment .....	1526
College Success Initiatives .....	1527
First-Year Programs .....	1528
Human Rights .....	1529
Intercollegiate Athletic Participation .....	1533
Iowa Biosciences Advantage .....	1534
Iowa Lakeside Laboratory .....	1536
Iowa Young Writers' Studio .....	1541
Leadership Studies .....	1542
Lifetime Leisure Skills .....	1547
Military Science (Army ROTC) .....	1551
Nonprofit Management .....	1554

# The University of Iowa 2010-11 General Catalog

## Table of Contents

Orientation Training .....	1555
Patient Care Practicum .....	1556
Research Experience for Undergraduates in Microbiology .....	1557
Secondary Student Training Program .....	1558
Student Information Technology Skills .....	1559
Student Services .....	1560
Study Abroad .....	1561
Summer Undergraduate MSTP Research Program .....	1568
Sustainability .....	1569
University Housing .....	1573
University Libraries .....	1574
University of Iowa Honors Program .....	1575
University of Iowa Upward Bound .....	1580
VIGRE Heartland REU .....	1581
Division of Continuing Education .....	1582
Administrative Officers .....	1587
Faculty .....	1592
Iowa Administrative Code .....	1776
University Calendar .....	1788
Campus Visits .....	1789

## The University of Iowa 2010-11 General Catalog

The General Catalog provides information about academic programs at The University of Iowa, one of three universities governed by the Board of Regents, State of Iowa. The Catalog also provides links to supporting offices at the University, a list of administrative officers, an A-Z list of University of Iowa faculty members, a University calendar, and information extracted from the Iowa Administrative Code regarding admission requirements and Iowa resident/nonresident standing.

The General Catalog is published for informational purposes and should not be construed as the basis of a contract between a student and The University of Iowa. Every effort is made to provide information that is accurate at the time of publication. However, information on courses, curricula, fees, policies, regulations, and other matters is subject to change any time during the period for which the Catalog is in effect.

This edition of the Catalog was published August 2010. For a PDF version of this Catalog and archived back editions, visit the Office of the Registrar's General Catalog site and use the drop-down menu under "Catalog Snapshots."

The General Catalog is produced by the Office of the Registrar and the Office of University Relations. Your comments and suggestions are welcome. Questions concerning the Catalog may be directed to the Office of the Registrar at [registrar-publications@uiowa.edu](mailto:registrar-publications@uiowa.edu).

---

The University of Iowa has been accredited by the North Central Association of Colleges and Schools (30 North LaSalle Street, Suite 2400, Chicago, IL 60602; 312-263-0456) since the association's organization in 1913. The University is a member of the Association of American Universities and is associated with Indiana, Michigan State, Northwestern, Ohio State, Pennsylvania State, and Purdue Universities and the Universities of Illinois, Michigan, Minnesota, and Wisconsin in the Big Ten Conference. Along with the Big Ten universities, it also is associated with The University of Chicago in the Committee for Institutional Cooperation (CIC).

---

*The University of Iowa prohibits discrimination in employment, educational programs, and activities on the basis of race, national origin, color, creed, religion, sex, age, disability, veteran status, sexual orientation, gender identity, or associational preference. The University also affirms its commitment to providing equal opportunities and equal access to University facilities. For additional information, contact the Office of Equal Opportunity and Diversity, 202 Jessup Hall, The University of Iowa, Iowa City, IA 52242-1316; 319-335-0705 (voice) and 319-335-0697 (text).*

## Academics at Iowa

The University of Iowa offers academic degree and nondegree programs at the undergraduate and graduate levels. It also offers postdoctoral study and other opportunities for nondegree study and research. The General Catalog describes the University's degree and nondegree programs at the undergraduate and graduate levels.

The following pages provide global information about undergraduate, graduate, and professional study across the University. They include lists of all undergraduate majors (including tracks and emphases), certificates, and minors, with links to the relevant Catalog sections; a link to the College of Liberal Arts and Sciences' undergraduate General Education Program; information about the undergraduate Four-Year Graduation Plan; information about graduate and professional study; descriptions of the University's course numbering and grading systems; and contact information for supporting offices (admissions, registrar, housing, student financial aid, and equal opportunity).

- Undergraduate Study
  - Undergraduate Majors and Pre-majors
  - Undergraduate Certificates
  - Undergraduate Minors
  - General Education Program
  - Four-Year Graduation Plan
- Graduate and Professional Study
- Course Numbering
- Grading
- Supporting Offices

For information about degree and nondegree programs in specific disciplines and interdisciplinary areas, including graduation requirements and courses offered, see the links under Colleges and Other Academic Units in the Catalog.

To find the Catalog section for a specific academic department or program, use the Catalog's A-Z Directory or the Catalog Contents index.



## Undergraduate Study

University of Iowa undergraduate students may earn majors, certificates, and minors in more than 100 subject areas. Many majors have varied tracks or emphases, which students may choose according to their own educational goals and interests. Each program is described in the 2010-11 General Catalog, with information on courses and other graduation or completion requirements. Click on the program links under "Undergraduate Majors and Pre-majors," "Undergraduate Certificates," and "Undergraduate Minors."

- Undergraduate Majors and Pre-majors
- Undergraduate Certificates
- Undergraduate Minors

Students enrolled in the College of Liberal Arts and Sciences must complete the college's General Education Program in order to earn an undergraduate degree; other colleges also require General Education course work as part of their undergraduate curricula. For a detailed description of the program and its requirements, use the following link.

- General Education Program

Students who enter the University directly from high school may choose to participate in the Four-Year Graduation Plan, in which students agree to certain conditions that guide their study, and the University ensures availability of courses that students need in order to graduate in four years or provides remedies for delays in graduation due to lack of a course.

- Four-year Graduation Plan

## Undergraduate Majors and Pre-majors

The University of Iowa offers the following undergraduate majors, pre-majors, and preparatory course work for selected professional degrees. Some majors offer Teacher Education Programs or the opportunity to earn a degree with teacher licensure, as indicated below. Each major links to the appropriate section of the 2010-11 General Catalog. Additional information about all majors is available on the Office of Admissions web site under Undergraduate Admissions: Majors & Programs.

### Majors and Tracks/Emphases

Accounting (B.B.A.)

Actuarial Science (B.S.): see Statistics and Actuarial Science

African American Studies (B.A.)

American Studies (B.A.)

Ancient Civilization (B.A.): see Classics

Anthropology (B.A., B.S.)

Teacher licensure

Applied Physics (B.S.): see Physics and Astronomy

Art (B.A., B.F.A.): see Art and Art History

Option: Teacher Education Program

Art History (B.A.): see Art and Art History

Option: Teacher Education Program

Asian Languages and Literature (B.A.): see Asian and Slavic Languages and Literatures

Chinese Track

Hindi Track

Japanese Track

Sanskrit Track

Teacher licensure

Astronomy (B.A., B.S.): see Physics and Astronomy

Athletic Training (B.S.): see Health and Human Physiology

Bachelor of Applied Studies (B.A.S.)

Bachelor of Liberal Studies (B.L.S.)

Biochemistry (B.A., B.S.)

Biology (B.A., B.S.)

Cell and Developmental Biology Track

Comprehensive Biology Track

Evolutionary Biology Track

Genetics and Biotechnology Track

Neurobiology Track

Plant Biology Track

Teacher licensure

Biomedical Engineering (B.S.E.)

Bioinformatics Track

Bioimaging Track

Biomaterials Track

Cardiovascular Biomechanics Track

Cellular Engineering Track

Musculoskeletal Biomechanics Track

Pre-Medicine Track

Business Administration (B.B.A.): see Business

Chemical Engineering (B.S.E.): see Chemical and Biochemical Engineering

Biochemical Engineering Track

Business Track  
Chemical Process Engineering Track  
Entrepreneurship Track  
Environmental Engineering Track  
Polymers Track  
Pre-Medicine Track

Chemistry (B.A., B.S.)  
Teacher licensure

Cinema (B.A.): see Cinema and Comparative Literature

Civil Engineering (B.S.E.): see Civil and Environmental Engineering  
Civil Subtrack  
Environmental Subtrack  
Civil Engineering Practice Track (Civil or Environmental)  
Entrepreneurial Career Path Track (Civil or Environmental)  
Environmental Health Engineering Track (Environmental)  
Environmental Remediation and Control Track (Environmental)  
Green Engineering Track (Environmental)  
Management Track (Civil or Environmental)  
Structures, Mechanics, and Materials Track (Civil or Environmental)  
Transportation Engineering Track (Civil or Environmental)  
Urban and Regional Planning Track (Civil or Environmental)  
Water Resources Engineering Track (Civil or Environmental)

Classical Languages (B.A.): see Classics  
Teacher licensure

Clinical Laboratory Sciences (B.S.)

Communication Studies (B.A.)

Comparative Literature (B.A.): see Cinema and Comparative Literature  
Foreign Language and Literature Track  
Literature and Arts Track

Computer Science (B.A., B.S.)

Dance (B.A., B.F.A.)

Economics (B.A., B.B.A., B.S.)

Electrical Engineering (B.S.E.): see Electrical and Computer Engineering  
Computer Engineering Subtrack  
Electrical Engineering Subtrack  
Information Engineering Subtrack

Elementary Education (B.A., B.S.)  
Teacher licensure

Engineering (B.S.E.)

English (B.A.)  
Creative Writing Track  
Option: Teacher Education Program

Environmental Sciences (B.A., B.S.)  
Biosciences Track  
Chemical Sciences Track  
Geosciences Track  
Hydrosciences Track

Ethics and Public Policy (B.A.)

Finance (B.B.A.)

French (B.A.): See French and Italian  
French and Arabic Track  
Language Track  
Literature and Culture Track  
Teaching Track

Gender, Women's, and Sexuality Studies (B.A.)

Geography (B.A., B.S.)

Environmental Studies Track

Geographic Information Science Track

Geography and Social Change Track

Sustainability Track

Teacher licensure

Geoscience (B.A., B.S.)

German (B.A.)

Teacher licensure

Health and Human Physiology (B.A., B.S.)

Health Promotion Track (B.A. only)

Health Studies Track (B.A. only)

Health and Sport Studies (B.A.); entry closed

Health Promotion Track

Sport Studies Track

History (B.A.)

Teacher licensure

Industrial Engineering (B.S.E.): see Mechanical and Industrial Engineering

Computer and Information Systems Track

Entrepreneurship Track

Human Factors and Ergonomics Track

Management Track

Manufacturing and Logistics Systems Track

Medical Systems Track

Informatics (B.A., B.S.): see Computer Science

Interdepartmental Studies (B.A.)

Individualized Plan of Study Track

Business Studies Track

Health Sciences Track

Recreation Management Track

International Studies (B.A.)

African Studies Emphasis

Caribbean Studies Emphasis

Development Emphasis

East Asian Studies Emphasis

European Studies Emphasis

Global Artistic Tradition and Change Emphasis

Global Health Emphasis

Global Resources and Environment Emphasis

Human Rights Emphasis

International Business Emphasis

International Communication and Information Emphasis

International Politics and International Relations Emphasis

Latin American Studies Emphasis

Middle East and Muslim World Studies Emphasis

Postcolonial and Diasporic Studies Emphasis

Russian, East European, and Eurasian Studies Emphasis

Self-Directed Emphasis

South Asian Studies Emphasis

War, Peace, and Security Emphasis

Italian (B.A.): see French and Italian

Teacher licensure

Journalism and Mass Communication (B.A., B.S.)

Leisure Studies (B.S.)

Child Life Track

## Therapeutic Recreation Track

Linguistics (B.A.)

Teaching English as a Second Language Emphasis

Literature, Science, and the Arts (B.A.); entry closed

Management (B.B.A.): see Management and Organizations

Management Information Systems (B.B.A.): see Management Sciences

Marketing (B.B.A.)

Mathematics (B.A., B.S.)

General Track (Program A)

Math Education Track (Program B)

Specialization Areas Track (Program C)

Teacher licensure

Mechanical Engineering (B.S.E.): see Mechanical and Industrial Engineering

Bioengineering Track

Energy and Utilization Track

Entrepreneurship Track

Environmental Transport Processes Track

Management Track

Manufacturing and Materials Processing Track

Mechanical Engineering Design Track

Robotics and Mechatronics Track

Simulation and Visualization Track

Microbiology (B.S.)

Music (B.A., B.M.)

Brass/Woodwind Track (Teacher Education Program)

Composition Track

Jazz Studies Track (Option: Teacher Education Program)

Music Therapy Track

Organ Track

Percussion Track (Option: Teacher Education Program)

Piano Track (Option: Teacher Education Program)

String Track (Teacher Education Program)

Voice Track (Teacher Education Program)

Nuclear Medicine Technology (B.S.)

Nursing (B.S.N.)

Articulation Option 1

Articulation Option 2

Articulation Option 3

Articulation Option 4

Oral Health Science (B.S.): see College of Dentistry

Performing Arts Entrepreneurship (B.A.); entry closed

Dance Emphasis

Music Emphasis

Theatre Arts Emphasis

Pharmacy (Pharm.D.)

Philosophy (B.A.)

Physics (B.A., B.S.): see Physics and Astronomy

Teacher licensure

Political Science (B.A., B.S.)

Teacher licensure

Portuguese (B.A.): see Spanish and Portuguese

Teacher licensure

Psychology (B.A., B.S.)

Teacher licensure

Radiation Sciences (B.S.)

Religious Studies (B.A.)

Russian (B.A.): see Asian and Slavic Languages and Literatures

Teacher licensure

Science Education (B.S.)

Biology Emphasis

Chemistry Emphasis

Earth Science Emphasis

Physics Emphasis

Teacher licensure

Social Work (B.A.)

Sociology (B.A., B.S.)

Spanish (B.A.): see Spanish and Portuguese

Teacher licensure

Speech and Hearing Science (B.A.): see Communication Sciences and Disorders

Sport Studies (B.A.): see American Studies

Statistics (B.S.): see Statistics and Actuarial Science

Math Track

Statistical Computing Track

Statistics in Business, Industry, Government, and Research Track

Theatre Arts (B.A.)

Women's Studies: see Gender, Women's, and Sexuality Studies (B.A.)

## **Pre-majors**

For information about the following pre-majors and preparatory course work for selected professional degrees, see the Office of Admissions web site Undergraduate Admissions: Majors & Programs.

Pre-Chiropractic

Dentistry (preparatory course work for the D.D.S.)

Law (preparatory course work for the J.D.)

Medicine (preparatory course work for the M.D.)

Pre-Mortuary Science

Pre-Optometry

Pharmacy (preparatory course work for the Pharm.D.)

Physical Therapy (preparatory course work for the D.P.T.)

Physician Assistant (preparatory course work for the M.P.A.S.)

Pre-Podiatric Medicine

Pre-Veterinary Medicine

## Undergraduate Certificates

The University of Iowa offers a number of certificates for undergraduates, most in interdisciplinary areas. Colleges offering undergraduate certificates include the College of Liberal Arts and Sciences, the Tippie College of Business, the College of Public Health, and University College.

Certificate in Aging Studies

Certificate in American Indian and Native Studies

Certificate in American Sign Language and Deaf Studies: see American Sign Language

Certificate in Critical Cultural Competence

Certificate in Entrepreneurial Management: see Entrepreneurship

Certificate in Global Health Studies

Certificate in Human Rights

Certificate in International Business

Certificate in Latin American Studies

Certificate in Leadership Studies

Certificate in Medieval Studies

Certificate in Museum Studies

Certificate in Nonprofit Management

Certificate in Performing Arts Entrepreneurship

Certificate in Philosophies and Ethics of Politics, Law, and Economics; entry closed

Certificate in Public Health

Certificate in Risk Management and Insurance

Certificate in Sexuality Studies; entry closed

Certificate in Sustainability

Certificate in Technological Entrepreneurship: see Entrepreneurship

## Undergraduate Minors

Undergraduate minors are offered in numerous disciplines and interdisciplinary areas by the College of Liberal Arts and Sciences, the Tippie College of Business, and the College of Education.

African American Studies  
Aging Studies  
American Indian and Native Studies  
American Sign Language  
American Studies  
Ancient Civilization: see Classics  
Anthropology  
Arabic: see French and Italian  
Art: see Art and Art History  
Art History: see Art and Art History  
Asian Languages (emphasis in Chinese, Hindi, Japanese, or Sanskrit): see Asian and Slavic Languages and Literatures  
Astronomy: see Physics and Astronomy  
Biology  
Business Administration: see "Undergraduate Programs" in Business  
Chemistry  
Cinema: see Cinema and Comparative Literature  
Classical Languages: see Classics  
Communication Studies  
Comparative Literature: see Cinema and Comparative Literature  
Computer Science  
Dance  
Economics  
Educational Psychology: see Psychological and Quantitative Foundations  
English  
Environmental Sciences  
French: see French and Italian  
Gender, Women's, and Sexuality Studies  
Geography  
Geoscience  
German  
Global Health Studies  
Greek: see Classics  
Health and Sport Studies; entry closed  
Health Promotion: see Health and Human Physiology  
Human Physiology; see Health and Human Physiology  
History  
Human Relations: see Rehabilitation and Counselor Education  
Informatics: see Computer Science  
International Studies  
Italian: see French and Italian  
Latin: see Classics  
Latin American Studies  
Leisure Studies  
Linguistics  
Mass Communication: see Journalism and Mass Communication  
Mathematics  
Microbiology  
Music  
Philosophy  
Physics: see Physics and Astronomy  
Political Science  
Portuguese: see Spanish and Portuguese  
Psychology  
Religious Studies  
Russian: see Asian and Slavic Languages and Literatures  
Social Work  
Sociology  
Spanish: see Spanish and Portuguese



Sport Studies: see American Studies

Statistics: see Statistics and Actuarial Science

Theatre Arts

## **General Education Program**

All students entering the College of Liberal Arts and Sciences who wish to earn a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), Bachelor of Liberal Studies (B.L.S.), or a Bachelor of Music (B.M.) degree must complete the CLAS General Education Program in addition to the requirements of their major and other requirements for graduation.

Undergraduate degree programs in other colleges include General Education requirements, which often may be satisfied with certain courses approved for the CLAS General Education Program.

For detailed information about CLAS General Education requirements and lists of courses approved in the CLAS General Education areas, see General Education Program (College of Liberal Arts and Sciences).

## Four-Year Graduation Plan

The Four-Year Graduation Plan is a partnership between students and the University. Students who sign the Four-Year Graduation Plan agree to a number of conditions that guide their studies and their progress toward a degree. The University's colleges and departments also agree to certain conditions. They ensure the availability of courses that students need for graduation; they also guarantee that they will provide certain remedies to a student facing a delay in graduation due to lack of a course, as long as the student has met the conditions of the four-year plan. The Tippie College of Business and the Colleges of Engineering, Liberal Arts and Sciences, and Nursing participate in the four-year plan.

Only students who enter the University directly from high school are eligible to participate in the four-year plan. General information on the Four-Year Graduation Plan is available from the Office of Admissions. Information also is available from the participating colleges and the Academic Advising Center.

## Graduate and Professional Study

The University of Iowa offers graduate and professional degrees and graduate certificate programs in a broad array of disciplines and interdisciplinary areas of study. Each of its 11 colleges offers master's degrees, and most offer doctoral degrees. Degree programs are presented by individual colleges, with most graduate degrees being granted by the Graduate College.

The Graduate College section of the Catalog provides a list of most University of Iowa graduate degrees as well as information about interdisciplinary graduate degree programs, joint degree programs, and certificate programs.

For information about degree and nondegree programs in specific disciplines and interdisciplinary areas, including graduation requirements and courses offered, see the appropriate General Catalog sections: Tippie College of Business, College of Dentistry, College of Education, College of Engineering, Graduate College, College of Law, College of Medicine, College of Nursing, College of Pharmacy, and College of Public Health.

Prospective graduate and professional students should apply through the Office of Admissions; see Graduate and Professional Admissions on the office's web site.

## Course Numbering

Each course in the regular University curriculum has an identifying number, preceded by the number of the college, department, or program that administers the course. For example, 034:001 is the code for the course numbered 001 in the Department of Sociology (034), titled Introduction to Sociology Principles. Course numbers below 100 designate courses primarily for undergraduates, numbers 100 to 199 designate courses for undergraduate and graduate students, and numbers 200 and above designate courses primarily for graduate students.

### **Tippie College of Business**

06A	Accounting
06B	Business Administration
06E	Economics
06F	Finance
06J	Management and Organizations
06K	Management Sciences
06M	Marketing
06N	M.B.A. Program
06T	Entrepreneurship
620	College of Business Nondepartmental

### **College of Dentistry**

082	Operative Dentistry
083	Endodontics
084	Prosthodontics
086	Oral Pathology, Radiology, and Medicine
087	Oral and Maxillofacial Surgery
089	Orthodontics
090	Pediatric Dentistry
092	Periodontics
111	Preventive and Community Dentistry
112	Dentistry Nondepartmental
114	Family Dentistry
151	Oral Science

### **College of Education**

07B	Educational Policy and Leadership Studies
07C	Rehabilitation and Counselor Education
07E	Elementary Education
07P	Psychological and Quantitative Foundations
07S	Secondary Education
07U	Special Education

07W	Instructional Design and Technology
07X	Education Interdivisional
205	REACH Program

### **College of Engineering**

051	Biomedical Engineering
052	Chemical and Biochemical Engineering
053	Civil and Environmental Engineering
055	Electrical and Computer Engineering
056	Industrial Engineering
057	Engineering Core
058	Mechanical Engineering
059	Core Engineering

### **Graduate College**

411	Alliances for Graduate Education and the Professoriate Summer Program
021	Library and Information Science
22A	Applied Mathematical and Computational Sciences
102	Urban and Regional Planning
108	Center for the Book
127	Genetics
132	Neuroscience
142	Molecular and Cellular Biology
148	Immunology
156	Biosciences
160	Rhetorics of Inquiry
163	Translational Biomedicine
164	Second Language Acquisition
181	International Writing Program
198	Human Toxicology
200	Informatics
650	Graduate College Nondepartmental

### **College of Law**

091	Law
660	Law College Nondepartmental

**College of Liberal Arts and Sciences**

BLS	Bachelor of Liberal Studies
01A	Fundamentals
01B	Elements of Art
01C	Ceramics
01D	Design
01E	Art Education
01F	Drawing
01G	Metalworking and Jewelry
01H	Art History
01J	Multimedia and Video Art
01K	Painting
01L	Photography
01M	Printmaking
01N	Sculpture
01P	Art Interdepartmental
01X	Papermaking
01Y	Bookbinding
01Z	Calligraphy
002	Biology
003	Communication Sciences and Disorders
004	Chemistry
006	Prebusiness
06E	Economics
008	English
08A	English Department Nonmajor Course Work
08C	Creative Writing--Writers' Workshop
08G	General Education--Literature
08L	English Language and Linguistics Instruction
08N	Nonfiction Writing
08P	English Professional
08W	English Writing
8WS	Writers' Seminars
009	French
010	Rhetoric

012	Geoscience
013	German
13E	German in Translation
015	Open Major
016	History
16A	American History
16E	European History
16W	World History
018	Italian
019	Journalism and Mass Communication
20E	Classics in English
20G	Greek
20L	Latin
22C	Computer Science
22M	Mathematics
22S	Statistics and Actuarial Science
024	Museum Studies
025	Music
026	Philosophy
027	Health and Human Physiology
028	Health and Sport Studies
28S	Health and Physical Activity Skills
029	Physics and Astronomy
030	Political Science
031	Psychology
032	Religious Studies
034	Sociology
035	Spanish
036	Communication Studies
038	Portuguese
039	Asian and Slavic Languages and Literatures
39J	Japanese
041	Russian
042	Social Work
044	Geography
045	American Studies
048	Cinema and Comparative Literature
049	Theatre Arts
061	Microbiology
097	Science Education



099	Biochemistry
103	Linguistics
113	Anthropology
129	African American Studies
130	Latin American Studies
131	Gender, Women's, and Sexuality Studies
137	Dance
144	Philosophies and Ethics of Politics, Law, and Economics
145	Interdepartmental Studies
149	American Indian and Native Studies
152	Global Health Studies
153	Aging Studies Program
154	Sexuality Studies
158	American Sign Language
159	Environmental Sciences
162	Medieval Studies Certificate
169	Leisure Studies
187	International Studies
188	Performing Arts Entrepreneurship
195	Arabic Language and Literature
206	Sustainability Program
208	Critical Cultural Competence
210	Ethics and Public Policy
211	Swahili
212	English as a Second Language Programs
213	Anthropology Sub-Areas
216	Human Rights
610	Liberal Arts and Sciences Nondepartmental

### **Carver College of Medicine**

050	Medicine Nondepartmental
060	Anatomy and Cell Biology
061	Microbiology
062	Dermatology
064	Neurology
066	Obstetrics and Gynecology
067	Ophthalmology and Visual Sciences
068	Otolaryngology--Head and Neck Surgery

069	Pathology
070	Pediatrics
071	Pharmacology
072	Molecular Physiology and Biophysics
073	Psychiatry
074	Radiology
075	Surgery
076	Orthopaedics and Rehabilitation
077	Free Radical and Radiation Biology
078	Internal Medicine
079	Urology
099	Biochemistry
101	Physical Therapy and Rehabilitation Science
115	Family Medicine
116	Anesthesiology
117	Physician Assistant Program
183	Neurosurgery
184	Emergency Medicine
186	Radiation Oncology
193	Cardiothoracic Surgery
197	Medical Education Program
670	Radiologic Technology Program
671	Orthoptics Teaching Program
672	Radiation Therapy Program
673	Diagnostic Medical Sonography
674	Magnetic Resonance Imaging
675	Vascular Imaging Technology
676	Computed Tomography Program
677	EMT--Paramedic Program
678	Quality Management/PACS
679	Breast Imaging Program

**College of Nursing**

096	All courses
-----	-------------

**College of Pharmacy**

046 All courses

### **College of Public Health**

170 Master of Public Health Program  
171 Biostatistics  
172 Community and Behavioral Health  
173 Epidemiology  
174 Health Management and Policy  
175 Occupational and Environmental Health  
185 Public Health Genetics

### **University College**

BAS Bachelor of Applied Studies  
00L Iowa Lakeside Laboratory  
023 Military Science  
23A Aerospace Studies  
143 University of Iowa Honors Program  
165 Study Abroad  
166 Belin-Blank Center for Gifted Education  
168 Iowa Biosciences Advantage  
204 Nonprofit Management  
206 Sustainability Program  
401 University of Iowa Upward Bound  
402 Center for Diversity & Enrichment  
403 Research Experiences for Undergraduates in Microbiology  
405 Summer Undergraduate MSTP Research Program  
406 Iowa Young Writers' Studio  
407 College Success Initiatives  
408 Intercollegiate Athletic Participation  
409 Career Center Programs  
410 Lifetime Leisure Skills  
412 Orientation Training  
413 Student Services  
414 Patient Care Practicum  
415 University Housing  
416 Student Information Technology Skills

417	University Libraries
418	Secondary Student Training Program
419	VIGRE Heartland REU
420	First-Year Programs
421	Leadership Studies

## Grading

The University uses a letter grading system for individual courses, except for the College of Law, which uses a numeric system for course grading. In order to compute grade-point average, letter grades are converted according to the following numerical scale. Grade-point averages are displayed at the bottom of students' grade reports and are truncated so as not to exceed 4.00. All of the following marks appear on the permanent record.

### Grade points for each semester hour

A+	4.33
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0

### Not used in computing grade-point average:

H	Honors (Medicine and Pharmacy)
H-	Near Honors (Medicine)
N	Nonpass
P	Pass
S	Satisfactory
U	Unsatisfactory

### Other marks on the permanent record:

I	Incomplete
O	No grade reported
R	Registered, no grade required
W	Withdrawn
=	Changed grade
#	Grade not included in G.P.A.
*	Undergraduate honors section

## Supporting Offices

Prospective undergraduate, graduate, and professional students should apply to the University through the Office of Admissions. Several other University of Iowa offices provide major services to entering and continuing students.

### **Application for admission (undergraduate, graduate, and professional programs):**

Office of Admissions  
The University of Iowa  
107 Calvin Hall  
Iowa City, IA 52242-1396  
Phone: toll-free nationwide 1-800-553-4692; direct dial 1-319-335-3847  
E-mail: [admissions@uiowa.edu](mailto:admissions@uiowa.edu)  
Web site: <http://www.uiowa.edu/admissions>

### **Registration, residency status, transcripts, tuition and fees, services for veterans, verifications, course offerings, classroom scheduling:**

Office of the Registrar  
The University of Iowa  
1 Jessup Hall  
Iowa City, IA 52242-1316  
Phone: 1-319-335-0238  
E-mail: [registrar@uiowa.edu](mailto:registrar@uiowa.edu)  
Web site: <http://www.registrar.uiowa.edu>

### **Student housing information, application:**

University Housing and Dining  
The University of Iowa  
17 Burge Hall  
Iowa City, IA 52242-1298  
Phone: 1-319-335-3009  
E-mail: [reshall-housing@uiowa.edu](mailto:reshall-housing@uiowa.edu)  
Web site: <http://www.housing.uiowa.edu>

### **Scholarships, grants, loans, student employment:**

Office of Student Financial Aid  
The University of Iowa  
208 Calvin Hall  
The University of Iowa  
Iowa City, IA 52242-1315  
Phone: 1-319-335-1450  
E-mail: [financial-aid@uiowa.edu](mailto:financial-aid@uiowa.edu)  
Web site: <http://www.uiowa.edu/financial-aid>

### **Equal opportunity/nondiscrimination:**

Office of Equal Opportunity & Diversity  
202 Jessup Hall  
The University of Iowa  
Iowa City, IA 52242-1316  
Phone: voice 1-319-335-0705; text 1-319-335-0697  
E-mail: [diversity@uiowa.edu](mailto:diversity@uiowa.edu)  
Web site: <http://www.uiowa.edu/~eod>

## Colleges and Other Academic Units

The University of Iowa offers academic programs and courses through its 11 colleges, University College, and the Division of Continuing Education. For information on each unit, including its constituent departments, programs, and schools and its academic programs (degrees, certificates, minors), click on the following links. University courses are listed under the units that offer them.

- [College of Liberal Arts and Sciences](#)
- [Tippie College of Business](#)
- [College of Dentistry](#)
- [College of Education](#)
- [College of Engineering](#)
- [Graduate College](#)
- [College of Law](#)
- [Carver College of Medicine](#)
- [College of Nursing](#)
- [College of Pharmacy](#)
- [College of Public Health](#)
- [University College](#)
- [Division of Continuing Education](#)

# College of Liberal Arts and Sciences

**Dean:** Linda Maxson  
**Executive associate dean:** Raúl Curto  
**Associate dean for undergraduate programs and curriculum:** Helena Dettmer  
**Associate dean for research and development:** Joseph K. Kearney  
**Web site:** <http://www.clas.uiowa.edu/>

The College of Liberal Arts and Sciences (CLAS) is the oldest and largest of the 11 colleges that make up The University of Iowa. Students from all over the United States and more than 50 other nations study together in the college. Every University of Iowa undergraduate takes courses offered by the college, and more than 75 percent of undergraduates earn their degrees from the College of Liberal Arts and Sciences.

The college provides a comprehensive liberal arts education and advanced education in specialized areas. It offers more than 70 majors and certificates as well as a wide variety of minors and opportunities for interdisciplinary work. Students also may design their own majors through the Bachelor of Arts in interdepartmental studies.

In addition to their academic pursuits, students participate in the college in a variety of ways. They serve on the Dean's Student Advisory Committee and as members of the Educational Policy Committee and the General Education Curriculum Committee--collegiate committees that advise the deans on important educational issues. Students are invited to serve on ad hoc committees within the college as well, and many departments have an undergraduate student group or association. CLAS students also serve in the University of Iowa Student Government. Interested students should contact the appropriate committee or office.

## CLAS Web Site

The College of Liberal Arts and Sciences web site contains a wealth of information for students and faculty members.

Students find information on academic policies and procedures on the For Students pages, including requirements of the CLAS General Education Program (see [CLAS Academic Handbook](#)). Information about scholarships, service opportunities, and upcoming deadlines also is available on the For Students pages.

The CLAS Administrative Units link provides a list of the college's departments, programs, and schools as well as its undergraduate majors, certificates, and minors.

Faculty members turn to the CLAS web site for information on teaching and curriculum, resources to use when advising and instructing students, and updates on important CLAS committees.

The CLAS web site also includes a home page for the Office of the Dean and for CLAS Academic Programs & Services as well as links to other helpful pages.

## CLAS Academic Programs & Services

Located in Schaeffer Hall, at the center of campus, CLAS Academic Programs & Services is an integral part of the College of Liberal Arts and Sciences. The office, which is led by the associate dean for undergraduate programs and curriculum, welcomes students wishing to declare or change majors, file second-grade-only options, request permission to register late, add or drop a course late, or withdraw an entire registration after the established deadlines.

The office's staff members answer students' questions concerning academic requirements or programs, and they frequently meet with students concerning General Education Program requirements, graduation requirements, and collegiate policies that affect students.

Students in the College of Liberal Arts and Sciences may request exceptions to CLAS rules and requirements by petitioning CLAS Academic Programs & Services. All students should discuss their questions and need for an exception first with a staff member in the office.

The office's associate directors work closely with students on academic probation and counsel them on strategies for success. They also conduct semiannual reviews of students on academic probation and consider requests for reinstatement.

CLAS Academic Programs & Services recommends appropriate disciplinary action for academic fraud, such as acts of plagiarism, cheating, and forgery, and for other academic misconduct. It also handles dismissals from the college.

## General Education Program

All students entering the College of Liberal Arts and Sciences who wish to earn a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), Bachelor of Liberal Studies (B.L.S.), or Bachelor of Music (B.M.) degree



must complete the CLAS General Education Program in addition to the requirements of their major and other requirements for graduation.

For General Education requirements, related academic policies, and lists of approved courses, see General Education Program under "Index: CLAS Academic Programs" below.

## CLAS Units and Academic Programs

The College of Liberal Arts and Sciences includes nearly 40 administrative units ranging across the fine and performing arts, humanities and letters, social sciences, and natural and mathematical sciences. These units offer nearly 70 undergraduate majors and certificates as well as a wide variety of minors. They also offer more than 50 graduate programs (with degrees granted by the Graduate College).

### Undergraduate Majors, Certificates, and Minors

The college offers undergraduate majors in a broad range of disciplines. In addition, several majors are offered to CLAS students by other colleges at the University, with the College of Liberal Arts and Sciences granting the degrees. The Tippie College of Business offers a major in economics (B.A. and B.S.); the Carver College of Medicine offers majors in biochemistry (B.A. and B.S.) and in microbiology (B.S.); and the College of Education offers majors in elementary education (B.A. or B.S.) and in science education (B.S.). For descriptions of the majors and their requirements, see the links under "Index: CLAS Academic Programs" below.

The College of Education also offers a Teacher Education Program leading to licensure at the secondary level for students who have completed certain CLAS majors, such as English, mathematics, and art, and who wish to work with students in middle school or high school. Students must apply for admission to the Teacher Education Program; contact the College of Education's Office of Teacher Education and Student Services.

Students who begin their study in the College of Liberal Arts and Sciences may earn undergraduate degrees in clinical laboratory sciences, nuclear medicine technology, and radiation sciences; see the Carver College of Medicine section of the Catalog for information about those majors.

The College of Liberal Arts and Sciences offers a broad array of certificates and minors for undergraduate students. In addition, the college collaborates with the University's International Programs office to offer the Certificate in Global Health Studies and the Certificate in Latin American Studies, and it partners with the Tippie College of Business to offer the Certificate in International Business. Link to information about CLAS certificates and minors under "Index: CLAS Academic Programs" below.

CLAS undergraduates may earn certificates and minors offered by other colleges as well. The Tippie College of Business offers the Certificate in Entrepreneurship, the Certificate in Risk Management and Insurance, and the minor in business administration. The College of Public Health offers the Certificate in Public Health. University College offers the Certificate in Leadership Studies, the Certificate in Nonprofit Management, and the Certificate in Sustainability. The College of Education offers minors in educational psychology and in human relations. For lists of all undergraduate certificates and minors offered by the University, see Certificates and Minors in the Academics at Iowa/Undergraduate Study section of the Catalog.

Undergraduates also may take courses in book arts from the Center for the Book, a Graduate College program that offers a graduate certificate.

### Graduate Degrees and Certificates

The College of Liberal Arts and Sciences offers graduate programs in most of its disciplines, with degrees granted by the Graduate College. Students may earn degrees at the master's and doctoral levels; graduate certificates are available in some areas of study. See Degrees Offered in the Graduate College section of the Catalog for a complete list of graduate degrees offered by the University.

For information about CLAS graduate programs, see the links under "Index: CLAS Academic Programs" below.

## Nondepartmental Courses

Most College of Liberal Arts and Sciences courses are offered by the college's departments, programs, and schools. They are listed and described in the corresponding General Catalog sections; see the links under "Index: CLAS Academic Programs" below.

The college also offers the following nondepartmental courses.

### 610:029 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**610:030 Explorations in Computing, Mathematics, and Science**

1 s.h.

Presentations by science and math faculty members, discussions with visiting scientists, visits to campus labs, off-campus science field trips; for students in Explorations in Computing, Mathematics, and Science Living-Learning Community. Requirements: first-year standing in CMS Learning Community.

**610:040 Citizenship, Leadership, and Service I**

1 s.h.

Presentations by faculty members, scholars, activists; guided discussions with visiting scholars and activists, other varied activities; for students in Citizenship, Leadership & Service Living-Learning Community. Requirements: enrollment in CLS Learning Community.

**610:050 Citizenship, Leadership, and Service II**

1 s.h.

Continuation of 610:040; individual volunteer opportunities, participation in service learning projects; presentations by faculty and community members, visits to University and community resources. Prerequisites: 610:040. Requirements: member of Citizenship, Leadership, and Service Living-Learning Community.

**610:060 Life Design: Building Your Future**

1 s.h.

How interests and talents can be paired up to achieve a fulfilling life; what students are passionate about; address questions (i.e., How can you identify what you're good at? How can you build a life of purpose and meaning? How can you cultivate mentors? What is the relationship between ambition, drive, and success? What major might be the best fit and how can University resources help your academic and personal success?); portfolio of reflective exercises, activities, journal assignments.

**610:099 Peer Mentoring**

1-2 s.h.

Opportunities to participate in classroom and course activities as mentors for other students.

# African American Studies

**Chair:** Carin M. Green

**Coordinator:** Venise Berry

**Professors:** Horace Porter (English/American Studies/African American Studies), Richard B. Turner (Religious Studies/African American Studies),

**Associate professors:** Venise Berry (Journalism and Mass Communication/African American Studies), Tim Havens (Communication Studies/African American Studies), Tisch Jones (Theatre Arts/African American Studies), Michael Lomax (African American Studies/Leisure Studies), Sydné Mahone (Theatre Arts/African American Studies), Kevin Mumford (History/African American Studies), Leslie Schwalm (History/African American Studies/Women's Studies), Miriam Thaggert (English/African American Studies), Vershawn Young (Rhetoric/African American Studies)

**Assistant professors:** Lena Hill (English/African American Studies), Michael Hill (English/African American Studies), Bridget Tsemo (Rhetoric/African American Studies), Deborah Whaley (American Studies/African American Studies)

**Undergraduate degree:** B.A. in African American Studies

**Undergraduate nondegree program:** Minor in African American Studies

**Graduate degree:** M.A. in African American World Studies

**Web site:** <http://www.uiowa.edu/~afam/index.html>

African American studies focuses on the study of people of African descent in the United States and the African diaspora. The African American Studies Program originated in 1969 through courses intended to foster awareness of African Americans' role in the development of the United States and the world. Because a thorough understanding of the African American experience cannot be achieved through study restricted to the perspective of a single discipline, all students are required to pursue courses in the humanities, social sciences, and performing arts.

The African American Studies Program draws upon faculty from American studies, communication studies, education, health and sport studies, history, journalism and mass communication, religious studies, rhetoric, sociology, theatre arts, and women's studies. Future course work in political economy, gender and sexism, and the construction of race and identity is planned.

## Undergraduate Programs

The program offers a Bachelor of Arts and a minor in African American studies.

### Bachelor of Arts

The Bachelor of Arts in African American studies requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in the major. Transfer credit is evaluated case-by-case and is limited to a maximum of 9 s.h. Students must complete the College of Liberal Arts and Sciences General Education Program.

### INTRODUCTORY COURSES

Students are required to complete 129:062 Foundations in African American Studies, and either 129:060 Introduction to African American Society or 129:061 Introduction to African American Culture.

Foundations in African American Studies (129:062) explores the history and the methodology of African American studies. Starting with readings related to the formation of the discipline, the course shows students what an African American studies approach to interpretation entails and culminates in a research paper.

Introduction to African American Society (129:060) examines the construction of social and historical institutions in the United States and the African diaspora (e.g., Black church, Black family, gender, sexuality). The course may include readings in political science, religion, history, sociology, geography, anthropology, and other disciplines.

Introduction to African American Culture (129:061) presents themes in African American cultural studies. It includes readings in literature, music, film studies, religious studies, and the visual and performing arts.

The following introductory courses are required.

129:062 Foundations in African American Studies	3 s.h.
129:060 Introduction to African American Society or	3 s.h.
129:061 Introduction to African American Culture	3 s.h.

### AFRICAN AMERICAN STUDIES CORE

In addition to the two required introductory courses, all students must complete at least two courses from each of the three topical areas below (minimum of 18 s.h.). Additional courses may be approved for the topical areas; consult with an African American studies advisor.

#### History, Religion, and the Diaspora

Two of these:

07B:126 Twentieth-Century Educational Movements	2-3 s.h.
129:008 Literatures of the African Peoples	3 s.h.
129:050 Introduction to African American Religions	3 s.h.
129:063 African American Islam	3 s.h.
129:065 Introduction to African American History	3 s.h.
129:093 Black Culture and Experience (when topic is history, religion, and the diaspora)	3 s.h.
129:123 Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3 s.h.
129:137 History of Slavery in the U.S.A.	3-4 s.h.
129:140 Topics in African American Studies (when topic is history, religion, or the diaspora)	arr.
129:158 Topics in African Cinema	3 s.h.
129:163 Pre-Colonial African History	3 s.h.
129:164 African History Since 1880	3 s.h.
129:170 African American History 1619-1865	3 s.h.
129:184 Black Global Metropolis: Sexual History	3 s.h.
129:187 African American History 1865-Present	3 s.h.
129:189 Themes in African American History	3 s.h.
129:205 Gender and Race in Nineteenth-Century U.S.	arr.

#### **Literature and Performing Arts**

Two of these:

129:069 Selected African American Authors	3 s.h.
129:093 Black Culture and Experience (when topic is literature or performing arts)	3 s.h.
129:098 African American Women Writers	3 s.h.
129:116 African American Literature Before 1900	3 s.h.
129:117 African American Literature Since 1900	3 s.h.
129:128 Racial Narrative and American Performance	3 s.h.
129:140 Topics in African American Studies (when topic is literature or performing arts)	arr.
129:162 Midwest African American Literature and Culture	3 s.h.
129:175 African American Theatre I	3 s.h.
129:181 African American Autobiography	3 s.h.
129:182 Free Style Writing: Poetry, Plays, and Performances	3 s.h.
129:183 Black Feminist Tradition and Culture	3 s.h.
129:186 African American Drama	3 s.h.
129:191 African American Theatre II	3 s.h.

#### **Media, Politics, and Society**

Two of these:

129:076 Race, Ethnicity, and Media	3 s.h.
129:079 Race and Ethnicity in Sport	3 s.h.
129:093 Black Culture and Experience (when topic is media, politics, and society)	3 s.h.
129:097 Race, Sport, and Globalization	3 s.h.
129:102 Black Popular Music	3 s.h.
129:122 African Americans and the Media	3 s.h.
129:140 Topics in African American Studies (when topic is media, politics, or society)	arr.
129:153 The Civil Rights Movement	3 s.h.
129:161 Insurgency and Globalization of Discontent	3 s.h.
129:195 Television and African American Culture	3 s.h.

## ELECTIVES

Students also must take two elective courses (minimum of 6 s.h.) selected from the three topical areas listed above. With the approval of an African-American studies advisor, students may substitute relevant courses offered by other departments for one or both electives; the substituted courses may not be cross-referenced with African American studies. Students must gain the advisor's approval before enrolling in a substitute course.

Two electives selected from the three topical areas above, or approved substitutes 6 s.h.

## LANGUAGE REQUIREMENT

The language requirement for the African American studies major is the same as that of the College of Liberal Arts and Sciences General Education Program. Students are encouraged, but not required, to take African language (Swahili is currently offered) or Spanish language courses to fulfill the language requirement.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

During the first year of study, students should focus on completing the General Education Program, perhaps including beginning Swahili to complete the foreign language component, or taking Spanish language course work.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least three courses in the major, including 129:062 Foundations in African American Studies, and 129:060 Introduction to African American Society or 129:061 Introduction to African American Culture; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** four more courses in the major (for a total of seven) and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least nine courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

The University of Iowa Honors Program provides a stimulating and integrative educational experience for undergraduate majors who perform at a high level. The honors program in African American studies offers students the opportunity to pursue special interests in individual in-depth research. Honors students in African American studies must be members of the University Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Honors students complete all of the required course work for the major (30 s.h.).

Students who wish to graduate with honors in African American studies are encouraged to register for up to 6 s.h. in 129:095 Honors Project. Work in this course enhances the student's ability to complete honors projects under the guidance of the supervising faculty member. Students take 129:095 Honors Project with the approval of their African American studies advisor, who typically supervises the course. Students may count up to 6 s.h. earned in 129:095 Honors Project toward the 33 s.h. required for the major.

Under the guidance of the African American studies advisor, the honors student defines a research project (thesis) using primary, secondary, or archival sources. The thesis may build upon the student's final project for the Senior Seminar (129:199), but research for the honors thesis must be distinct from that for the student's senior seminar paper and must be more thorough and sophisticated. Students make project proposals by the end of their junior year. Each student completes a thesis under the guidance of a supervising faculty member and presents the results as a senior essay to a committee of three faculty members, including the supervising African American studies faculty member, and two other African American studies faculty members of the student's choice. The student's committee may choose to hear an oral defense of the honors thesis, usually during the student's last semester.

Students should use one or more of their elective courses to develop the honors thesis.

## Minor

The minor in African American studies requires a minimum of 15 s.h., including 12 s.h. taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Course work done for another major or minor may not be counted toward the minor in African American studies.

Students must take 129:062 Foundations in African American Studies. In consultation with their advisors, they should select either 129:060 Introduction to African American Society or 129:061 Introduction to African American Culture, and one course in each of the three topical areas (total of three topical area courses, 9 s.h.): history, religion, and the diaspora; literature and performing arts; and media, politics, and society. Two of the three topical area courses must be taken at The University of Iowa.

## Graduate Program

African American studies is not accepting graduate students in 2010-11.

## Cocurricular Activities

### Afro-American Cultural Center

African American studies encourages students to use facilities of the Afro-American Cultural Center. The center serves as a museum and library of educational and cultural artifacts and exhibits of Black culture, providing cultural enrichment for Black people of the Iowa City community and a cultural meeting place for Black students. It also attempts to provide a knowledge of Black culture that will promote diversity among all members of the University community.

### African American Studies Student Association

The African American Studies Student Association aims to promote knowledge about people of African descent by sponsoring programs on various topics. Any University of Iowa student interested in African American studies is eligible to become a member.

### Seminar and Lecture Series

The African American Studies Seminar Series and the Darwin Turner Lecture bring important scholars and creative artists such as Amiri Baraka, Michelle Wallace, and Valerie Smith to the University of Iowa campus.

The New Research in African American Studies lecture series, sponsored by the College of Liberal Arts and Sciences, focuses on research by faculty in the African American Studies Program.

## African American Studies Courses

### For Undergraduates

- |  |        |
|--|--------|
| <b>129:008 Literatures of the African Peoples</b>  | 3 s.h. |
| Works in English by authors of African descent from America, continental Africa, the Caribbean. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Foreign Civilization & Culture, Humanities. Same as 08G:014. |        |
| <b>129:029 First-Year Seminar</b>  | 1 s.h. |
| Small discussion class; topics chosen by instructor. Requirements: first-year standing.  |        |
| <b>129:050 Introduction to African American Religions</b>  | 3 s.h. |
| GE: Cultural Diversity, Humanities. Same as 032:034.   |        |
| <b>129:060 Introduction to African American Society</b>  | 3 s.h. |
| Social and cultural history of African Americans through framework of general works in anthropology, sociology, history. GE: Cultural Diversity, Social Sciences.  |        |
| <b>129:061 Introduction to African American Culture</b>  | 3 s.h. |
| Interdisciplinary look at Black culture in the United States through significant contributions of the humanities (music, art, literature, drama, philosophy) to development of Black culture. GE: Cultural Diversity, Humanities. Same as 045:030.   |        |
| <b>129:062 Foundations in African American Studies</b>   | 3 s.h. |

Introduction to interdisciplinary methods in African American studies; overview of the discipline's central branches, including literature, religion, media and performing arts, history, political science. GE: Cultural Diversity.

**129:063 African American Islam** 3 s.h.  
Same as 032:063.

**129:065 Introduction to African American History** 3 s.h.  
GE: Cultural Diversity. Same as 16A:065.

**129:069 Selected African American Authors** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:069.

**129:076 Race, Ethnicity, and Media** 3 s.h.  
Introduction to debates about media portrayals of race and ethnicity; focus primarily on entertainment media; use of general analytic perspectives--stereotype analysis, aesthetic analysis, history--applied to real-world examples; address one or more racial/ethnic groups in the United States. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 129:076. Same as 036:076.

**129:079 Race and Ethnicity in Sport** 3 s.h.  
Structural and ideological barriers to racial and ethnic equality in sport, with focus on African American sport experiences; historical and contemporary issues, media representations. Same as 028:079.

**129:093 Black Culture and Experience** 3 s.h.  
Topics vary.

**129:095 Honors Project** arr.  
Independent research and writing on interdisciplinary topic.

**129:097 Race, Sport, and Globalization** 3 s.h.  
Introduction to current discussion surrounding the link between sport, race, and globalization; use critical cultural studies perspective to examine the meaning of race and sport within a global context; labor migration of talented athletes, identity politics, and dynamics of equality in sport along such lines as race, class, and gender; examine the African American diaspora within a sport context to study the political, economic, and social construction of race and sport on both the African and Asian continents.

**129:098 African American Women Writers** 3 s.h.  
Introduction to major African American women authors of the 19th, 20th, and 21st centuries; major debates of black feminist literary scholarship; analyze African American literary representations by reading novels, poetry, short stories, plays, relevant historical and critical texts. Same as 131:098.

## For Advanced Undergraduate and Graduate Students

**129:102 Black Popular Music** 3 s.h.  
History and expressive culture of people of African descent living in America through popular music forms; historical time span between the 17th and 21st centuries; poetry, music, cultural analysis, film, and art as sources for the study of Black music; genres covered include spirituals and gospel, blues, jazz, rock, rhythm and blues, Afropunk, alternative and neo soul, and hip-hop. Recommendations: 045:030 and 129:060. Same as 045:102.

**129:108 Malcolm X, King, and Human Rights** 3 s.h.  
Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as 032:108.

**129:116 African American Literature Before 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature. Same as 008:116.

**129:117 African American Literature Since 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:117.

**129:119 African Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:119.

**129:122 African Americans and the Media** 3 s.h.

GE: Cultural Diversity. Same as 019:165.

**129:123 Twentieth-Century African American Religion: Civil Rights to Hip-Hop** 3 s.h.

Twentieth-century African American religious history; major political and cultural movements, such as civil rights, black power, black feminism/womanism, hip-hop. Same as 032:126.

**129:128 Racial Narrative and American Performance** 3 s.h.

Same as 010:128, 048:128.

**129:137 History of Slavery in the U.S.A.** 3-4 s.h.

Origins, development; focus on labor, family, gender, community, culture, resistance; South's defense of slavery; wartime collapse, destruction of slavery. Same as 16A:147.

**129:140 Topics in African American Studies** arr.

Different topic each semester.

**129:153 The Civil Rights Movement** 3 s.h.

History of the American civil rights movement. Same as 045:153.

**129:158 Topics in African Cinema** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:157.

**129:161 Insurgency and Globalization of Discontent** 3 s.h.

Political theories of revolutionary African American and Japanese intellectuals, artists, and activists; how the theories have influenced social justice movements. Same as 039:161.

**129:162 Midwest African American Literature and Culture** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:162.

**129:163 Pre-Colonial African History** 3 s.h.

Africa to 1880; oral tradition, other sources; political development, ecological change, slavery and slave trade. GE: Foreign Civilization & Culture. Same as 16W:120.

**129:164 African History Since 1880** 3 s.h.

Africa in colonial, post-colonial period; economics, political structures of colonialism; social change, political life in the 20th century. GE: Foreign Civilization & Culture. Same as 16W:121.

**129:170 African American History 1619-1865** 3 s.h.

Race and African American history, from the rise of racial slavery to the Civil War; advanced course. Same as 16A:187.

**129:175 African American Theatre I** 3 s.h.

Works by African American playwrights and relevant historical documents, Africa through Black Renaissance; themes, history, sociopolitical context; artists forging theatrical paths under oppressive conditions; exploration through discussion, performance; literature-based course, workshop approach. Same as 049:190.

**129:176 Special Topics** 3 s.h.



Selected topics, issues, and debates about various components of African American culture including literature, sociology, psychology, media, history, rhetoric, theater, sports, health, and education.

**129:179 Independent Study**

arr.

Topics vary.

**129:181 African American Autobiography**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:137.

**129:182 Free Style Writing: Poetry, Plays, and Performances**

3 s.h.

Creative writing lab experience in reading, writing, and performing poetry and short plays; expansion of students' horizons of the self; arc of innovation in African American literature from Harlem Renaissance to present, with texts from Langston Hughes and Zora Neale Hurston to Saul Williams and Jill Scott; role of the artist in society and as outsider and insider; shifting perspectives on race, gender, class; musical influences and models, from blues to house music; sensuality, spirituality; artistic reflections on the cultural moment; effects of these on literary form and performance style; students create and perform a work for an audience. Same as 049:182.

**129:183 Black Feminist Tradition and Culture**

3 s.h.

Survey of selected theoretical texts chronicling shifting perspectives on feminism; comparative interdisciplinary survey of artistic works that reflect such perspectives. Same as 049:183.

**129:184 Black Global Metropolis: Sexual History**

3 s.h.

Dispersion of people of African descent into the global metropolis, from expansion of port cities in the slave trade to industrialization of European and American cities, decolonization of the Third World, and proliferation of spatial cultures in contemporary geography; readings cover prostitution in colonial New York, sexual danger in Victorian London, jazz age Chicago, sexual psyches in Algiers, black gay expatriates in Paris, social science in Harlem and Puerto Rico ghettos, black/white sex in Johannesburg, transsexuals in Rio de Janeiro, Black Panther sexual politics in urban America, global hip-hop sexualities. Same as 154:184, 16A:184.

**129:186 African American Drama**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:186, 049:186.

**129:187 African American History 1865-Present**

3 s.h.

African American history since Reconstruction; survey of African American politics and society from Reconstruction to present. Same as 16A:188.

**129:189 Themes in African American History**

3 s.h.

Same as 16A:185.

**129:191 African American Theatre II**

3 s.h.

Works by African American playwrights and relevant historical documents, Black Renaissance to present; themes, history, sociopolitical context; artists forging theatrical paths under oppressive conditions; exploration through discussion, performance; literature-based course, workshop approach. Same as 049:191.

**129:195 Television and African American Culture**

3 s.h.

Role of television in African American culture; examination of debates; topics include stereotyping, authenticity, effects of programming, aesthetics, and television's relationship to other forms of cultural expression. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 036:172.

**129:199 Senior Seminar**

3 s.h.

African American, African, and African Caribbean culture and experience; comparative approach to synthesize students' earlier study. Requirements: African American studies senior standing.

**For Graduate Students****129:205 Gender and Race in Nineteenth-Century U.S.**

arr.

Same as 016:205, 131:206.

**129:212 Advanced Readings in African American Culture**

arr.

Textual, social, political analyses of works by Black authors.

**129:231 Crossing Borders Seminar**

2-3 s.h.

Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 035:273, 044:286, 048:247, 113:247, 160:247, 181:247.

**129:259 Seminar: Interpreting Oral Histories**

arr.

Interpretations and methods applied by historians in various world regions to different forms of oral history, from old oral traditions to contemporary autobiographical testimony. Same as 016:259.

**129:287 Readings: African American Women's History**

arr.

Same as 016:287, 131:287.

**129:312 Advanced Research in African American Culture**

arr.

Seminar or independent study; for graduate students concentrating in African American studies. Requirements: basic African American studies courses.

# Aging Studies

**Chair:** Edward J. Saunders

**Coordinator:** Mercedes Bern-Klug

**Program advisor:** Mercedes Bern-Klug

**Undergraduate nondegree programs:** Certificate, Minor in Aging Studies

**Graduate nondegree program:** Certificate in Aging Studies

**Web site:** <http://www.uiowa.edu/~socialwk/aging/>

The Aging Studies Program offers the Certificate in Aging Studies for undergraduate and graduate students and a minor in aging studies for undergraduates. The certificate program is designed to provide students with a multidisciplinary approach to gerontology. Its course work has been coordinated and sequenced to provide a broad background in aging for students from varied disciplines. All students plan their courses of study with their academic advisors in close cooperation with the Aging Studies Program advisor.

College of Liberal Arts and Sciences students also may pursue a Bachelor of Arts with an individually designed major in aging studies through the college's Interdepartmental Studies Program. See "B.A. with Aging Studies Focus" below.

## Certificate

The Certificate in Aging Studies requires 21 s.h. The program is open to undergraduate, graduate, and nondegree students with aging-related career interests and needs. A student may not be awarded both a minor and a certificate in aging studies.

The certificate's required 21 s.h. must be earned in approved aging-related courses, including at least 18 s.h. in courses numbered 100 and above. Aging-related course work is defined as work that focuses principally on older persons, the aging process, or interventional methods or techniques whose target is the older adult or aging. Certificate students must complete a minimum of 15 s.h. in aging studies at The University of Iowa. A g.p.a. of at least 2.00 is required in all course work applied toward the certificate.

Certificate requirements include a core curriculum of six courses and an additional 2-5 s.h. of elective course work from the list of approved aging-related courses. Students may take core courses before or concurrently with other courses in the program. They should complete the core courses before taking the research project or the practicum course.

With the approval of their major department, students may apply certificate course work to their major or professional program of study.

Transfer credit is determined individually. Students who wish to apply credit earned at other institutions to the aging studies certificate should consult the aging studies coordinator.

Students in good standing should contact the Aging Studies Program advisor to notify the advisor of their intent to pursue the certificate and to develop an appropriate study plan. The aging studies advisor works with students and their major advisors to shape a study plan that complements their academic program and career interests. The aging studies advisor recommends a sequence in which course work should be taken and keeps a record of each student's approved program and progress.

Completion of the Certificate in Aging Studies is noted on the student's transcript.

Individuals who have earned a bachelor's degree at The University of Iowa may return to complete the requirements for the certificate. Graduate students and other students who hold a bachelor's degree are awarded the certificate when they have completed all certificate requirements.

The certificate requires the following course work.

## CORE COURSES

All certificate students must complete the following six core courses.

153:108 Basic Aspects of Aging (GE: social sciences)	3 s.h.
153:135/042:135 Global Aging: Cultural Comparisons	3 s.h.
153:150/031:050 Psychology of Aging	3 s.h.
153:160 Biology of Aging	3 s.h.
153:190/042:190 Field Work in Gerontology	3-6 s.h.
153:130 Aging Studies Colloquium--Undergraduate	1 s.h.
or	
153:230 Aging Studies Colloquium (graduate students)	1 s.h.

**ELECTIVES**

Students must complete an additional 2-5 s.h. of electives selected from courses offered by the Aging Studies Program (prefix 153) and/or from approved aging-related courses offered by other academic units, which are listed below by focus area. Additional practicum and/or research courses offered by other academic units may be accepted for elective credit if they focus on aging; students who wish to apply course work from other departments should consult the Aging Studies Program coordinator.

**Psychological Aspects of Aging**

025:139 Music Therapy Techniques: Adult Clients	3 s.h.
113:147 Special Topics in Anthropology (cross-cultural perspectives on death, dying, bereavement)	2-3 s.h.

**Biological and Health Aspects of Aging**

027:039 Physical Activity and Health	3 s.h.
153:133/028:133 Nutrition Through the Life Span	3 s.h.
153:145/112:145 Introduction to Geriatric Dentistry	2 s.h.
153:165/003:165 Communication Disorders and Aging	2 s.h.
153:166/028:166 Exercise for Special Populations	1 s.h.
153:410/096:410 Nursing Research of Biological Phenomena and Interventions for the Elderly	3 s.h.
153:420/096:420 Geriatric Mental Health Research	3 s.h.
153:430/096:430 Nursing Research in Sociocultural Phenomena and Interventions for the Elderly	3 s.h.

**Social and Cultural Aspects of Aging**

034:269 Seminar: Selected Topics in Family Sociology	3 s.h.
042:199 Selected Aspects of Social Work and Social Welfare	arr.
153:153/042:153 Programs and Services for Aging Adults	3 s.h.
153:168/169:168 Aging and Leisure	3 s.h.
153:185/042:185 Social Policy and the Elderly	3 s.h.
153:211/042:211 Individual and Family Development: Life Span	3 s.h.
153:219/042:219 Aging and the Family	2-3 s.h.

**Minor**

Undergraduate students in the Colleges of Liberal Arts and Sciences, Education, Engineering, Nursing, or the Tippie College of Business may complete the minor in aging studies. The minor must be approved by the student's college or major department. A student may not be awarded both a minor and a certificate in aging studies.

The minor in aging studies requires a minimum of 15 s.h. in aging-related course work, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, courses numbered above 100 are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The required introductory core course 153:108 Basic Aspects of Aging must be included in the 12 s.h. of advanced course work. Courses must be approved by the Aging Studies Program.

**B.A. with Aging Studies Focus**

Students in the College of Liberal Arts and Sciences who would like to design an individualized program in aging studies leading to a Bachelor of Arts must apply and be accepted to the Interdepartmental Studies Program. Entry to the program requires approval of a plan of study that includes 36 s.h. of upper-level course work. For more information, see Interdepartmental Studies in the Catalog.

**Aging Studies Courses**

**153:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**153:030 Human Development and Behavior**

3 s.h.

Normal developmental transitions experienced by individuals and family systems throughout the lifespan, including physical, cognitive, and social-emotional development. Prerequisites: 031:001. Same as 096:030.

**153:108 Basic Aspects of Aging**

3 s.h.

Social, psychological, and biological aspects; demographics of aging, health, economic issues, primary relationships, social services. GE: Social Sciences. Same as 042:108, 096:108, 169:108.

**153:124 Independent Study in Gerontology**

arr.

Individual projects and/or research.

**153:130 Aging Studies Colloquium--Undergraduate**

1 s.h.

Current trends, practices, and research in gerontology and geriatrics. Requirements: aging studies enrollment.

**153:133 Nutrition Through the Life Span**

3 s.h.

How body processes and nutritional needs change with age and the physiological state; effects of food-drug-medication interactions, anorexia, bulimia, and adolescent pregnancy; emphasis on food and health habits that minimize nutrition-related problems. Requirements: (for 028:133) 027:040 and health and sport studies major; (for 153:133) 027:040. Same as 028:133.

**153:135 Global Aging: Cultural Comparisons**

3 s.h.

Social construction of older adulthood across cultures; social privilege, with emphasis on age privilege and ageism. Same as 042:135.

**153:144 Medicare and Medicaid Policy**

3 s.h.

Health policies most pertinent to Americans over age of 65. Same as 174:144.

**153:145 Introduction to Geriatric Dentistry**

2 s.h.

Biological, psychological, social aspects of aging; normal aging, disease processes, pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as 112:145.

**153:146 Health Promotion for Older Adults**

3 s.h.

Problems, strategic efforts toward long-term goal of health promotion; disease prevention; slowing the decline caused by chronic conditions to extend independent, rewarding lives. Same as 096:146, 169:146.

**153:147 End-of-Life Care for Adults and Families**

2-4 s.h.

End-of-life issues in care of adults, older adults, and their families. Requirements: 096:135 and 096:136, or RN standing. Same as 046:146, 050:147, 096:147.

**153:150 Psychology of Aging**

3 s.h.

The later years of human life viewed from perspectives of developmental psychology, biology, sociology. Prerequisites: 031:001. Same as 031:050.

**153:153 Programs and Services for Aging Adults**

3 s.h.

Major gerontological programs and services, practitioners' need for basic aging-practice competence; aging network; income, employment, health maintenance programs; continuum of care (preventive and well-elderly services, in-home services, community-based services, institutional care); assessment; major elder health issues, informal care; end-of-life care. Same as 042:153.

**153:160 Biology of Aging**

3 s.h.

Biogerontology; definition of aging and senescence, biological theories of aging, demographics, model systems foraging, premature aging syndromes, aging of organ systems in humans.

**153:161 Rhetorical Issues in Health Care**

3 s.h.

Role of rhetoric in health care practice, decisions, and ethics; rhetorical production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Requirements: satisfactory completion of rhetoric General Education requirement. Same as 010:161, 160:161.

**153:165 Communication Disorders and Aging** 2 s.h.

Introduction to speech, language, and hearing processes and disorders among older adults; survey of characteristics of communication and communication breakdown, remediation, and strategies for improving communication with older adults with communication disorders; primarily for nonmajors and service providers other than speech-language pathologists and audiologists. Offered spring semesters of even years. Same as 003:165.

**153:166 Exercise for Special Populations** 1 s.h.

Laboratory experiences in development and implementation of exercise testing and prescription for special populations, including children, elders, and individuals with chronic diseases. Corequisites: 027:138, if not taken as a prerequisite. Same as 028:166.

**153:168 Aging and Leisure** 3 s.h.

Status of the well elderly in relation to retirement issues, use of free time, and factors that support leisure activity; leisure services in long-term care. Same as 169:168.

**153:185 Social Policy and the Elderly** 3 s.h.

Public social policies, their affect on well-being of elderly, including women and minorities; U.S. and other nations' policies. Prerequisites: 042:143. Requirements: an introductory course on aging, and junior or higher standing. Same as 042:185.

**153:186 Death/Dying: Issues Across the Life Span** 3 s.h.

Introduction to death and dying; historical, cultural, societal, personal perspectives. Requirements: admission to School of Social Work or Aging Studies Program. Same as 042:186.

**153:190 Field Work in Gerontology** arr.

Opportunities for students in various disciplines to relate their areas of study to elderly and aging; interdisciplinary relationships, approaches to meeting needs of elderly. Same as 042:190.

**153:195 Introduction to Nursing Homes** 3 s.h.

Overview of nursing home roles in context of long-term care system, characteristics of nursing home residents. Same as 042:195.

**153:211 Individual and Family Development: Life Span** 3 s.h.

Infancy through senescence; families from their beginnings through their later years; theoretical, methodological issues. Same as 042:211.

**153:219 Aging and the Family** 2-3 s.h.

Research related to aging and the family; intergenerational relations, marital status in later life, diversity of older families, caregiving, elder abuse, policy issues. Same as 042:219.

**153:230 Aging Studies Colloquium** 1 s.h.

Current trends, practices, and research in gerontology and geriatrics. Repeatable.

**153:241 The Care of the Frail Elderly** 3 s.h.

Clinical management of the elderly; emphasis on economic considerations, principles of gerontological care, common syndromes, ethical issues; clinical application experience in a long-term care setting. Prerequisites: 096:214, 096:222, and 096:224. Same as 096:241.

**153:261 Epidemiology of Aging** 1-2 s.h.

Epidemiologic methods for studying health and social problems of older persons; applications including research and public health practice and policy. Offered spring semesters. Prerequisites: 173:140. Same as 173:261.

**153:410 Nursing Research of Biological Phenomena and Interventions for the Elderly** 3 s.h.

Analysis, evaluation of research on health of elderly, aging process; emphasis on methodological issues, instrumentation appropriate for study of biological phenomena. Requirements: (for 153:410) Ph.D. enrollment. Same as 096:410.

**153:420 Geriatric Mental Health Research**

3 s.h.

Analysis, evaluation; emphasis on program evaluation, geriatric mental health services research, methodological issues. Requirements: (for 153:420) Ph.D. enrollment. Same as 096:420.

**153:430 Nursing Research in Sociocultural Phenomena and Interventions for the Elderly**

3 s.h.

Sociocultural issues for aging clients, corresponding nursing interventions; theoretical orientations to dynamics of aging, transitions and role changes, social/environmental issues. Requirements: (for 153:430) Ph.D. enrollment. Same as 096:430.

# American Indian and Native Studies

**Coordinator:** Michelene Pesantubbee

**Professor:** Phillip Round (English/American Indian and Native Studies)

**Associate professor:** Michelene Pesantubbee (Religious Studies/American Indian and Native Studies)

**Assistant professor:** Margaret Beck (Anthropology/American Indian and Native Studies)

**Undergraduate nondegree programs:** Certificate, Minor in American Indian and Native Studies

**Graduate nondegree program:** Certificate in American Indian and Native Studies

**Web site:** <http://www.uiowa.edu/~ainsp/>

The American Indian and Native Studies Program (AINSP) is an interdisciplinary program that focuses on the histories, cultures, literatures, and contemporary legal and political issues of Native Americans of the United States and other indigenous peoples of the Americas.

By taking AINSF courses, students begin to understand historical and contemporary social issues among indigenous peoples of the Americas. They acquire expertise for jobs involving cross-cultural work through experience with ethnic, social, and political diversity. They also gain a background for more specialized or advanced work in a variety of social science disciplines, including anthropology, economics, education, geography, history, political science, psychology, and religious studies.

A certificate in AINSF complements degrees in professional areas such as health care, business, social work, and law.

## Undergraduate Programs

The program offers the Certificate in American Indian and Native Studies and a minor in American Indian and native studies.

### Certificate

The undergraduate Certificate in American Indian and Native Studies requires a minimum of 21 s.h. in courses approved for AINSF. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

Students plan their programs in close cooperation with AINSF faculty advisors. They may count a maximum of 6 s.h. of course work from their major toward the AINSF undergraduate certificate. Courses applied toward the AINSF certificate also may be used to complete the General Education Program or the requirements for a major or a minor.

The certificate is awarded upon completion of a bachelor's degree. Holders of Iowa baccalaureate degrees may return to complete the requirements for the certificate. Students may not earn both a certificate and a minor in American Indian and native studies.

The AINSF undergraduate certificate requires the following course work.

All of these:

149:049 Introduction to American Indian and Native Studies	3 s.h.
149:102 Introduction to American Indian History and Policy	3 s.h.
149:113 Native American Literature	3 s.h.

At least 3 s.h. from these:

149:076 American Indian Environmentalism	3 s.h.
149:110 Native Peoples of North America	3 s.h.
149:195 Directed Cultural Experience	arr.
149:197 Independent Study	arr.
149:199 Special Topics: American Indian and Native Studies	arr.

And:

Electives chosen from courses listed under "Associated Courses" and "American Indian and Native Studies Courses" below	9 s.h.
--	--------

### Minor

The minor in American Indian and native studies requires a minimum of 15 s.h., including 12 s.h. in courses numbered 149:075 or above taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 6 s.h. of course work from their major toward the AINSF minor.

The minor includes the following course work.



149:049 Introduction to American Indian and Native Studies 3 s.h.

One of these:

149:102 Introduction to American Indian History and Policy 3 s.h.

149:113 Native American Literature 3 s.h.

At least 3 s.h. from these:

149:076 American Indian Environmentalism 3 s.h.

149:110 Native Peoples of North America 3 s.h.

149:195 Directed Cultural Experience arr.

149:197 Independent Study arr.

149:199 Special Topics: American Indian and Native Studies arr.

And:

Electives numbered 075 or above chosen from courses listed under "Associated Courses" and "American Indian and Native Studies Courses" below 6 s.h.

### **Cultural Experience**

The program highly recommends that students have an in-depth American Indian cultural experience, usually through study or volunteer work, before they complete their undergraduate requirements. Consult AINSP faculty advisors about available options.

## **Graduate Program**

The program offers the Certificate in American Indian and Native Studies for graduate students.

### **Certificate**

The graduate Certificate in American Indian and Native Studies requires a minimum of 20 s.h. in courses approved for AINSP and numbered 100 or above (see "Associated Courses" and "American Indian and Native Studies Courses" below). Graduate students must maintain a g.p.a. of at least 3.00 in work toward the certificate. They may count a maximum of 6 s.h. of course work from their major field of study toward the AINSP graduate certificate.

Graduate students must apply to the academic coordinator to be admitted to the AINSP graduate certificate program. Students who earned an undergraduate certificate in the program may not receive a graduate certificate.

The AINSP graduate certificate requires the following course work.

149:102 Introduction to American Indian History and Policy 3 s.h.

149:299 Independent Study Project 2 s.h.

Electives numbered 100 or above chosen from courses listed under "Associated Courses" and "American Indian and Native Studies Courses" below 15 s.h.

## **Associated Courses**

The following courses are approved for AINSP. Other courses that are concerned in part with American Indians or other indigenous peoples of the Americas, or with issues relevant to them, may be used as electives to satisfy requirements for the undergraduate certificate, the minor, and the graduate certificate, subject to AINSP faculty approval.

For course descriptions, see the appropriate department sections of the Catalog.

### **ANTHROPOLOGY**

113:117 The Maya: Archaeology and Ethnohistory 3 s.h.

113:163 Archaeology of Mesoamerica 3 s.h.

113:166 The Aztecs, Their Predecessors, and Their Contemporaries 3 s.h.

113:167 North American Archaeology 3 s.h.

**ART AND ART HISTORY**

01H:104 American Indian Art	3 s.h.
01H:105 Art of Pre-Columbian America	3 s.h.
01H:199 Topics in Art History (when content is appropriate)	3 s.h.

**EDUCATION**

07B:123 History of Ethnic/Minority Education	3 s.h.
--	--------

**ENGLISH**

008:153 Native American Literature	3 s.h.
------------------------------------	--------

**HISTORY**

16A:131 The Frontier in American History to 1840	3 s.h.
--	--------

## American Indian and Native Studies Courses

### **149:005 Literatures of Native American Peoples** 3 s.h.

Genres of Native American literature, including oral literature; focus on written literature (fiction, essays, poetry, drama). Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Cultural Diversity, Humanities. Same as 08G:005.

### **149:049 Introduction to American Indian and Native Studies** 3 s.h.

Themes and methodologies in the study of American Indians and other indigenous peoples; approaches from anthropology, history, law, literature, other disciplines. Offered fall semesters. GE: Cultural Diversity. Same as 045:049.

### **149:060 Introduction to Native American Religions** 3 s.h.

GE: Cultural Diversity. Same as 032:060.

### **149:065 Sex, Gender, and Nature in the Culture of Native America** 3 s.h.

Historical notions of gender, sexuality, and marriage among selected Native American cultures; how these beliefs conflicted with colonial European Christian beliefs; native peoples' sacred stories of creation and human origins compared with Euro-Christian perspectives; how Europeans' sexual and gender violence toward native peoples served as a tool of colonial oppression and conquest.

### **149:070 Indians and Allies** 3 s.h.

Social and cultural issues facing Native Americans.

### **149:076 American Indian Environmentalism** 3 s.h.

Same as 032:076.

### **149:082 American Indian Women: Myth, Ritual, and Sacred Power** 3 s.h.

Participation of women and girls in native religious traditions; obstacles to knowing and understanding native women's religious roles and experiences. Same as 032:078.

### **149:085 Native American Material Culture** 3 s.h.

Overview of American collectors and collections of Indian objects, prehistoric to contemporary. Same as 045:085.

### **149:099 Powwow Culture and History** 3 s.h.

Service learning experience working on the American Indian powwow at The University of Iowa; academic study of history and culture of Native American powwows.

- 149:101 American Indian and Native Studies Seminar** 1 s.h.  
Historical and contemporary issues.
- 149:102 Introduction to American Indian History and Policy** 3 s.h.  
Same as 16A:110.
- 149:107 History of Mexico** 3 s.h.  
Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as 16W:107.
- 149:110 Native Peoples of North America** 3 s.h.  
History, culture of American Indian peoples; emphasis on North America. GE: Cultural Diversity. Same as 045:105, 113:110.
- 149:113 Native American Literature** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:153.
- 149:115 Native North America I: Precontact-1789** 3 s.h.  
Same as 16A:115.
- 149:116 Native North America II: 1789-Present** 3 s.h.  
Same as 16A:116.
- 149:121 Health of Indigenous Peoples** 3 s.h.  
Health problems and services for indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: 113:003 or 113:010. Same as 113:121, 152:121.
- 149:158 Native American Women and Religious Change** 3 s.h.  
Native women's diverse experiences and their roles in native societies, examined through contact experiences between native and nonnative peoples; changes in women's roles in context of interactions between native people, missionaries, European colonists, and Americans; approaches to re-imaging women's early contact roles presented in cultural narratives, archaeology, history, ethnography, and missionary records. Same as 032:158, 131:159.
- 149:159 Southwestern Archaeology** 3 s.h.  
Anthropological overview of prehistoric cultures of the American Southwest; emphasis on understanding archaeological arguments concerning major processes in the past. Same as 113:159.
- 149:164 American Indian/First Nations Women** 3 s.h.  
Experiences, perspectives, and status of American Indian and First Nations women. Same as 131:164.
- 149:167 North American Archaeology** 3 s.h.  
Prehistoric cultural development north of Mexico from initial occupation to European contact and conquest; emphasis on dynamics of culture change. Same as 113:167.
- 149:168 American Indians in the Arts** 3 s.h.  
Creation and impact of American Indian representation in literature, painting, film, music, other arts; native peoples' roles in the creative process.
- 149:178 Federal Indian Law** 3 s.h.  
Specialized body of law that allocates power and authority in Indian country and has grown up around Native American peoples and their reservations; sovereignty arrangements, jurisdiction, federal Indian policy, tribal self-government. Same as 091:303.
- 149:195 Directed Cultural Experience** arr.  
In-depth American Indian cultural experience, usually study or volunteer work, under supervision of an AINSP faculty member.

**149:197 Independent Study**

arr.

**149:199 Special Topics: American Indian and Native Studies**

arr.

American Indians and other indigenous peoples; concepts, problems, issues.

**149:250 CIC American Indian Studies Graduate Seminar**

3 s.h.

Topic varies. Taught four weekends per semester at The Newberry Library, Chicago. Requirements: graduate standing and CIC university enrollment.

**149:299 Independent Study Project**

arr.

Repeatable.

# American Sign Language

**Chair:** Richard Hurtig

**Professor:** Richard Hurtig

**Associate professor:** Douglas Baynton

**Lecturers:** Freeman Harper, Shannon Marsh, AmyRuth McGraw, Kelly Neppl, Timothy Sheets

**Undergraduate nondegree programs:** Certificate in American Sign Language and Deaf Studies; Minor in American Sign Language

**Web site:** <http://www.uiowa.edu/~asliowa>

The American Sign Language Program offers a four-semester course sequence in American Sign Language (ASL), the undergraduate certificate in American Sign Language and Deaf Studies, and courses for teacher licensure. Classroom instruction is supplemented by video materials and interactive software in the Language Media Center.

Undergraduate students may use the American Sign Language sequence 158:011 American Sign Language I, 158:012 American Sign Language II, 158:013 American Sign Language III, and 158:014 American Sign Language IV to complete the foreign language component of the College of Liberal Arts and Sciences General Education Program.

## Certificate

The Certificate in American Sign Language and Deaf Studies requires 34 s.h. The interdisciplinary program teaches students about the history, culture, and language of the American deaf community.

Through the study of American Sign Language, students come into contact with a language that is semantically and grammatically very different from their own and that operates in a different sensory channel as well. Students who undertake the program encounter a rich and complex culture, including a rapidly growing literature recorded on film and videotape since the early 20th century.

The certificate program permits students to link study in two or more disciplines into an organized investigation of a language and culture. The Certificate in American Sign Language and Deaf Studies serves as a valuable confirmation for employers and graduate schools of a student's specialized knowledge in the field.

Any undergraduate student pursuing a degree from The University of Iowa may earn the certificate. Holders of University of Iowa bachelor's degrees who are not enrolled in graduate or professional programs may return to complete the certificate.

Students may earn the Certificate in American Sign Language and Deaf Studies, or a minor in American Sign Language, but not both.

Students may use each course required for the certificate to satisfy only one certificate requirement. But they may use a course to satisfy both a certificate requirement and a requirement for a major or for a minor in another discipline.

Courses used to satisfy certificate requirements may not be taken pass/nonpass.

A maximum of 6 s.h. of transfer work may be accepted toward certificate requirements, with the approval of the American Sign Language and deaf studies advisor.

The Certificate in American Sign Language and Deaf Studies requires completion of the four-course sequence American Sign Language I-IV (16 s.h.), or demonstration of equivalent proficiency; 6 s.h. of core courses; and 12 s.h. of approved courses in two or more disciplines.

## LANGUAGE SEQUENCE

Certificate students must complete the following sequence or be able to demonstrate equivalent proficiency.

158:011 American Sign Language I	4 s.h.
158:012 American Sign Language II	4 s.h.
158:013 American Sign Language III	4 s.h.
158:014 American Sign Language IV	4 s.h.

## CORE COURSES

Students choose at least 6 s.h. from the following core courses.

158:100/16A:104 History of the American Deaf Community	3-4 s.h.
158:101 Topics in Deaf Studies	3 s.h.
158:102 American Deaf Culture	3 s.h.
158:103 American Sign Language Literature	3 s.h.
158:104 Issues in ASL and Deaf Studies	3 s.h.

158:106 Introduction to ASL Interpreting	3 s.h.
158:110/07U:110 Teaching Deaf and Hard of Hearing Students	3-4 s.h.
158:111 American Sign Language Conversation	3 s.h.

## DISCIPLINE COURSES

Students also complete at least four courses (12 s.h.) in two or more of the following disciplines. They may petition to have courses that are not listed below approved for certificate requirements.

### Anthropology

113:014 Language, Culture, and Communication	3 s.h.
--	--------

### Communication Sciences and Disorders

003:117 Psychology of Language	3 s.h.
003:118 Language Development	1-3 s.h.
003:185 Hearing Loss and Audiometry	3 s.h.
003:244 Rehabilitative Audiology	3 s.h.

### Education

07U:100 Foundations of Special Education (requires admission to the Teacher Education Program)	3 s.h.
07U:110/158:110 Teaching Deaf and Hard of Hearing Students	3-4 s.h.
07U:133 The Culturally Different in Diverse Settings	3 s.h.

### History

16A:104/158:100 History of the American Deaf Community	3-4 s.h.
16A:106 Disability in American History	3 s.h.

### Linguistics

103:011 Language and Society	3 s.h.
103:100 Introduction to Linguistics	3 s.h.
103:150 Language and Gender	3 s.h.

### Minor

The minor in American Sign Language requires 15 s.h. of ASL course work, including 12 s.h. in courses numbered 100 or above taken at The University of Iowa, excluding 158:106 Introduction to ASL Interpreting, which does not count toward the minor. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor must include 158:014 or demonstrated equivalent proficiency. Students may count a maximum of one course taught in English toward the minor (158:100 History of the American Deaf Community or 158:110 Teaching Deaf and Hard of Hearing Students) and must enroll in the 4 s.h. option with discussion conducted in ASL.

### Hearing Impaired Endorsement for Teachers

The American Sign Language Program offers courses that fulfill requirements for the Hearing Impaired Endorsement offered by the College of Education. The University of Iowa currently is the only institution in Iowa that offers this endorsement program. Holders of the endorsement are authorized to serve deaf and hard-of-hearing students from

birth to age 21. Applicants to the program must hold or be in the process of completing requirements for an elementary or secondary teaching license.

## American Sign Language Courses

- 158:011 American Sign Language I** 4 s.h.  
Conversational skills, basic grammar of ASL; introduction to the ASL cultural community through readings, videos. Taught in American Sign Language. First in a four-semester sequence. GE: Foreign Language First Level Proficiency.
- 158:012 American Sign Language II** 4 s.h.  
Continuation of 158:011; emphasis on ASL grammar and syntax; focus on culture through readings, videos. Taught in American Sign Language. Prerequisites: 158:011. GE: Foreign Language Second Level Proficiency.
- 158:013 American Sign Language III** 4 s.h.  
Continuation of 158:012; emphasis on ASL grammar and syntax; focus on culture through readings, videos. Taught in American Sign Language. Prerequisites: 158:012. GE: Foreign Language Second Level Proficiency.
- 158:014 American Sign Language IV** 4 s.h.  
Continuation of 158:013. Taught in American Sign Language. Prerequisites: 158:013. GE: Foreign Language Fourth Level Proficiency.
- 158:015 Fingerspelling and Numbers I** 1 s.h.  
Development of expressive and receptive American Sign Language fingerspelling, loan sign, and number skills based on word, phrase, and number recognition. Eight weeks. Prerequisites: 158:011.
- 158:016 Fingerspelling and Numbers II** 1 s.h.  
Development of expressive and receptive American Sign Language fingerspelling, loan sign, and number skills based on word, phrase, and number recognition. Eight weeks. Prerequisites: 158:015.
- 158:100 History of the American Deaf Community** 3-4 s.h.  
Creation of a distinct language and culture of deaf people in America during the 19th and 20th centuries. Taught in American Sign Language. Prerequisites: 158:014. Same as 16A:104.
- 158:101 Topics in Deaf Studies** 3 s.h.  
Current topics in deaf studies; skill development in communicative fluency in ASL. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite.
- 158:102 American Deaf Culture** 3 s.h.  
Cultural practices, beliefs, values of the American deaf community. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite.
- 158:103 American Sign Language Literature** 3 s.h.  
Introduction to the world of ASL literature, as recorded on videotape or film and in live performance; traditional folklore, story telling, poetry, drama, oratory, jokes, and nonfiction narrative; analysis of genres in their social and cultural contexts as expressions of deaf experience; how historical and current issues in deaf culture are represented in literary form. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite.
- 158:104 Issues in ASL and Deaf Studies** 3 s.h.  
Current issues in American Sign Language and the American deaf community, such as linguistics, culture, literacy. Corequisites: 158:014, if not taken as a prerequisite.
- 158:105 Deafness in the Media** 3 s.h.  
Exploration of the construct of deafness through mainstream media (e.g., commercial television, movies, fictional and nonfictional literature in print and on the Internet); various ways deaf people are constructed and presented for hearing audiences from the past 20 years, including deaf as long-suffering victims, deaf as heroes overcoming adversity, deaf as rebels against the mainstream, and deaf as lonely outcasts. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite.

**158:106 Introduction to ASL Interpreting**

3 s.h.

Introduction to sign language interpreting; history and current nature of the field, available employment opportunities, certification, training, ethics. Corequisites: 158:013, if not taken as a prerequisite.

**158:108 Independent Study**

arr.

An American Sign Language/deaf studies topic; individual study.

**158:110 Teaching Deaf and Hard of Hearing Students**

3-4 s.h.

Issues in deaf education--management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite. Same as 07U:110.

**158:111 American Sign Language Conversation**

3 s.h.

Improvement of receptive and expressive conversational ASL skills through small group discussion, class presentations. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite.



## American Studies

**Chair:** Kim Marra

**Professors:** Susan Birrell (American Studies/Gender, Women's, and Sexuality Studies), Kim Marra (American Studies/Theatre Arts), Horace A. Porter (F. Wendell Miller Professor of English and American Studies), Lauren Rabinovitz (American Studies/Cinema and Comparative Literature)

**Professors emeriti:** Richard P. Horwitz, John Raeburn (American Studies/English), Albert E. Stone (American Studies/English)

**Associate professors:** Lafayette Adams (English/American Studies), Catriona Parratt, Michelene Pesantubbee (American Studies/Religious Studies), Laura Rigal (English/American Studies), Harilaos Stecopoulos (English/American Studies), Nicholas Yablon

**Assistant professor:** Deborah Whaley (American Studies/African American Studies)

**Lecturer:** Jennifer Metz

**Undergraduate degrees:** B.A. in American Studies, B.A. in Sport Studies

**Undergraduate nondegree programs:** Minor in American Studies, Sport Studies

**Graduate degrees:** M.A., Ph.D. in American Studies

**Web site:** <http://www.uiowa.edu/~amstud>

The Department of American Studies provides an interdisciplinary introduction to American culture, past and present. It helps students acquire a broad familiarity with the dynamics of cultural experience and explore aspects of life in the United States, such as sport, popular and fine arts, institutions, values, gender and ethnic relations, artifacts, and the everyday life of a diverse citizenry.

In addition to offering degree programs in American studies and sport studies, the department provides an administrative home for the American Indian and Native Studies Program, which offers a certificate for undergraduates and graduate students; see American Indian and Native Studies in the Catalog.

## Undergraduate Programs

The department offers a Bachelor of Arts in American studies and in sport studies. It also offers minors in American studies and in sport studies.

### Bachelor of Arts in American Studies

The Bachelor of Arts in American Studies requires a minimum of 120 s.h., including 36 s.h. of work for the major. At least 24 s.h. for the major must be earned at The University of Iowa. American studies students must complete the College of Liberal Arts and Sciences General Education Program. The major in American studies stresses broad training in cultural analysis and communication. Although it offers no explicit vocational training, the program provides preparation for careers in business, education, government, journalism, or social service; for advanced study in the humanities, the social sciences, theology, or business; or for professional study in law or medicine. Internships can be arranged, through the University's Pomerantz Career Center.

A distinctive feature of the American studies major is the opportunity to develop broad training in cultural analysis as well as emphasis of particular interests within the study of American culture. With the help of their American studies advisors, students may elect to pursue one of three focus areas within American studies, or they may create an individual plan of study. Each focus area allows students to group courses in American studies and other departments around a specific interdisciplinary theme, topic, or set of social issues. Focus areas are described below.

Shortly after declaring a major, a student should meet with his or her faculty advisor to explore the range of course work available and to begin shaping an individual plan of study. By the student's second term in the major, the student and advisor should have agreed upon a plan of study and focus area for completing the major requirements.

The major in American Studies usually requires the following 12 courses. American studies courses must include 045:020 Sources for American Studies, 045:025 Diversity and American Identities, and 045:090 Seminar in American Cultural Studies. Requirements are as follows.

American studies requirement: six core courses, including 045:020, 045:025, and 045:090	18 s.h.
American history: two courses	6 s.h.
Special interest focus area: four courses in American studies and/or other departments	12 s.h.

### American Studies Focus Areas

Students should consult regularly with the Department of American Studies about courses offered by American studies and other departments that count toward each focus area. A maximum of two courses from a single department outside American studies may be counted toward any one focus area.

### ETHNIC STUDIES, DIVERSITY, AND DIFFERENCES

Students choose this focus to develop interdisciplinary understanding of an individual ethnic and/or racial group (e.g., Latino/a studies, Jewish-American studies) or to examine broadly gender, race, sexuality, social class, region, national origins, and age in the United States. Emphasis is on the historic emergence of categories of social difference, especially as revealed in cultural practices and artifacts, geography and cityscapes, leisure, and popular expression.

## **AMERICAN ARTS, LITERATURE, AND POPULAR CULTURE**

Students who choose this focus examine artistic creations to discover how they are shaped by cultural preconceptions, norms, and standards, and how in turn these expressive forms affect ongoing developments in cultural life. Emphasis is on skills in the formal analysis of artistic artifacts, historical inquiry, and cultural contextualization.

## **AMERICAN SOCIETY, POLITICS, AND EVERYDAY LIFE**

Students who choose this focus consider the dynamics of social change, the emergence and fate of political movements, and the forms and practice of everyday life in America. The area encompasses the tradition of revolution in America, the effects of technological and economic change, and the roles of the family, workplace, and community from the colonial era to the digital age.

## **INDIVIDUALLY DESIGNED FOCUS AREAS**

Individually designed focus areas may concentrate on an interdisciplinary topic, theme, group of people, or time period. Students who wish to design their own interdisciplinary focus area should consult with their American studies advisor for appropriate courses.

## **Bachelor of Arts in Sport Studies**

The Bachelor of Arts in sport studies requires a minimum of 120 s.h., including 46 s.h. of work for the major (31 s.h. in sport studies and 15 s.h. in a specialization area). At least 24 s.h. of credit for the major must be earned at The University of Iowa. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Admission to the sport studies major is selective; students must apply and be admitted. See "Admission to the Sport Studies Major" below.

The sports studies major is for students who want to examine sport in its historical and contemporary cultural contexts. Course work provides students with the critical skills necessary to understand the cultural significance of sport as it relates to the media, the economy, the political system, and the educational system. A focus on the race, class, and gender differences in the sport experience is central to the major.

Many students use their experience in the program to prepare for graduate school. For others, the required second concentration area or minor serves as an introduction to careers in a number of fields, such as sport journalism, sport management, or coaching.

Course work for the major in sport studies includes two foundation courses, the sport studies core (one course from each of four content areas), 12-13 s.h. of approved electives, and an outside specialization area or a minor. Requirements are as follows.

### **SPORT STUDIES FOUNDATION**

Students should complete the foundation courses as early as possible.

Both of these:

028:074 Inequality in Sport	3 s.h.
045:001 Understanding American Cultures	4 s.h.

### **SPORT STUDIES CORE**

Students must complete one course from each of the following four content areas (total of 12 s.h.).

Diversity in sport--one of these:

028:078 Women, Sport, and Culture	3 s.h.
028:079 Race and Ethnicity in Sport	3 s.h.

International dimensions--one of these:

028:072 The Olympics - Ancient and Modern	3 s.h.
028:176 Sport and Nationalism	3 s.h.
028:177 Western World Sport: Greeks to Present	3 s.h.

Contemporary sport in America--one of these:

028:175 Sport and the Media	3 s.h.
028:188 Twentieth-Century U.S. Sport	3 s.h.
History of sport and leisure in America--one of these:	
028:178 Sport in the U.S. to 1900	3 s.h.
028:179 The American Vacation	3 s.h.

### ELECTIVES

Students must complete at least 12 s.h. of approved elective courses; the department suggests courses from the following list. Students also may include courses from the sport studies core (above) that they have not already taken.

06E:165 Sports Economics	3 s.h.
16A:139 The Social History of American Baseball	3 s.h.
019:091 Media History and Culture	3 s.h.
019:095 Media and Consumers	3 s.h.
019:164 Images and Society	3 s.h.
20E:075 Ancient Sports and Leisure	3 s.h.
026:102 Introduction to Ethics	3 s.h.
027:035 Stress Management	3 s.h.
027:190 Preinternship Seminar	1 s.h.
027:191 Internship	3 s.h.
028:171 History of Baseball in America	3 s.h.
028:084/045:084 Sport and Film	3 s.h.
028:180 Theory and Ethics of Coaching	3 s.h.
028:193 Independent Study	arr.
028:194 Honors Readings	1-2 s.h.
034:066 Social Inequality	3 s.h.
045:065 Disney in America	3 s.h.
045:152 Fairs and Amusement Parks	3 s.h.

### OUTSIDE SPECIALIZATION AREA

All sport studies students must complete 15 s.h. of course work in a specialization area outside the major (e.g., American studies, business, gender, women's, and sexuality studies; journalism and mass communication). Work for the specialization must include 6 s.h. earned in 100-level courses or in courses that are designated advanced by the department or program that offers them. Specialization area courses may not be taken pass/nonpass.

Students select their specialization area in consultation with their advisor, and they must have their advisor's written approval for specialization.

Students also may satisfy the specialization requirement by earning a minor in another discipline. It is the student's responsibility to ensure that he or she has satisfied the requirements for the minor.

### Admission to the Sport Studies Major

Admission to the sport studies major is selective; students must apply, preferably during their sophomore year. When they apply, they must have fulfilled the admission requirements listed below or expect to fulfill them during the semester in which they apply. Admission decisions are made once the admission requirements are fulfilled.

In order to be considered for admission to the sport studies major, students must:

- complete a minimum of 24 s.h. of course work, including at least 12 s.h. at The University of Iowa;
- perform satisfactorily in 028:074 Inequality in Sport;
- have a minimum g.p.a. of at least 2.50 on all college work attempted and on all University of Iowa course work; and
- submit a personal statement (one or two double-spaced pages) detailing the applicant's interest in the sport studies major.

Applications for the sport studies major are available on the Department of American Studies web site. They must be submitted to the director of undergraduate studies by October 1 for admission the following spring semester and by March 1 for admission the following fall semester.

## B.A. with Coaching Authorization or Endorsement

Sport studies students may prepare for coaching by completing additional course work that also qualifies them for a coaching authorization from the State of Iowa. This course work is a combination of specific sport studies electives and a secondary area made up of courses required to fulfill the coaching authorization. An internship option is available.

Students may fulfill the requirements for coaching authorization by taking the following courses (total of 15 s.h.) as their secondary area requirement (see "Sport Studies: Secondary Area" above).

027:053 Human Anatomy	3 s.h.
027:057 Basic Athletic Training	3 s.h.
027:117 Human Growth and Motor Development	3 s.h.
028:180 Theory and Ethics of Coaching	3 s.h.
One or more electives, totaling at least 3 s.h.	3 s.h.

The following courses are suggested. Courses chosen to fulfill the sport studies elective requirement may not be double counted.

027:056 First Aid and CPR	2 s.h.
027:140 Exercise Physiology for Practitioners	3 s.h.
028:032 First Aid and CPR	2 s.h.

Students who successfully complete the requirements for the coaching authorization must submit an application to the Iowa Board of Educational Examiners. For more information, visit Coaching Authorization FAQs on the board's web site.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

### B.A. in American Studies

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** declaration of the major, discussion of a plan of study with an American Studies advisor, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six courses from the plan of study and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least nine courses from the plan of study

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### B.A. in Sport Studies

**Before the third semester begins:** completion of at least 30 semester hours

**Before the fifth semester begins:** acceptance into the sport studies major and completion of at least 60 semester hours

**Before the sixth semester begins:** area of specialization determined

**Before the seventh semester begins:** completion of at least six sport studies courses and at least 90 semester hours

**Before the eighth semester begins:** completion of at least eight sport studies courses and at least three courses in the area of specialization

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

### Honors in American Studies

The American studies honors program offers students the opportunity to pursue special interests in individual, in-depth research. Honors students must be members of the University of Iowa Honors Program, which requires that students

maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

Under the guidance of the undergraduate honors advisor, honors students define a research project. Project proposals ideally are made by the end of the junior year. Each student completes the project under the guidance of a supervising faculty member and may register for up to 6 s.h. in 045:095 Honors Project.

Results of the research project are presented in a senior essay to a committee of three faculty members, including the supervising faculty member, the honors advisor, and a third faculty member of the student's choice. (When the honors advisor is the supervising faculty member, the student may select the other two faculty members.) The student's committee may choose to hear an oral defense of the final project, usually in the 12th week of the last semester.

### **Honors in Sport Studies**

The sport studies honors program offers students the opportunity to pursue special interests in individual, in-depth research. Honors students must be members of the University of Iowa Honors Program, which requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

Under the guidance of an undergraduate advisor, honors students define a research project. Project proposals ideally are made by the end of the junior year. Each student completes the project under the guidance of a supervising faculty member and may register for up to 6 s.h. in 028:194 Honors Readings.

Honors students must make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or a professional conference.

### **Minor in American Studies**

The minor in American studies requires a minimum of 15 s.h. in American studies courses, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, courses numbered above 045:001 are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students interested in earning the American studies minor should consult with one of the department's faculty members.

### **Minor in Sport Studies**

The minor in sport studies requires a minimum of 15 s.h. in University of Iowa sport studies courses (prefix 028), including at least 6 s.h. in 100-level courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Transfer credit may not be counted toward the minor. Students select courses for the minor according to their interests and the recommendation of the undergraduate coordinator.

## **Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in American studies.

### **Master of Arts**

The M.A. in American studies requires a minimum of 36 s.h. of graduate credit. It may be a terminal degree or preliminary to a Ph.D. in American studies or another discipline. The following courses are required.

045:200-045:201 Theory and Practice of American Studies I - Theory and Practice in American Studies II	6 s.h.
Two other core courses in American studies	6 s.h.

M.A. students also select from five to eight additional courses relevant to a topic or period of cultural history. These courses may be grouped to address more than one topic and must be chosen from more than one discipline; they usually include at least two courses in American history and courses focusing on American diversity.

Master's degree candidates must perform satisfactorily in 045:400 Masters Preparation (3 s.h.), which includes a comprehensive examination on course work and basic concepts.

The M.A. also may be taken with thesis, for credit up to 6 s.h. Students should consult the program chair for details.

### **Joint M.A./J.D.**

The Department of American Studies and the College of Law offer a joint Master of Arts/Juris Doctor. The M.A./J.D. program provides a broad cultural context for the study and practice of law. Similar joint programs can be arranged in

other professional fields, such as journalism and social work.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the joint degree program. For information about the J.D., see the College of Law section of the Catalog.

## Doctor of Philosophy

The Ph.D. program in American studies requires a minimum of 72 s.h. of graduate credit. Each student works with his or her faculty advisor to map out a coherent plan of study that reflects the student's particular interests in American cultural studies. The study plan usually has been tentatively formulated by the end of the student's first year in residence in the Ph.D. program.

Students are permitted considerable flexibility in planning their study program, but they must meet certain basic requirements, which include a core of American studies courses in interdisciplinary methods and substantial course work in two major fields. Course requirements are as follows.

045:200-045:201 Theory and Practice of American Studies I - Theory and Practice in American Studies II (introductory seminars)	6 s.h.
Two or more additional core graduate courses in American Studies	6 s.h.
First major field (at least six courses)	18 s.h.
Second major field (at least six courses)	18 s.h.
Electives	6 s.h.
Dissertation (up to 18 s.h.)	

The introductory seminars 045:200 Theory and Practice of American Studies I and 045:201 Theory and Practice in American Studies II should be taken as early as possible, one during each of the first two years in residence. The additional American Studies graduate courses provide further models for interdisciplinary inquiry.

The two major fields may be defined to correspond with the student's strongest intellectual interests, but they must be interdisciplinary in concept and multidisciplinary in scope. Each must include course work from more than one of the University's departments and programs. They also should be designed to emphasize a generous but well-defined period of American cultural history; therefore, historical knowledge is essential to all doctoral plans of study. The two major fields may, and usually should, have an intellectual relationship with each other.

The program expects doctoral students to address the cultural diversity of American life in their course work and reading.

### ADMISSION TO PH.D. CANDIDACY

Admission to Ph.D. candidacy signifies that the department judges the doctoral student qualified to take the comprehensive examination. Doctoral students advance to Ph.D. candidacy based on a review conducted during their second year in the Ph.D. program (typically during fall semester); the review assesses the student's readiness to complete his or her studies through the comprehensive examination and the dissertation, which is an original work of scholarship. In addition to judging the student's readiness for Ph.D. candidacy, the review provides a progress report on the student's work and a tentative prognosis for future prospects in the field.

### COMPREHENSIVE EXAMINATION

The comprehensive examination comprises three written exams and one oral exam. One of the written exams differs for students who were admitted to the Ph.D. program before fall 2007 and those who were admitted fall 2007 and after.

Students admitted before fall 2007 write the position paper in advance of the rest of the comprehensive examination and under the supervision of an American studies faculty member. In the position paper, the candidate lays out his or her general approach to American cultural studies and provides an exemplification of that approach.

Students admitted after fall 2007 complete Field #1: American Studies under the supervision of an American studies faculty member, who also chairs the comprehensive examination. The candidate takes a timed, take-home written exam of no less than four hours and no longer than two days; the exam details the candidate's approach to American studies (methods and models), including his or her position and critical engagement with models of American studies scholarship.

The remaining two written exams explore the candidate's major fields; these are at least four hours long and may be given on a take-home basis at the examiner's discretion.

The oral exam covers material from the written exams and/or position paper.

### DISSERTATION

The final requirement for the Ph.D. in American studies is the dissertation, a substantive book-length manuscript that involves interdisciplinary research and analysis and that represents an original contribution to knowledge. All Ph.D. dissertations must be approved by a committee of five faculty members, including at least two from the Department of American Studies.

## Internships

Qualified graduate students in American studies can arrange internships with a number of local agencies, including the State Historical Society of Iowa, the Division of Historic Preservation, the University of Iowa Museum of Art, the Iowa Humanities Board, BruceMuseum, the Herbert Hoover Presidential Library and Museum, and the Putnam Museum of History and Natural Science. With special permission, candidates conducting research during such on-the-job training may receive academic credit through 045:320 Independent Study or 045:350 Material Culture Internship. Other internships with social agencies, government, or business also may be arranged.

## Resources

The Department of American Studies is home to the Center for Ethnic Studies and the Arts, which is devoted to studying relationships among minority communities and the arts. The center supports individuals who specialize in individual ethnic studies as well as those interested in how cultural diversity defines and enriches the arts. To learn more, visit the Center for Ethnic Studies and the Arts web site.

## American Studies Courses

### Primarily for Undergraduates

- 045:001 Understanding American Cultures** 4 s.h.  
The United States in historical, contemporary, and transnational perspective; social and cultural diversity and conflict in American life; debates on concepts of America, the American Dream, national culture, citizenship. GE: Cultural Diversity, Humanities.
- 045:005 American Issues** 3 s.h.  
Representative issues: radio and American culture; cultural history of the Civil War era; American history, literature, culture.
- 045:020 Sources for American Studies** 3 s.h.  
Variety of historic and contemporary sources, such as literature, law, photography, painting, film, TV, music, fashions, environments, events of everyday life.
- 045:025 Diversity and American Identities** 3 s.h.  
History and variety of American identities, examined through citizenship, culture, social stratification; conflict and commonalities among groups according to race, ethnicity, gender, class, sexuality; how art, literature, music, film, photography, and other cultural artifacts represent diversity of identities.
- 045:030 Introduction to African American Culture** 3 s.h.  
Interdisciplinary look at Black culture in the United States through significant contributions of the humanities (music, art, literature, drama, philosophy) to development of Black culture. GE: Cultural Diversity, Humanities. Same as 129:061.
- 045:049 Introduction to American Indian and Native Studies** 3 s.h.  
Themes and methodologies in the study of American Indians and other indigenous peoples; approaches from anthropology, history, law, literature, other disciplines. Offered fall semesters. GE: Cultural Diversity. Same as 149:049.
- 045:050 Food in America** 3 s.h.  
Cultural significance of production, distribution, and consumption of food in the United States. GE: Cultural Diversity, Humanities.
- 045:060 Sex and Popular Culture in the Postwar U.S.** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. GE: Cultural Diversity. Same as 131:061, 154:060.

**045:065 Disney in America** 3 s.h.

How the Walt Disney Corporation has influenced American cultural values, ideals, and experiences through its evolution from an animation company in the 1920s, to a theme park company and television producer in the 1950s, to a media conglomerate today; the corporation's national importance, Hollywood's contributions to the Depression and World War II, postwar urban and community planning, America's changing leisure behavior, advertising and childhood, modern business history, exportation of American culture.

**045:075 American Popular Music** 3 s.h.

**045:080 American Political Humor** 3 s.h.

How political humor reflects and influences American attitudes regarding government institutions, elected officials, the democratic process; how humor works; examples from Revolutionary War present and from varied media, including cartoons, fiction, film, television, the Internet.

**045:084 Sport and Film** 3 s.h.

Exploration of sport films as a distinct genre using narrative and formal analysis; focus on U.S. films. Same as 028:084.

**045:085 Native American Material Culture** 3 s.h.

Overview of American collectors and collections of Indian objects, prehistoric to contemporary. Same as 149:085.

**045:090 Seminar in American Cultural Studies** 3 s.h.

Interdisciplinary perspectives on a single theme or period.

**045:095 Honors Project** arr.

Independent interdisciplinary research, writing.

**045:100 Independent Study** arr.

## **For Undergraduate and Graduate Students**

**045:102 Black Popular Music** 3 s.h.

History and expressive culture of people of African descent living in America through popular music forms; historical time span between the 17th and 21st centuries; poetry, music, cultural analysis, film, and art as sources for the study of Black music; genres covered include spirituals and gospel, blues, jazz, rock, rhythm and blues, Afropunk, alternative and neo soul, and hip-hop. Recommendations: 045:030 and 129:060. Same as 129:102.

**045:105 Native Peoples of North America** 3 s.h.

History, culture of American Indian peoples; emphasis on North America. GE: Cultural Diversity. Same as 113:110, 149:110.

**045:115 American Culture of the 1930s** 3 s.h.

The Great Depression through historical records, literature, photography, movies, other arts; emphasis on expression of American life and thought, social and cultural experience.

**045:118 American Women Playwrights: 1776-Present** 3 s.h.

How women in the United States have expressed themselves in theatre since 1776; diversity of voices in works by African American, Asian American, Latina, Native American, European American, lesbian playwrights; female-authored drama and production in relation to concurrent male-authored traditions and socioeconomic, political, cultural phenomena. Same as 049:118.

**045:123 American Literature and History** 3 s.h.

Examination of fictional histories (novels about history), their relationship to historical interpretation. English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:123.



- 045:129 African American Cinema and Culture** 3 s.h.  
African American contribution to U.S. cinema in context of African American and American culture. Same as 048:129.
- 045:135 The Social Construction of Whiteness** 3 s.h.  
Whiteness as a socially constructed racial category with material effects in everyday life; race as a category with salience in determining public policy, forming identities, and shaping people's actions; interdisciplinary approach using social history, philosophy, science, law, literature, autobiography, film, and the expressive arts.
- 045:139 Race, Gender, Class, and the American Frontier** 3 s.h.  
How race, gender, and class shape cross-cultural encounter and imperial expansion on regional frontiers; how frontiers are represented in literature, art, and film.
- 045:140 American Subcultures** 3 s.h.  
Theories and practices of youth subcultures, mainly 1970s-1990s American (e.g., punks, skinheads, rappers); how youth subcultures, as popular generational forms of identification, intersect with other compelling markers of collective identity, especially race, class, gender, and sexuality; relevant texts from varied media and genres, including fiction, sociology, film, music, popular fashion, others.
- 045:145 Immigration and American Culture** 3 s.h.  
Immigrants and immigrant communities.
- 045:147 American Disasters** 3 s.h.  
Fault lines of American society and culture as exposed during catastrophe; history of American disaster investigated through methods from cultural history, visual theory, sociology, and media studies; varied disasters 1800 to present, including those involving cities (Chicago fire, San Francisco earthquake, Chicago heat wave), transportation (Titanic, Challenger, Columbia), and environment (Union Carbide and Bhopal, Exxon Valdez); causes of catastrophes; how Americans react and are drawn to catastrophe (e.g., disaster films, jokes); related topics, including technology, urbanism, race, class, apocalyptic religion, journalism, popular culture.
- 045:150 Topics in American Cultural Studies** 3 s.h.  
Special topics in American history, literature, culture.
- 045:151 American Business Cultures** 3 s.h.  
Historical and contemporary records of business and corporate experiences as part of American life and thought, including representations of business in American novels, movies, history, autobiography; emphasis on questions of relationships between gender, ethnicity, class, and sexuality and corporate identities.
- 045:152 Fairs and Amusement Parks** 3 s.h.  
Nineteenth- and twentieth-century international expositions, amusement parks, and theme parks as cultural events of U.S. self-definition.
- 045:153 The Civil Rights Movement** 3 s.h.  
History of the American civil rights movement. Same as 129:153.
- 045:159 Representations of Revolution** 3 s.h.  
Cultural politics of the revolutionary tradition in American culture from 1776 to 1976.
- 045:160 American Cityscapes** 3 s.h.  
Changing conventions in representation of American cities between the 1830s and 1930s; fiction and nonfiction, visual and audiovisual culture.
- 045:163 American Ruins** 3 s.h.  
Emergence and development of American fascination with ruins, from indigenous to urban-industrial remains; actual ruins and depiction of imagined ruins in art, literature, cinema.
- 045:165 The Culture of Nature** 3 s.h.  
How ideas of "the natural" and "the cultural" underpin beliefs, laws, and social practices; relationship between these two concepts; construction of notions of a natural world; idea of landscape and nature as a resource to be used, appreciated, articulated, or enjoyed; focus on analysis of relationships to animals.

- 045:167 Reading and Writing the History of the Environment** 3 s.h.  
Culture and society bind human communities to the natural world that supports them; local landforms and waterways in Iowa have shaped, and been shaped by, human uses and meanings; the past inheres in present-day struggles over land and water use, see local landscapes historically; deploy skills of environmental history to understand the historical and cultural roots of present-day conflicts over land use and appreciate how beliefs, rituals, recreational practices, and technologies attach human beings to places in which they live.
- 045:170 American Regional Identities** 3 s.h.  
Regional identity across regions of the United States; literary, visual, and popular representations of regional identity.
- 045:174 The American Vacation** 3 s.h.  
Social history of vacations; cultural significance of contemporary patterns; focus on how experiences and meanings are shaped by race, class, gender. Same as 028:179.
- 045:175 Revolution in American Culture** 3 s.h.  
Emergence of revolutionary identities in American culture, 1776 to 1970.
- 045:178 Sport in the U.S. to 1900** 3 s.h.  
Growth and institutionalization of sport from colonial times to 1900. Same as 028:178.
- 045:185 America in the World** 3 s.h.  
How U.S. activity influences lives worldwide.
- 045:188 Twentieth-Century U.S. Sport** 3 s.h.  
Historic development of sport in the United States since 1900; economic forces, professional football and baseball. Same as 028:188.
- 045:193 American Photography** 3 s.h.  
Popular and art photographs as expressions of American life, thought.

### Primarily for Graduate Students

- 045:200 Theory and Practice of American Studies I** 3 s.h.  
Theories, methods, cases in culture studies; emphasis on social science approaches. Requirements: American studies graduate standing.
- 045:201 Theory and Practice in American Studies II** 3 s.h.  
Requirements: American studies graduate standing.
- 045:230 Seminar: Performing Arts in American Culture** 3 s.h.  
American theater, dance, music, and performance.
- 045:242 African American Cultural and Literary Criticism 1900-Present** 3 s.h.  
Diverse range of African American cultural and literary criticism from 1900 to the present; the new negro; racial integration; race, gender, and sexuality; Black public intellectuals. Same as 008:242.
- 045:250 Seminar: Topics in American Studies** 3 s.h.  
American cultural history; urbanization, mass media, pluralism, assimilation. Repeatable.
- 045:258 Seminar: Technology and American Culture** 3 s.h.
- 045:276 Sport in U.S. Culture** 3 s.h.  
Sport as a significant cultural form in the United States; focus on institutional relationships between sport and politics, economy, education, and media; role of sport in cultural reproduction. Same as 028:276.
- 045:293 Seminar in American Visual Culture** 3 s.h.  
Visual expression, its relation to cultural history. Repeatable.

<b>045:299 American Studies Proseminar</b>	1-2 s.h.
Intensive reading on American cultural analysis topics; may include screenings, field trips, guest speakers, special events. Repeatable.	
<b>045:300 American Film and American Culture</b>	3 s.h.
Relationships between film and culture as developed in a particular approach, period, subject. Same as 048:300.	
<b>045:320 Independent Study</b>	arr.
Repeatable.	
<b>045:350 Material Culture Internship</b>	0-5 s.h.
Independent work in the field or in a field school, curating or interpreting material culture.	
<b>045:400 Masters Preparation</b>	0-3 s.h.
Writing for M.A. exam. Requirements: American studies nonthesis M.A. candidacy.	
<b>045:450 M.A. Thesis</b>	0-6 s.h.
<b>045:500 American Studies Position Paper</b>	3 s.h.
Writing for the Ph.D. comprehensive exam.	
<b>045:600 Ph.D. Thesis</b>	arr.
Repeatable.	

## Sports Studies Courses

<b>028:029 First-Year Seminar</b>	1-2 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.	
<b>028:032 First Aid and CPR</b>	2 s.h.
Leads to American Red Cross first aid and adult CPR certifications.	
<b>028:072 The Olympics - Ancient and Modern</b>	3 s.h.
Same as 20E:076.	
<b>028:074 Inequality in Sport</b>	3 s.h.
Sport experiences, barriers to participation based on sexism, racism, classism, ageism, heterosexuality.	
<b>028:078 Women, Sport, and Culture</b>	3 s.h.
Feminist analysis of girls' and women's sport experiences; reproduction of gender through sport, recent changes in women's intercollegiate athletics, media representations of women in sport, feminist critiques, alternatives to sport. Same as 131:078.	
<b>028:079 Race and Ethnicity in Sport</b>	3 s.h.
Structural and ideological barriers to racial and ethnic equality in sport, with focus on African American sport experiences; historical and contemporary issues, media representations. Same as 129:079.	
<b>028:084 Sport and Film</b>	3 s.h.
Exploration of sport films as a distinct genre using narrative and formal analysis; focus on U.S. films. Same as 045:084.	
<b>028:133 Nutrition Through the Life Span</b>	3 s.h.
How body processes and nutritional needs change with age and the physiological state; effects of food-drug-medication interactions, anorexia, bulimia, and adolescent pregnancy; emphasis on food and health habits that minimize nutrition-related problems. Requirements: (for 028:133) 027:040 and health and sport studies major; (for 153:133) 027:040. Same as 153:133.	

<b>028:166 Exercise for Special Populations</b>	1 s.h.
Laboratory experiences in development and implementation of exercise testing and prescription for special populations, including children, elders, and individuals with chronic diseases. Corequisites: 027:138, if not taken as a prerequisite. Same as 153:166.	
<b>028:171 History of Baseball in America</b>	3 s.h.
Forces that influenced political, economic, and social development of professional baseball in the United States; rise of major league baseball, its relationship to the minor leagues, and development of organized baseball industry.	
<b>028:172 History of Intercollegiate Athletics</b>	3 s.h.
Forces that influenced political, economic, and social development of intercollegiate athletics; development of the National Collegiate Athletic Association and its relationship to the rise of the Division I conference.	
<b>028:175 Sport and the Media</b>	3 s.h.
Representations of sport in television, the press, fiction, films, biographies, adolescent fiction.	
<b>028:176 Sport and Nationalism</b>	3 s.h.
Role of sport in the phenomenon of nationalism; selected theories; case studies on Ireland, Australia, British West Indies, Cold War U.S., fascist Europe.	
<b>028:177 Western World Sport: Greeks to Present</b>	3 s.h.
Development of Western sport; relation to social, political, economic, intellectual factors.	
<b>028:178 Sport in the U.S. to 1900</b>	3 s.h.
Growth and institutionalization of sport from colonial times to 1900. Same as 045:178.	
<b>028:179 The American Vacation</b>	3 s.h.
Social history of vacations; cultural significance of contemporary patterns; focus on how experiences and meanings are shaped by race, class, gender. Same as 045:174.	
<b>028:180 Theory and Ethics of Coaching</b>	3 s.h.
Philosophical bases, ethical issues; theoretical, practical applications.	
<b>028:188 Twentieth-Century U.S. Sport</b>	3 s.h.
Historic development of sport in the United States since 1900; economic forces, professional football and baseball. Same as 045:188.	
<b>028:193 Independent Study</b>	arr.
Problem in a specific area.	
<b>028:194 Honors Readings</b>	1-2 s.h.
<b>028:195 Honors Problems</b>	3-4 s.h.
<b>028:198 Topics</b>	1-3 s.h.
Sport studies or health promotion topics.	
<b>028:202 Critical Perspectives</b>	3 s.h.
Application of critical theories to cultural meanings and issues of sport, health, physical activity.	
<b>028:204 Research Methodologies</b>	3 s.h.
Design, interpretation of research; emphasis on quantitative approaches.	
<b>028:250 Marketing, Finance, and Entrepreneurship</b>	3 s.h.
Economic practices, marketing research, promotional programs, financing strategies, entrepreneurship related to collegiate athletics.	
<b>028:256 Governance and Policy Issues in Sport</b>	3 s.h.

Institutional, conference, national, and international issues in sport and sport governance; focus on gender equity, Title IX.

**028:257 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 024:247, 032:227, 042:247, 06J:247, 091:320, 102:278, 174:247.

**028:258 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 024:248, 032:228, 042:248, 06J:248, 091:322, 102:279, 174:248.

**028:274 Philosophy of Sport** 3 s.h.

The meaning of sport as human experience; ethical, aesthetic dimensions.

**028:276 Sport in U.S. Culture** 3 s.h.

Sport as a significant cultural form in the United States; focus on institutional relationships between sport and politics, economy, education, and media; role of sport in cultural reproduction. Same as 045:276.

**028:278 History of Women in Sports** 3 s.h.

Women's sport involvement from ancient times to present; focus on social class, attitudes, religion, race, ethnicity, medical opinion, economic considerations, political events, educational philosophies that have influenced women's sport participation. Same as 131:254.

**028:279 Sport and the African American Experience** 3 s.h.

Intersection of African American sport experiences and larger sporting culture; political, economic, social forces; effects of urbanization, rise of the modern city.

**028:290 Graduate Internship** 1-4 s.h.

**028:291 Problems** arr.

**028:292 Practicum in College Teaching** arr.

**028:295 Graduate Research Workshop** 1 s.h.

Development of individual research projects for group discussion.

**028:298 Graduate Topics** 1-3 s.h.

Sport studies or psychology of sport and physical activity topics.

**028:299 Graduate Research Problems** arr.

**028:300 Research Colloquium** 0-1 s.h.

Research issues, current research projects of departmental faculty, graduate students. Repeatable.

**028:370 Seminar in Psychology of Sport and Physical Activity** 3 s.h.

Theoretical orientations used in the field of psychology of exercise and physical activity participation research. Repeatable. Prerequisites: 027:270.

**028:372 Selected Issues in Sport Psychology** 3 s.h.

**028:374 Seminar in Sport History** 3 s.h.

Topics in sport history; theoretical and methodological issues. Repeatable. Requirements: health and sport studies graduate standing.

**028:375 Cultural Analyses of Sport** 3 s.h.

Analytical strategies for studying sport; quantitative, qualitative techniques; materialist, feminist, cultural studies approaches. Repeatable.

**028:378 Seminar in Cultural Studies of Sport**

3 s.h.

Current theoretical debates in sociology of sport; applications of cultural studies to critical analysis of sport. Repeatable.

**028:386 Intercollegiate Athletics**

3 s.h.

Organization and administration of a Division I intercollegiate athletic program; current issues, problems.

**028:398 Thesis: M.A.**

1-6 s.h.

Repeatable.

**028:399 Thesis: Ph.D.**

arr.

Repeatable.

# Anthropology

**Chair:** James Enloe

**Professors:** Michael Chibnik, Russell Ciochon (Anthropology/Pediatric Dentistry), Ellen Lewin (Women's Studies/Anthropology), Sonia Ryang, Toni Tripp Reimer (Nursing/Anthropology)

**Professors emeriti:** Melanie Dreher (Nursing/Anthropology/Community and Behavioral Health), Mac Marshall, Margery Wolf

**Associate professors:** James Enloe, Robert Franciscus, Laura Graham, Meena R. Khandelwal (Anthropology/Women's Studies), Katina Lillios, Scott Schnell, Christian Simon (Internal Medicine/Anthropology), Glenn Storey (Classics/Anthropology)

**Associate professors emeriti:** Marshall B. McKusick, Douglas Midgett

**Adjunct associate professors:** Kevin Kelly, Alfrieta Monagan

**Assistant professors:** Margaret Beck, Adi M. Hastings, Matthew E. Hill, Erica Prussing (Anthropology/Community and Behavioral Health), Nelson Ting, Emily Wentzell

**Adjunct assistant professors:** John Doershuk, Erik Filean, Nathan Holton, Stephen C. Lensink, Dongwang Liu, Melody K. Pope

**Visiting assistant professor:** Jonathan Larson

**Adjunct instructor:** Shirley J. Schermer

**Undergraduate degrees:** B.A., B.S. in Anthropology

**Undergraduate nondegree program:** Minor in Anthropology

**Graduate degrees:** M.A., Ph.D. in Anthropology

**Web site:** <http://www.uiowa.edu/~anthro>

Anthropology is the comparative study of peoples and cultures past and present. The discipline's four major subfields--cultural anthropology, biological anthropology, linguistic anthropology, and archaeology--have important connections to other social sciences, physical and biological sciences, and to the arts and humanities.

Anthropology provides a framework for understanding the relation of human beings to their natural environment and to the social and cultural worlds they create and inhabit. The field provides insight into biological and sociocultural evolution and includes a focus on economic, social, and political organizations, symbolic systems, and social systems. Comparative studies of these and other aspects of past and present cultures yield information on regularities and differences.

In addition to offering undergraduate and graduate degree programs, the Department of Anthropology administers the University's Museum Studies Program.

## Undergraduate Programs

The department offers a Bachelor of Arts and a Bachelor of Science in anthropology. Either program is appropriate preparation for advanced training or careers in anthropology, allied fields, and professional programs. Students who complete an anthropology major gain special understanding of human relations and expertise for jobs involving international or cross-cultural work, cultural resource management, and social and ethnic diversity in the United States.

Upon graduation, anthropology majors embark on careers in government work, international affairs, public health, gerontology, urban and regional planning, conservation, social work, marketing, museum work, and education. Others pursue graduate study in law, business, and health care as well as anthropology and related social science disciplines. Some are employed in cultural resource management.

The department also offers a minor in anthropology.

### Bachelor of Arts, Bachelor of Science

The Bachelor of Arts in anthropology requires a minimum of 120 s.h., including 33 s.h. of work for the major. The Bachelor of Science in anthropology requires a minimum of 120 s.h., including 42 s.h. of work for the major. The B.A. is designed to offer a comprehensive overview of anthropology's four main subfields and the broadest possible cross-cultural background. The B.S. is appropriate for students with interests in any of anthropology's subfields; it offers enhanced opportunities to gain experience and develop skills in research methods and scientific reasoning.

All students working toward a B.A. or B.S. in anthropology may elect to complete one of three optional emphasis areas; see "Undergraduate Emphasis Areas" below.

All undergraduates majoring in anthropology, including transfer students, must earn a minimum of 15 s.h. for the major at The University of Iowa. Students may apply credit earned at approved field schools offered by other institutions toward the major, with Department of Anthropology approval.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Students who declare anthropology as their major when they are admitted to the College of Liberal Arts and Sciences are advised at the Academic Advising Center until they have earned 24 s.h. Students who have earned more than 24 s.h. are advised in the department. Students are assigned an advisor based on faculty advisor loads and student interests.

### Common Requirements

All anthropology majors (B.A. or a B.S.) must complete the following requirements.

One of these (students may count only one toward the major):

113:003 Introduction to the Study of Culture and Society	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.

All of these:

113:012 Introduction to Prehistory	3 s.h.
113:013 Human Origins	3 s.h.
113:014 Language, Culture, and Communication	3 s.h.
113:050 Issues in Anthropology	3 s.h.
One 100-level course in archaeology (area or topical) or biological anthropology	
One 100-level course in sociocultural or linguistic anthropology	
One 100-level course in area studies	
Three 100-level electives	

Anthropology electives offer many choices, including courses dealing with environment and culture, expressive culture (art, verbal arts, literature, music, and dance), gender, human evolution, human evolutionary anatomy, human osteology, human prehistory, identity, language and culture, medical anthropology, molecular genetics, primatology, psychological anthropology, religion and ritual, and urban anthropology. Department faculty members offer area studies courses on Latin America, Europe, Japan, South Asia, and Native North America.

### **Additional Bachelor of Arts Requirements**

Students pursuing the B.A. are strongly encouraged to participate in archaeological field and laboratory research, biological anthropology laboratory research, independent studies in sociocultural anthropology, or linguistic anthropology research.

### **Additional Bachelor of Science Requirements**

Students pursuing the B.S. must fulfill additional requirements in the following three areas.

Quantitative, mathematical, or formal reasoning tool  
Directed laboratory or field research  
Allied topical course work

#### **QUANTITATIVE, MATHEMATICAL, OR FORMAL REASONING TOOL**

Students must complete a minimum of 6 s.h. beyond the courses used to fulfill the General Education Program quantitative or formal reasoning requirement. Students select specific courses or course sequences in consultation with their advisors.

#### **DIRECTED LABORATORY OR FIELD RESEARCH**

Students complete an approved directed research requirement (minimum of 3 s.h.) consisting of one of the following.

Laboratory research: a laboratory practicum in anthropology research labs or independent, faculty-guided, laboratory research, including use of the collections of the Office of the State Archaeologist.

Field research project: faculty-advised projects involving the collection of primary archaeological, biological, ethnographic, and/or linguistic data in a fieldwork setting.

A University of Iowa field archaeological school program or approved equivalent (current field school is Plum Grove Historical Archaeology).

An approved internship: typical approved internships include work in cultural resource management firms, museums, and public health research or education projects. To receive research credit for an internship, students must make a final report to their faculty advisor, summarizing the work accomplished or presenting materials that document the nature of the work.

#### **ALLIED TOPICAL COURSE WORK**

Students complete a topical specialization in one of the following allied fields: biology, chemistry, computer science, economics, geography, geoscience, global health studies, health and human physiology, health promotion, linguistics, mathematics, psychology, science education, sport studies, or statistics and actuarial science. Minors (or at least five courses) in other fields, chosen in consultation with the student's advisor, also may be applied toward this requirement.

### **Undergraduate Emphasis Areas**

The department offers three optional undergraduate emphasis areas: gender and culture, cultural resource and



heritage management, and environmental anthropology. Students majoring in anthropology may use an emphasis area to provide a particular focus in their study plan. Students in other majors may complete an emphasis area in order to add a focus to the minor in anthropology.

Each emphasis area reflects broad issues bridging subfields in and outside of anthropology. Completion of an emphasis area indicates the achievement of considerable expertise and is noted on the student's transcript.

Each emphasis requires five courses (15 s.h.). With careful course selection, students majoring in anthropology can complete an emphasis area without adding to the semester hours required for graduation.

#### **GENDER AND CULTURE EMPHASIS**

Anthropological research regarding gender and sexuality has grown dramatically in recent years, enhancing and drawing from other theoretical and methodological approaches within the discipline. Such studies contribute a cross-cultural perspective to the discussion surrounding these fundamental aspects of human experience, both in academia and in public life.

The gender and culture emphasis requires five courses (15 s.h.) chosen from the following list. Each course provides an integrated overview of essential theoretical and topical issues in the field.

113:101 Disability and the Ethics of Care	3 s.h.
113:102 Ethnography and Auto/Biography	3 s.h.
113:105 Mothers and Motherhood	3 s.h.
113:107 Gendering India	4 s.h.
113:108 Anthropology of Marriage and Family	3 s.h.
113:127 South Asian Sexual Cultures	3 s.h.
113:133 The Anthropology of Women's Health	3 s.h.
113:134 Gender and Indian Diaspora	3 s.h.
113:137 The Anthropology of Love	3 s.h.
113:140 Politics of Reproduction	3 s.h.
113:141 History of Feminist Anthropology	3 s.h.
113:154 Anthropology of Sexual Minorities	3 s.h.
113:180 Women Writing Culture	3 s.h.
113:182 Women, Health, and Healing	3 s.h.

#### **CULTURAL RESOURCE AND HERITAGE MANAGEMENT EMPHASIS**

In North America and throughout much of the rest of the world, modern land use continually threatens evidence of past land use. Most archaeological excavations are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who choose this emphasis learn about the field and about how to address related ethical issues as well as technical and theoretical challenges.

The cultural resource and heritage management emphasis requires five courses (15 s.h.): a fundamental overview course, two area electives, a technical/practical elective, and a field school course. Students may use some of these courses to satisfy requirements for the major, such as the 100-level course in archaeology and the 100-level electives.

Fundamental overview course:

113:193 Special Topics in Archaeology	3 s.h.
---------------------------------------	--------

Area elective courses--two of these (or one of these and one other Department of Anthropology area course):

113:110 Native Peoples of North America	3 s.h.
113:159 Southwestern Archaeology	3 s.h.
113:167 North American Archaeology	3 s.h.
113:172 Historical Archaeology: The Archaeology of the U.S.	3 s.h.
113:179 Pleistocene Peopling of the Americas	3 s.h.
113:181 Archaeology of the Great Plains	3 s.h.

Technical/practical elective course--one of these:

113:153 Raw Materials in Archaeology	3 s.h.
113:158 Animal Bones in Archaeology	3 s.h.

113:160 Introduction to Archaeological Ceramics	3 s.h.
113:162 Practicum in Archaeology	arr.
113:168 Archaeological Methods	3 s.h.
113:189 Approaches to Geoarchaeology	3 s.h.
213:190 Human Osteology	3 s.h.

Field school course--one of these:

113:199 Field Research in Archaeology	arr.
An equivalent course from another university	

#### ENVIRONMENTAL ANTHROPOLOGY EMPHASIS

The interaction between humans and the environments they inhabit has long been a central issue in anthropology, and environmental degradation is a worldwide concern today. Pollution, loss of biodiversity, and global warming recognize no political boundaries, but attitudes and behaviors involving the natural environment vary widely from culture to culture. Understanding and incorporation of these varied perspectives will be vital to the development and successful use of workable solutions.

The environmental anthropology emphasis requires five courses (15 s.h.): two theory courses, which deal primarily with human-environmental interactions; and three area or topical electives, which deal in part with environment, ecology, and subsistence technologies. The following are sample courses in each area.

Theory courses:

113:113 Human Impacts on the Environment	3 s.h.
113:114 Environmentalisms	3 s.h.
113:139 Religion and Environmental Ethics	3 s.h.
113:143 Environment and Culture	3 s.h.
213:152 Primate Conservation Biology	3 s.h.
113:215 Seminar: Ecological Anthropology	3 s.h.

Area or topical electives:

113:125 Japanese Society and Culture	3 s.h.
113:126 Animals, Culture, and Food	3 s.h.
113:130 Archaeology of the Iberian Peninsula	3 s.h.
113:131 Latin American Economy and Society	3 s.h.
113:150 Tribes and Chiefdoms of Ancient Europe	3 s.h.
113:157 Foodways and Cuisine in the Past	3 s.h.
113:158 Animal Bones in Archaeology	3 s.h.
113:161 Prehistoric People of the Ice Age	3 s.h.
113:164 Comparative Prehistory	3 s.h.
113:178 Hunter-Gatherer Ethnoarchaeology	3 s.h.
113:181 Archaeology of the Great Plains	3 s.h.
113:187 Cultures in Collision	3 s.h.
113:189 Approaches to Geoarchaeology	3 s.h.
113:196 The Archaeology of Ancient Egypt	3 s.h.

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

##### Bachelor of Arts

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least two courses in the major and one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least seven courses in the major and at least three-quarters of the hours required for graduation

**Before the eighth semester begins:** at least eight courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Bachelor of Science**

**Before the third semester begins:** at least one anthropology course or other course in the major, and one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least four anthropology courses or other courses in the major, one course in the minor area, one course for the quantitative or formal reasoning tool requirement, and one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least seven courses in the major, three courses in the minor area, the second quantitative or formal reasoning tool course, and at least three-quarters of the hours required for graduation

**Before the eighth semester begins:** at least nine courses in the major, including the directed research requirement and four courses in the minor area

**During the eighth semester:** enrollment in all remaining course work in the major and in the minor area, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

Students working toward a B.A. or B.S. in anthropology may pursue departmental honors in anthropology. In addition to fulfilling the regular requirements for the anthropology major, departmental honors students conduct an independent research project that culminates in a 30-50 page thesis. The project includes completion of 6 s.h. divided between 113:18 113:186 Honors Research Seminar (offered only in fall semesters) and 113:176 Honors Research, typically taken the next semester. Honors students also must take one of their anthropology courses at the graduate level. In order to graduate with departmental honors, students also must have a g.p.a. of at least 3.50 in anthropology and be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

Students working toward a B.S. may count their directed research project or laboratory practicum toward the required credit for departmental honors, but fulfilling the research requirement for the B.S. does not by itself fulfill the honors requirement. Students must work with their honors thesis advisor to structure their research so that it meets the added requirements of honors work.

To learn more about earning departmental honors in anthropology, contact the department's director of undergraduate studies.

### **Minor**

The minor in anthropology requires a minimum of 15 s.h. in anthropology courses, including 12 s.h. in University of Iowa Department of Anthropology courses numbered 113:100 and above and 213:100 and above. Students must maintain a g.p.a. of at least 2.00 in the minor. Courses for the minor may not be taken pass/nonpass.

## **Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in anthropology. The graduate program emphasizes continuity from the Master of Arts to the Doctor of Philosophy. The department admits students who seek the Ph.D.; students seeking only the M.A. ordinarily are not admitted.

Graduate students must complete all M.A. requirements before advancing to the Ph.D. program. Entering graduate students are not required to have an undergraduate degree in anthropology. Applicants who hold an M.A. in anthropology from another institution may apply directly for admission to the Ph.D. program.

Once a student completes all requirements for the M.A., his or her committee makes a recommendation to the faculty concerning the students' potential for completing the Ph.D. The committee recommends continuation or dismissal from the program.

### **Master of Arts**

The M.A. in anthropology requires 30-36 s.h. of graduate credit, depending on the student's previous anthropological training. Students may count a maximum of no more than 9 s.h. earned in courses outside anthropology toward the M.A. in anthropology. The degree normally is awarded to students after two years in the graduate program.

During the first semester of the M.A. program, students are advised by the director of graduate studies. By the end of

the second semester, they must select an advisor and begin forming an M.A. committee. In consultation with the committee, the student develops a research project and writes an M.A. paper. The committee must approve the M.A. paper by the end of the fourth semester of study. The student also publicly presents the paper. As an alternative to the M.A. paper, students may choose to write a formal M.A. thesis, which must follow the Graduate College thesis guidelines. Students must submit a final copy of their M.A. thesis or paper to the department.

#### **GENERAL COURSE WORK**

M.A. students must complete core seminars in at least three of four subfields, for a total of 9 s.h. Core seminars are chosen from the following.

113:240 Seminar Sociocultural Anthropology	3 s.h.
113:268 Seminar: Archaeological Theory and Method	3 s.h.
113:271 Seminar: Linguistic Anthropology	3 s.h.
213:285 Seminar: Biological Anthropology	3 s.h.

In addition, all students are required to take 113:210 Anthropological Data Analysis or another course in statistics within the first three years of graduate study, preferably during the M.A. program (first two years of graduate study).

#### **ELECTIVES**

In consultation with their advisor and committee members, students select additional course work to complete the remaining semester hours required for the M.A. Elective hours may include courses in other disciplines, directed study, or up to 6 s.h. of M.A. thesis credit for students who choose the thesis option.

### **Doctor of Philosophy**

The Doctor of Philosophy in anthropology requires a minimum of 72 s.h. of graduate credit. The Ph.D. represents a balance between general anthropological competence obtained at the M.A. level and professional specialization and competence for independent research and teaching in one of four subfields: sociocultural anthropology, linguistic anthropology, archaeology, and biological anthropology.

Ph.D. students also may elect to pursue a concentration in feminist anthropology or paleoanthropology. See "Concentrations" below.

To ensure focus on the student's research interests, the department has an integrated process of simultaneous preparation of reading lists, research proposals for submission to granting agencies, dissertation proposal, and position papers. In order to complete the degree, all doctoral candidates are required to complete appropriate course work and the Ph.D. comprehensive process, carry out original anthropological research, and write and defend a dissertation. Students work closely with their advisor and committee at all stages.

In the first semester after completing the M.A. (or the first semester in the program for students who enter with an M.A. in anthropology from another institution), the student selects an advisor. By the end of the second semester, the student selects a committee to oversee his or her completion of the comprehensive process.

Students immediately begin consulting with their advisor, and eventually their committees, to start compiling an annotated bibliography of works relevant to future research. The annotated bibliography is a working document for the student's use in the Ph.D. program; it is not a formal requirement and does not require formal review.

In the third and fourth semesters of the program, the student completes the comprehensive process. Then he or she may select a dissertation committee.

#### **REQUIRED COURSE WORK**

Students should take all lecture courses and seminars that are relevant to the areas they intend to cover in their position papers. A maximum of 18 s.h. earned in non-anthropology courses may be counted toward the 72 s.h. required for the Ph.D., including the maximum of 9 s.h. that can be counted toward the master's degree.

Students must take at least one theory course beyond the course they took to fulfill the master's requirements in their specialization subfield. This course should be chosen from one of the following lists.

#### **Sociocultural Anthropology**

113:215 Seminar: Ecological Anthropology	3 s.h.
113:240 Seminar Sociocultural Anthropology	3 s.h.
113:244 Seminar: Semiotics	3 s.h.

113:250 Seminar: Ritual and Performance	3 s.h.
113:251 Seminar: Resistance in Theory and Practice	3 s.h.

Most graduate seminars offered in the feminist anthropology concentration also may be used to fulfill this requirement (see "Feminist Anthropology Concentration" below).

#### **Linguistic Anthropology**

113:123 Language and Nationalism	3 s.h.
113:244 Seminar: Semiotics	3 s.h.
113:271 Seminar: Linguistic Anthropology	3 s.h.
113:273 Seminar: Language and Gender	3 s.h.

#### **Archaeology**

113:164 Comparative Prehistory	3 s.h.
113:174 Seminar: Taphonomy	3 s.h.
113:178 Hunter-Gatherer Ethnoarchaeology	3 s.h.
113:258 Seminar: Zooarchaeology	3 s.h.
113:268 Seminar: Archaeological Theory and Method	3 s.h.
113:269 Politics of the Archaeological Past	3 s.h.

#### **Biological Anthropology**

213:150 Primate Comparative Morphology	3 s.h.
213:151 Anthropological Genetics	3 s.h.
213:152 Primate Conservation Biology	3 s.h.
213:165 Human Variation	3 s.h.
213:169 Human Evolutionary Anatomy	3 s.h.
213:170 Primate Evolutionary Biology	3 s.h.
213:187 Human Evolution	3 s.h.
213:188 Primate Behavior and Ecology	3 s.h.
213:285 Seminar: Biological Anthropology	3 s.h.
213:288 Seminar: Paleoanthropology	3 s.h.

#### **FOREIGN LANGUAGE**

All doctoral students must demonstrate reading and/or speaking knowledge of one foreign language. They must meet this requirement before beginning dissertation research.

#### **INDEPENDENT STUDY COURSES**

Ph.D. students may count a maximum of 9 s.h. of independent study courses, beyond the M.A., toward the Ph.D. Once a student has completed the M.A., he or she might use an independent study course, for example, to prepare an annotated bibliography of works relevant to his or her future research program. The bibliography would not be a formal requirement and would not require committee or faculty review; rather, it would be a working document for the student's use in the succeeding phases of the Ph.D. program.

#### **THE PH.D. COMPREHENSIVE PROCESS**

The comprehensive process consists of writing position papers and preparing a research proposal and prospectus defense. According to individual needs and in consultation with the committee, a student selects the order of completing these two tasks.

Successful completion of the comprehensive process advances the student to Ph.D. candidacy.

To remain in good academic standing, students must complete the comprehensive process by the end of the fourth semester in the Ph.D. program. Students who do not adhere to this timeline are placed on departmental probation.

#### **Research Proposal and Prospectus Defense**

Working closely with the committee, the student drafts a research proposal for the program of dissertation research and defends a research prospectus before the Ph.D. committee. The defense is open to students and faculty. A copy of the student's dissertation prospectus must be made available in the department office one week before the defense.

### **Position Papers**

Position papers are two essays of publishable quality. One essay concerns the student's geographical area of specialization; the other deals with his or her primary topical area. In some fields (e.g., biological anthropology), a geographical area may not be relevant. The essays are responses to questions the committee prepares in consultation with the student.

Position papers should demonstrate analysis, evaluation, synthesis, and control of a body of information (knowledge and comprehension). They should critique a major problem or debate (application and analysis), and they should develop a position on an issue and provide an explanation or theoretical justification for the position (evaluation and synthesis).

### **DISSERTATION**

All Ph.D. candidates are required to carry out original anthropological research. Students typically conduct dissertation research after defending their research prospectus and writing position papers. Dissertations usually are based on fieldwork. Some are based on data from archival collections, laboratory projects, collections, or other source materials.

### **Graduate Concentrations**

In addition to their required course work in the four Ph.D. subfields, students may complete a concentration in feminist anthropology or paleoanthropology. Each concentration reflects broad issues bridging subfields in and outside of anthropology.

Completion of a concentration indicates substantial expertise. It is recognized as a department credential and may be added to a student's curriculum vitae.

### **FEMINIST ANTHROPOLOGY CONCENTRATION**

The feminist anthropology concentration offers broad training in a growing specialization area that enhances and draws from other theoretical approaches in anthropology. Graduate students in anthropology and other disciplines may explore particular aspects of the field by taking feminist anthropology courses.

Course work in the concentration emphasizes feminist perspectives, theories, methods, and analytic techniques in anthropology. It improves students' academic job prospects in anthropology and other fields, especially women's studies and gender studies. It also helps students prepare for careers in applied or public anthropology.

Feminist anthropology students take 15 s.h. of course work in the concentration in addition to their regular core requirements. The 15 s.h. should be divided between graduate seminars and elective courses as noted below.

Concentration courses may fulfill requirements for graduate electives in anthropology.

Feminist anthropology was offered as a track in the Master of Arts in academic year 2006-07 and earlier. Students who took courses as part of the M.A. track may count them toward the Ph.D. concentration.

The following list of approved courses is subject to change; contact the Department of Anthropology for updates. Students may petition to count other courses in anthropology or other disciplines toward the concentration, if the courses or the students' work in them includes significant relevant content. Petitions are reviewed by the feminist anthropology faculty.

### **Graduate Seminars**

Students complete at least two of these (minimum of 6 s.h.) and may count additional graduate seminar courses as elective credit.

113:220 Seminar: Feminist Anthropology	3 s.h.
113:221 Seminar: Feminist Ethnography	3 s.h.
113:222 Reading Transnational Feminist Theory	3 s.h.
113:223 Feminist Medical Anthropology	3 s.h.
113:273 Seminar: Language and Gender	3 s.h.

## 113:290 Feminist Perspectives on Biology and Culture

3 s.h.

**Electives**

Students must earn a minimum of 9 s.h. in electives and may count extra credit earned in graduate seminars toward the elective requirement.

113:101 Disability and the Ethics of Care	3 s.h.
113:102 Ethnography and Auto/Biography	3 s.h.
113:105 Mothers and Motherhood	3 s.h.
113:107 Gendering India	4 s.h.
113:133 The Anthropology of Women's Health	3 s.h.
113:140 Politics of Reproduction	3 s.h.
113:141 History of Feminist Anthropology	3 s.h.
113:154 Anthropology of Sexual Minorities	3 s.h.
113:180 Women Writing Culture	3 s.h.
113:182 Women, Health, and Healing	3 s.h.

**PALEOANTHROPOLOGY CONCENTRATION**

The paleoanthropology concentration offers broad training that combines archaeology and biological anthropology, two traditional subfields of anthropology important in understanding the biocultural factors that have been critical in human evolution. The concentration combines course work in both biological and archaeological anthropology, complementing the specialized training that students from either subfield receive in their own specialization. Paleoanthropology courses emphasize integration of biological and cultural factors in the evolution of hominid species up to and including modern humans. They encompass primate and human evolutionary anatomy, technology and subsistence in Paleolithic archaeology, and modern human hunter-gatherers.

Paleoanthropology students take 15 s.h. of course work in the concentration in addition to their regular core requirements. The 15 s.h. should be divided between graduate seminars and elective courses as noted below.

Students may choose core seminars to fulfill requirements for both the M.A. general course work and the paleoanthropology concentration.

The following list of approved courses is subject to change; contact the Department of Anthropology for updates. Students may petition to count other courses in anthropology or other disciplines toward the concentration, if the courses or the students' work in them includes significant relevant content. Petitions are reviewed by the paleoanthropology faculty.

**Graduate Seminars**

All of these (9 s.h.):

113:268 Seminar: Archaeological Theory and Method	3 s.h.
213:285 Seminar: Biological Anthropology	3 s.h.
213:288 Seminar: Paleoanthropology	3 s.h.

**Electives**

At least two of these (6 s.h. minimum):

113:178 Hunter-Gatherer Ethnoarchaeology	3 s.h.
113:179 Pleistocene Peopling of the Americas	3 s.h.
113:258 Seminar: Zooarchaeology	3 s.h.
213:151 Anthropological Genetics	3 s.h.
213:169 Human Evolutionary Anatomy	3 s.h.
213:170 Primate Evolutionary Biology	3 s.h.
213:187 Human Evolution	3 s.h.
213:190 Human Osteology	3 s.h.

## Admission

Applicants for admission to the graduate program in anthropology are considered regardless of their previous field of training. Students without previous training in anthropology may be expected to perform additional work necessary to achieve competence expected for their degree objective.

Students normally are admitted directly to the Ph.D. program. For students without an M.A. in anthropology, the first two years of the Ph.D. program are devoted to fulfilling the requirements of the M.A. After those requirements are completed, the student's committee recommends to the faculty whether the student should continue to work toward the Ph.D.

Students with an M.A. in anthropology from another institution may proceed directly into a Ph.D. program organized around their special research interests.

Applicants for admission to the graduate program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants are required to submit the following:

- a completed University application form;
- transcripts of all previous undergraduate and graduate work;
- three letters of recommendation from individuals competent to judge the applicant's potential for graduate training;
- Graduate Record Examination (GRE) scores;
- at least one written example of previous work (for example, a term paper).

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must submit scores on the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Applicants with an M.A. from another university must submit a copy of their master's thesis; applicants who earned an M.A. without thesis or whose thesis is not yet complete should submit written copies of three papers completed in graduate school.

## Financial Support

Financial assistance, usually in the form of teaching and research assistantships, is offered to the majority of graduate students in good standing for up to five years. Students making satisfactory and timely progress through the graduate program are in good standing. Eligibility for financial aid is reduced after two years in the M.A. program, after two years in the Ph.D. program, or after one year of postdoctoral fieldwork or research enrollment. The amount and types of aid depend on departmental needs. The department usually awards financial aid to most entering graduate students every year.

Students are notified in writing of a provisional financial award before the semester or summer session for which the award has been granted. Although awards are made before the end of the previous semester, each award is contingent upon satisfactory completion of that semester's work by the awardee.

## Archaeological Field Research

Under the direction of University archaeologists, students acquire skills in data recovery and interpretive techniques. Opportunities are available for students to participate in archaeological field research in central Mexico, France, the Netherlands, Portugal, Sicily, the U.S. Southwest, or at various sites in the U.S. Midwest. Occasional fieldwork in East and Southeast Asia is available to graduate students in the paleoanthropology research program.

## Resources, Facilities

The department has access to the Iowa Archaeological Collections through the Office of the State Archaeologist and maintains its own archaeological collections (midwestern prehistoric and historical and comparative faunal material).

The department maintains a documented human osteology teaching collection amassed by the University of Iowa Carver College of Medicine and the Department of Anatomy and Cell Biology, and it holds a substantial documented human osteology research collection originally from Stanford University's medical school that is maintained jointly with the Office of the State Archaeologist.



Individual faculty members maintain field laboratories and conduct research outside the United States, maintaining ties with research institutions in foreign countries, including the Teotihuacán Archaeological Research Facility, in Mexico; the Laboratoire d'Ethnologie Préhistorique at Pincevent; the Centre de Recherches Archéologiques at Verberie, in France; the National Museum of Ethnology in Japan; the Institute of Technology Bandung (ITB), in Indonesia; the Gemeente Nijmegen, Bureau Archeologie, Nijmegen, the Netherlands, and the Deutsches Archäologisches Institut of Madrid in Spain.

The department also has well-equipped laboratories for the study of archaeology, biological anthropology, and a state-of-the-art multimedia linguistic anthropology laboratory.

The University is a charter member of the Human Relations Area Files (HRAF), an extensively annotated set of source materials on the peoples of the world--their environments, behavioral patterns, social lives, and cultures. Through HRAF and other library resources, anthropology students have access to source materials on more than 400 different cultures.

The University's exchange programs for Iowa students provide opportunities and some scholarships for study abroad.

## Faculty

Members of the anthropology faculty have studied and lived in Africa, Asia, the Caribbean, Europe, Mexico and Central America, Pacific Islands, South America, and the United States. Recent field research has been conducted in Angola, Belgium, Brazil, Cameroon, China, Czech Republic, Ecuador, Fiji, France, Greece, Honduras, India, Indonesia, Italy, Japan, Mexico, Mozambique, Myanmar (formerly Burma), the Netherlands, Peru, Philippines, Portugal, Russia, Tanzania, the Gambia, the United States, and Vietnam.

Current faculty interests include patterns of political and economic development of emerging nations; the trade in Mexican folk art, material culture, human rights; indigenous movements; visual culture and indigenous media; gender and the cultural politics surrounding sobriety in native North America; the cultural production of scientific knowledge about racial/ethnic disparities in infant mortality in U.S. public health; stress, blood pressure, and social support in Mozambique; coping strategies in post-war Angola; power, memory, and social inequality in ancient Iberia; language and gender; expressive culture and performance in the Brazilian Amazon; language and social justice; Sanskrit, colonial linguistics, cultural politics of language, religion, and ethnicity; spiritual tourism in India; community and conflict, ritualization, localized religion, and environmentalism in Japan; ethnic minorities in Japan; diasporas, love, and romantic relations, culture, and totalitarianism in North Korea; paleoanthropological investigations of Pleistocene karst caves in China and northern Vietnam; geological and paleoanthropological field surveys of the Plio-Pleistocene Sangiran Dome, in Java; Neanderthal craniofacial form, function, and evolutionary history; anatomical modernity and the origins of modern humans; historical archaeology of Iowa; molecular anthropology, primate molecular ecology, primate conservation biology, primate evolutionary history; precontact state systems and the historical archaeology of the Basin of Mexico; faunal and spatial analyses from Paleolithic sites in France and the Ukraine; regional interaction and migration in late-prehistoric North America; peopling of the Americas; human impacts on the environment in North America.

## Anthropology Courses

### For Undergraduates

**113:003 Introduction to the Study of Culture and Society** 3 s.h.  
Comparative study of culture, social organization. GE: Social Sciences.

**113:010 Anthropology and Contemporary World Problems** 3 s.h.  
Selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. GE: Social Sciences.

**113:012 Introduction to Prehistory** 3 s.h.  
Data, theories of evolution of human cultures from end of Pleistocene to emergence of complex societies; emphasis on prehistoric cultural information from world areas from which relatively complete sequences are available. GE: Historical Perspectives.

**113:013 Human Origins** 3 s.h.  
Processes, products of human evolution from perspectives of heredity and genetics, evolutionary theory, human biological characteristics, fossil record, artifactual evidence, biocultural behaviors. GE: Natural Sciences.

**113:014 Language, Culture, and Communication** 3 s.h.

Human language in context of animal communication; development, acquisition of language; biological base; language as a linguistic system in cultural social context. GE: Social Sciences.

**113:029 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g. films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**113:050 Issues in Anthropology** 3 s.h.

In-depth exploration of methodological and theoretical issues in contemporary anthropology; emphasis on critical reading of primary texts.

**113:051 Diversity in Action in American Society** 1-3 s.h.

Consequences of American racial and cultural diversity as related to contemporary social issues and professional careers; assumptions that define diversity as a problem for educators.

**113:060 Forensic Anthropology and CSI** 3 s.h.

Role and range of techniques used in forensic anthropology; how analysis of skeletal and nonskeletal remains is used in crime scene investigation; case studies.

**113:061 Anthropology of Tattoos and Body Modification** 3 s.h.

Cross-cultural perspective on corporal modification; how people communicate and inscribe cultural and personal significance on the body; tools used, from ink to scalpel.

**113:062 Anthropology of Violence** 3 s.h.

Sources and manifestations of violence; violence in varied contexts--war, genocide, colonialism, state violence, terrorism, domestic violence; anthropological perspective considering structural, economic, and symbolic violence.

**113:063 Fifth Great Ape: Our Primate Heritage** 3 s.h.

Human behavior and ecology viewed through the gap between nonhuman and human primates; adaptations, interactions of free-ranging species, cognition of higher primates in behavioral study.

**113:064 The Evolution of Human Sex** 3 s.h.

How evolution has shaped our sexual behavior; patterns of mate choice, parental behavior, social organization, cooperation, and conflict as responses to selection pressure; sexual selection, reproductive strategies, mate choice, sex roles and practices.

**113:065 Anthropology, Science Fiction, and Fantasy** 3 s.h.

Connections between anthropology and science fiction and fantasy; science fiction and fantasy films and literature surveyed and examined in light of scholarly essays on anthropological concepts such as human evolution, race, gender, the anthropological *other*.

**113:066 The Anthropology of Virtual Worlds** 3 s.h.

How virtual reality intertwines with social existence; anthropological exploration of virtual worlds, from checking e-mail to setting up bar crawls on Facebook; forms of virtual identity, how virtual life affects language.

**113:075 Individual Study** 1-3 s.h.

Readings in area or subdivision of anthropology in which student has had basic course work.

**113:081 Human Genetics in the Twenty-First Century** 3 s.h.

Heredity in human families, populations; genetic basis of normal, abnormal traits; chromosome behavior; molecular basis of genetics; sex determination. GE: Natural Sciences. Same as 002:081.

## **Advanced Courses**

### **General Anthropology**

**113:103 Introduction to Museology** 3 s.h.

Overview of museum history, function, philosophy, collection and curatorial practices, governance and funding issues, exhibition evaluation, audience studies; American cultural institutions. GE: Humanities. Same as 024:102, 07S:112, 097:115.

**113:147 Special Topics in Anthropology** 2-3 s.h.  
Problems, concepts involved in comparing and contrasting behavior and ideas of different cultures.

**113:148 Special Topics in Anthropology** 2-3 s.h.  
Problems, concepts involved in comparing and contrasting behavior and ideas of different cultures.

**113:149 Special Topics in Anthropology** 2-3 s.h.  
Problems, concepts involved in comparing and contrasting behavior and ideas of different cultures.

**113:209 Research Design and Proposal Writing** 3 s.h.  
Anthropological research design; preparation of proposals for fieldwork or laboratory analysis.

**113:210 Anthropological Data Analysis** 3 s.h.  
Quantitative procedures for analyzing field data, library materials; elementary statistics, introduction to computers.

**113:215 Seminar: Ecological Anthropology** 3 s.h.  
Individual and group responses to ecological problems; causes and consequences of resource shortages, population growth, environmental destruction; conflicts over access to natural resources.

**113:235 Graduate Teaching Pro-Seminar** 1 s.h.  
Graduate student teaching skills: developing course guidelines, leading discussion, grading, review sessions, dealing with problem students and complaints; development of syllabi and teaching portfolios; mentoring of less-experienced teaching assistants. Repeatable.

## Area Studies

The following archaeology courses may be used to fulfill the area studies requirement: 113:117 The Maya: Archaeology and Ethnohistory, 113:130 Archaeology of the Iberian Peninsula, 113:150 Tribes and Chiefdoms of Ancient Europe, 113:159 Southwestern Archaeology, 113:163 Archaeology of Mesoamerica, 113:166 The Aztecs, Their Predecessors, and Their Contemporaries, 113:167 North American Archaeology, 113:177 Celtic Archaeology, 113:181 Archaeology of the Great Plains, 113:192 Greek Archaeology and Ethnohistory, 113:194 Roman Archaeology, and 113:196 The Archaeology of Ancient Egypt. No single course may be used to fulfill both area studies and archaeology requirements.

**113:107 Gendering India** 4 s.h.  
Aspects of Indian culture, including nation, family, sexuality, work, and religion, through the lens of gender; Hindu India, differences in region, caste, and class. Same as 131:107.

**113:110 Native Peoples of North America** 3 s.h.  
History, culture of American Indian peoples; emphasis on North America. GE: Cultural Diversity. Same as 045:105, 149:110.

**113:118 North Korea and Totalitarianism** 3 s.h.  
North Korea viewed as a human society, rather than a global security threat, through examination of the nation's culture and politics.

**113:119 Health in Mexico** 3 s.h.  
Use of anthropological perspectives to examine disease, healing systems, and ideas about health and the body in Mexico and its diaspora; relationships between structural conditions and historical and political transformations; ideas about gender and race; chronic and acute disease in Mexico; conquest and disease; racialized bodies; sexual health; biomedicine; shamanism; immigration and health; pollution and narcoviolence; readings in English.

**113:120 Popular Culture in South Asia** 3 s.h.  
Popular cultural forms (films, calendar art, music, comics, advertising) and their role in formation and expression of collective identities based on gender, ethnicity, caste, religion, and so forth in South Asia. Same as 039:119.

**113:125 Japanese Society and Culture**

3 s.h.

Cultural anthropology of Japan, including historical tradition, religious ethos, social organization, human ecology, educational and political institutions; emphasis on how these aspects relate to and influence one another. GE: Foreign Civilization & Culture. Same as 39J:125.

**113:127 South Asian Sexual Cultures**

3 s.h.

How sexuality is embedded in kinship, economics, nation, and religion in South Asia, with focus on India; chastity, celibacy, romance, arranged marriage, nonnormative sexualities associated with courtesans and hijras. Prerequisites: 113:003 or 113:010 or 131:010. Same as 131:127.

**113:129 Language/Politics of Culture in South Asia**

3 s.h.

Key moments in the sociolinguistic history of premodern, colonial, and postcolonial linguistic communities in South Asia; roles of language in mediation of cultural and political processes. Same as 039:122.

**113:131 Latin American Economy and Society**

3 s.h.

Development, present structure of Latin American economy and society; emphasis on rural regions in context of national development; focus on area as a whole. GE: Foreign Civilization & Culture.

**113:132 Latin American Studies Seminar**

3 s.h.

Interdisciplinary approach. Taught in English. Recommendations: Spanish or Portuguese sufficient for background readings. Same as 035:176, 038:176, 048:153, 130:176, 16W:109.

**113:134 Gender and Indian Diaspora**

3 s.h.

General theories of diaspora, which have expanded from the Jewish experience to explain African and Asian diasporas; theories in context of Indian diaspora populations and their relationship to the homeland. Same as 131:134.

**113:152 Japan and Other Cultural Constructs**

3 s.h.

Key texts in postwar Anglo-American anthropological studies of Japan; wartime enemy studies, national character studies, culture and personality school as represented by Ruth Benedict, and more. Prerequisites: 113:003 or 113:010.

**Sociocultural Anthropology****113:101 Disability and the Ethics of Care**

3 s.h.

Recent debate on disability, with emphasis on moral and ethical foundations of our society; care of the disabled as part of the broader social good. Prerequisites: 113:003 or 113:010.

**113:102 Ethnography and Auto/Biography**

3 s.h.

Ethnographic writing compared with biographical and autobiographical writings. Prerequisites: 113:003 or 113:010.

**113:104 Cultural Politics**

3 s.h.

Cultural politics involved in cultural representation; varied forms of cultural performance and display; social and power relationships between producers, consumers, represented subjects. Requirements: two courses chosen from 113:003, 113:010, 113:012, 113:013, and 113:014.

**113:105 Mothers and Motherhood**

3 s.h.

Treatment of motherhood; role of motherhood and devaluation of social status. Same as 131:142.

**113:106 The Anthropology of War and Peace**

3 s.h.

Fundamentals of human social conflict that lead to national wars, and how peace is made; perspectives from anthropological works. Prerequisites: 113:003 or 113:010.

**113:108 Anthropology of Marriage and Family**

3 s.h.

Classic anthropological theories of kinship and marriage, including topics such as cousin marriage and incest; recent work on new reproductive technologies and transnational marriage. Same as 131:108.

**113:109 Literature and Anthropology**

3 s.h.

Topics vary. Same as 008:151, 048:151.

**113:112 Anthropology of Sexuality**

3 s.h.

Practice, definition, and regulation of sex in different cultures and times; use of anthropological tools, including cross-cultural comparison and social constructionist analysis; how social and historical forces shape sex; how a range of topics relate to sexuality, including science, love, work, globalization, ethnicity, health, aging, pornography, and deviance; focus on ways that dynamics (i.e., class, race, gender norms) shape people's culturally- and historically-specific ways of having and thinking about sex.

**113:114 Environmentalisms**

3 s.h.

Alternative ways of conceptualizing the environment drawn from the ethnographic record worldwide; culturally constructed images of nature and their expression through daily activity and communicative media; inspiration for environmental activism; why such movements emerge, techniques they employ, factors that contribute to their success or failure. Prerequisites: 113:003 or 113:010.

**113:116 Urban Anthropology**

3 s.h.

Cross-cultural approach to urban anthropology; urbanizing processes, migration and adaptation, aspects of class and ethnicity in urban settings, urban economic relations. GE: Social Sciences.

**113:121 Health of Indigenous Peoples**

3 s.h.

Health problems and services for indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: 113:003 or 113:010. Same as 149:121, 152:121.

**113:128 Faces of Culture**

3 s.h.

Human subsistence and adaptation to environment in cultures from all continents; cross-culture comparisons and general themes.

**113:133 The Anthropology of Women's Health**

3 s.h.

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: 113:003 or 113:010 or 131:010. Same as 131:133, 172:133.

**113:135 Psychological Anthropology**

3 s.h.

Cultural diversity in constructions of self, mind, and emotion; religious experience, altered states of consciousness, behavioral disorders. Prerequisites: 113:003 or 113:010.

**113:136 Applied Anthropology**

3 s.h.

Practical health, environmental, and social problems viewed through an anthropological framework; how anthropological approaches are used to recognize and address applied problems.

**113:137 The Anthropology of Love**

3 s.h.

The culturally diverse concept and practice of love as seen through cross-cultural and interdisciplinary texts on romantic and other forms of love.

**113:139 Religion and Environmental Ethics**

3 s.h.

How humans conceptualize the biophysical environment through religious beliefs and practices; how images of the environment influence people's activities, how they are used by grassroots environmental movements. Requirements: junior or senior standing. Same as 032:130, 033:139.

**113:140 Politics of Reproduction**

3 s.h.

Debates over women's reproductive experience, including its medicalization. Same as 131:144.

**113:141 History of Feminist Anthropology**

3 s.h.

Development and evolution of feminist critiques in cultural anthropology; readings from early studies by women ethnographers, classic writings that sought to give women cross-cultural visibility, recent experimental texts. Prerequisites: 113:003 or 131:010. Same as 131:141.

**113:142 Anthropology of Religion**

2-3 s.h.

Approaches; religious roles; shamanism, witchcraft, curing; mythology; place of religion in social and cultural change. Same as 032:165.

**113:143 Environment and Culture**

3 s.h.

Individual and group responses to scarcities of natural resources such as land, water, food. Requirements: 113:003 or 113:010 or graduate standing.

**113:144 Culture and Consumption** 3 s.h.

How social world is made through goods and commodities; gift giving, prestige economies, commodification, objects and ideology; politics of consumption; role of materialism in culture change; cases from prehistory to post-riot Los Angeles.

**113:145 Religion and Healing** 3 s.h.

Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as 032:180.

**113:146 Anthropology of Death** 3 s.h.

How anthropologists and archaeologists study death, dying, mortuary rituals, and notions of the afterlife in contemporary North America and in different places and times. Requirements: 113:003 or 113:012 or graduate standing.

**113:151 Women and World Religions** 3 s.h.

Historical and contemporary experiences and role(s) of women in some of the world's religions; how gender is expressed through women's daily spiritual and religious lives and practices.

**113:154 Anthropology of Sexual Minorities** 3 s.h.

Ethnographic studies of sexual minorities and anthropological approaches to lesbian, gay, bisexual, and transgendered persons and communities; behavior, identity, performativity, kinship, globalization, the HIV/AIDS pandemic. Requirements: junior, senior, or graduate standing. Same as 131:154, 154:182.

**113:155 Anthropology of the Body** 3 s.h.

Theories of the body; roles the body plays in everyday life, how self is embodied, relationship among mind, body, spirit, and community.

**113:175 Human and Animal Sacrifice** 3 s.h.

Human and animal sacrifice as a religious practice and expression of violence in human societies; patterns and variations illustrated by examples from past and present societies; American capital punishment.

**113:180 Women Writing Culture** 3 s.h.

Feminist ethnography and other kinds of feminist narratives that "write culture" while pushing the boundaries of how anthropologists define ethnography. Prerequisites: 113:003 or 131:010. Same as 131:165.

**113:182 Women, Health, and Healing** 3 s.h.

Women's experience as recipients and providers of health care; intersection of race, class, cultural variation, and women's health; reproductive and nonreproductive health concerns. Same as 131:143.

**113:184 Anthropology and International Health** 3 s.h.

Anthropological contributions to and critiques of the international health enterprise; case studies illustrating anthropology and international health's intersection, and their differences. Offered spring semesters. Same as 152:184, 172:131.

**113:185 Medical Anthropology** 3 s.h.

Major theoretical, methodological approaches; international health and development; biomedicine as a cultural system; ethnomedicine; anthropology and AIDS, human reproduction, epidemiology, ethnopsychiatry. Prerequisites: 113:003 or 113:010. Same as 152:185, 172:173.

**113:191 Anthropology of Play** 3 s.h.

Fundamental logic and variation of what is considered human play in diverse cultures. Prerequisites: 113:003 or 113:010.

**113:202 Ethnographic Field Methods** 3 s.h.

Basic data-gathering techniques for field research in sociocultural anthropology. Requirements: anthropology graduate standing. Same as 172:202.

- 113:208 Foundations of Ethnomusicology** 3 s.h.  
Ethnomusicology in relation to domains of musical, humanistic, social science scholarship on expressive culture and artistic processes. Requirements: senior standing. Same as 025:319.
- 113:220 Seminar: Feminist Anthropology** 3 s.h.  
Theory, methods, research, epistemology from a feminist perspective. Same as 131:220.
- 113:221 Seminar: Feminist Ethnography** 3 s.h.  
Feminist critiques of traditional ethnographies, informed by contemporary feminisms. Prerequisites: 113:220 or 131:220. Same as 131:245.
- 113:222 Reading Transnational Feminist Theory** 3 s.h.  
Issues in transnational feminist scholarship, including colonialism, globalization, the nation-state, religion, cultural traditions, and human rights, in global and U.S. domestic contexts; interdisciplinary readings with focus on anthropology, other social sciences. Same as 131:222.
- 113:223 Feminist Medical Anthropology** 3 s.h.  
Directions feminists have taken in medical anthropological scholarship; focus on ethnographies that have become classics of the genre and on influential theoretical and applied work. Same as 131:223.
- 113:240 Seminar Sociocultural Anthropology** 3 s.h.  
Social institutions in the world's societies; problems in theory, method, interpretation. Requirements: anthropology graduate standing.
- 113:247 Crossing Borders Seminar** 2-3 s.h.  
Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 035:273, 044:286, 048:247, 129:231, 160:247, 181:247.
- 113:248 Crossing Borders Proseminar** 1 s.h.  
Same as 013:260, 016:244, 01H:330, 030:243, 035:271, 044:287, 048:244.
- 113:250 Seminar: Ritual and Performance** 3 s.h.  
Approaches to comparative study of ritual in religious and secular contexts.
- 113:251 Seminar: Resistance in Theory and Practice** 3 s.h.  
Various forms of political resistance, some bold and dramatic (peasant rebellions), others more subtle and mundane (dissimulation, false compliance, pilfering); some resistance is symbolic (millenarian movements, rituals of conflict, status reversal); learning to recognize and attend to more subtle forms.
- 113:274 Medical Anthropology and Social Theory** 3 s.h.  
How medical anthropology has responded and contributed to key theoretical developments in recent decades (i.e., discourse/narrative analysis, practice theory, feminist theory, postcolonial theory, science and technology studies).

## Archaeology

The following archaeology courses may be used to fulfill the area studies requirement: 113:117 The Maya: Archaeology and Ethnohistory, 113:130 Archaeology of the Iberian Peninsula, 113:150 Tribes and Chiefdoms of Ancient Europe, 113:159 Southwestern Archaeology, 113:163 Archaeology of Mesoamerica, 113:166 The Aztecs, Their Predecessors, and Their Contemporaries, 113:167 North American Archaeology, 113:177 Celtic Archaeology, 113:181 Archaeology of the Great Plains, 113:192 Greek Archaeology and Ethnohistory, 113:194 Roman Archaeology, and 113:196 The Archaeology of Ancient Egypt. No single course may be used to fulfill both area studies and archaeology requirements.

- 113:111 Our Life With Dogs: The Anthropological Study of Animals in Human Societies** 2-3 s.h.  
Intricate connections between dogs and our social, economic, political, and spiritual lives; human relationships with dogs that extend back at least 16,000 years; process of dog domestication; roles dogs play in human ideology and past economies; modern interactions with dogs.
- 113:113 Human Impacts on the Environment** 3 s.h.

Long-term patterns of human-environment interactions surveyed through archaeological case studies; varied scales of human impacts, including animal extinction, habitat destruction, agricultural practices, urban growth, state-level societies. GE: Social Sciences.

**113:117 The Maya: Archaeology and Ethnohistory** 3 s.h.

The Maya of Guatemala, Honduras, El Salvador, Belize, and Mexico from the end of the Pleistocene to the 19th century C.E.; achievements in art, science, religion, and social and political systems.

**113:126 Animals, Culture, and Food** 3 s.h.

The varied roles animals have played in human society through time; impact of humans on animal populations, ethical aspects of animals' roles in modern societies.

**113:130 Archaeology of the Iberian Peninsula** 3 s.h.

Introduction to archaeology of the Iberian Peninsula, from earliest human occupation through period of Romanization.

**113:138 Archaeological Approaches to Social Change** 3 s.h.

How archaeologists identify, explain, and interpret social change in the material record of the ancient past; archaeological evidence and explanations--drawn from case studies worldwide and theoretical perspectives--for population growth, migration, colonization, centralization, stratification, conflict, regionalism, devolution, specialization, and standardization. Prerequisites: 113:012.

**113:150 Tribes and Chiefdoms of Ancient Europe** 3 s.h.

Archaeology of European societies between the Mesolithic and Iron Age; how ideas about Europe's prehistoric past have been used for political purposes. Requirements: 113:012 or graduate standing.

**113:153 Raw Materials in Archaeology** 3 s.h.

Raw materials used in traditional technologies such as ceramics, chipped stone tools, metallurgy; field trips, laboratory analyses, comparisons to prehistoric artifacts. Prerequisites: 113:012.

**113:157 Foodways and Cuisine in the Past** 3 s.h.

Anthropological and archaeological perspective on cuisine; present-day links between food and culture; past cuisines viewed through written documents and archaeological data; histories of different foods.

**113:158 Animal Bones in Archaeology** 3 s.h.

Use of faunal material in interpretation of archaeological remains, including skeletal anatomy, identification, taphonomy, determination of age and sex, seasonality, quantification, sampling, breakage and cutmarks, interpretations; laboratory sessions. Prerequisites: 113:012.

**113:159 Southwestern Archaeology** 3 s.h.

Anthropological overview of prehistoric cultures of the American Southwest; emphasis on understanding archaeological arguments concerning major processes in the past. Same as 149:159.

**113:160 Introduction to Archaeological Ceramics** 3 s.h.

Basic analytical techniques for archaeological ceramics, applied primarily to ceramics from midwestern and western North America; raw materials, manufacture, decoration and style, craft specialization, use, and discard. Prerequisites: 113:012.

**113:161 Prehistoric People of the Ice Age** 3 s.h.

Hominid occupation of Old World during Pleistocene; hominid fossils, artifacts, settlement patterns, climatic reconstruction, evolutionary processes; survey and evaluation. Prerequisites: 113:012 and 113:168.

**113:162 Practicum in Archaeology** arr.

Intensive, hands-on examination of a wide range of materials recently recovered from archaeological sites; pottery, lithics (stone tools and related items), plant remains, animal bones; for students with strong archaeological interests or archaeological field experience.

**113:163 Archaeology of Mesoamerica** 3 s.h.

Archaeological data related to the evolution of civilization in Mesoamerica; sequence from hunter-gatherers to A.D. 1519; emphasis on Central Mexico, Maya area, Oaxaca. Requirements: 113:012 or anthropology graduate standing.



**113:164 Comparative Prehistory**

3 s.h.

Cultural evolution in Old World, New World; emphasis on developments from pre-agricultural societies to appearance of urban civilizations; focus on Mesoamerica, Central Andes, Near East, Egypt, Indus Valley, China. Requirements: 113:012 or anthropology graduate standing.

**113:165 Mesoamerican Reading, 'riting, and 'rithmetic**

3 s.h.

Basic presentation of Aztec, Zapotec, and Maya literature and science; notational techniques used in writing and mathematics, taken from archaeology and ethnohistory; world views and cosmology viewed through literature and science.

**113:166 The Aztecs, Their Predecessors, and Their Contemporaries**

3 s.h.

Background for development of Aztec state, nature of civilization encountered by Spaniards in 1519, contemporary peoples affected by Aztecs. Requirements: 113:012 or anthropology graduate standing.

**113:167 North American Archaeology**

3 s.h.

Prehistoric cultural development north of Mexico from initial occupation to European contact and conquest; emphasis on dynamics of culture change. Same as 149:167.

**113:168 Archaeological Methods**

3 s.h.

Current theoretical approaches, methods used to investigate the past; site formation processes, taphonomy, sampling and research design, typology and seriation, subsistence-settlement reconstruction, cultural evolution. Prerequisites: 113:012.

**113:169 Lithic Analysis in Archaeology**

3 s.h.

Archaeological issues examined and addressed with lithic data; use of lithic data to study the past, specific techniques applied. Requirements: 113:012 or graduate standing.

**113:170 Cultural Resources Management Archaeology: Practice and Practicalities**

3 s.h.

Cultural Resources Management (CRM) archaeology as the largest sector of archaeological research in the United States in terms of employment, funding, and field- and lab-related activity; investigate the past, navigate the complexities of compliance requirements from federal, state, and local regulations concerning historic preservation; introduction to the legal, procedural, and practical foundations of CRM archaeology; prepare students for employment by acquisition of skills from project planning through dissemination of results. Prerequisites: 113:012.

Recommendations: completion of other anthropology, geography, history, or Native American studies courses.

**113:172 Historical Archaeology: The Archaeology of the U.S.**

3 s.h.

Cultures examined through archaeological and historical data. Prerequisites: 113:012.

**113:174 Seminar: Taphonomy**

3 s.h.

Taphonomy (study of fossil record in paleontology and archaeology); processes for accumulation, modification, and deposition of remains in prehistory; instruction by archaeologist and paleontologist. Requirements: graduate standing. Same as 012:174.

**113:177 Celtic Archaeology**

3 s.h.

Archaeology and ethnohistory of Celtic societies of Iron Age Europe; patterns and variation in economies, sociopolitical organization, religion; relationships between Iron Age Celts and modern descendants.

**113:178 Hunter-Gatherer Ethnoarchaeology**

3 s.h.

Variability in adaptations of hunter-gatherers on a global scale; emphasis on subsistence, mobility, social organization; archaeological record of prehistoric hunter-gatherers interpreted through study of modern societies. Requirements: graduate standing.

**113:179 Pleistocene Peopling of the Americas**

3 s.h.

Major themes in earliest human settlement of the Americas, including human mobility, subsistence, technology, human impacts on the environment.

**113:181 Archaeology of the Great Plains**

3 s.h.

Contrasting lifeways, diets, and technologies that humans used to survive on North America's Great Plains, from Ice Age hunter-gatherers to Euroamerican homesteaders.

**113:187 Cultures in Collision**

3 s.h.

Survey of archaeological evidence for differences in human interactions between two or more cultural groups; issues such as ethnicity, war, economy, repression, multiethnic communities.

**113:189 Approaches to Geoarchaeology**

3 s.h.

Geoarchaeology as multidisciplinary contextual framework for human paleoecology; natural processes that create the archaeological record, approaches to reconstructing landscapes of the past as a context for archaeological deposits; weekend field trip. Prerequisites: 012:136 or 012:172 or 113:161 or 113:164. Same as 012:185.

**113:192 Greek Archaeology and Ethnohistory**

3 s.h.

Archaeology and ethnology of the Greek world, from end of Bronze Age to late Roman Empire; sociocultural processes that influence development and persistence of Greek civilization. Prerequisites: 113:012 or 113:013. Same as 20E:118.

**113:193 Special Topics in Archaeology**

3 s.h.

**113:194 Roman Archaeology**

3 s.h.

Archaeology and ethnology of Roman civilization from Iron Age eighth-century occupation of the Palatine Hill to the end of the Roman empire in the West, A.D. 476. Prerequisites: 113:012 or 113:013. Same as 20E:119.

**113:196 The Archaeology of Ancient Egypt**

3 s.h.

Introduction to the archaeology of ancient Egypt from predynastic times to Roman Egypt, including monumental architecture; patterns of everyday life; social, economic, and demographic considerations; history of archaeology in Egypt. Prerequisites: 113:012. Same as 20E:196.

**113:199 Field Research in Archaeology**

arr.

Beginning skills in site surveying and excavation, lab work, record keeping at nearby prehistoric sites.

**113:258 Seminar: Zooarchaeology**

3 s.h.

Interpretation of faunal material in archaeology; intensive survey of classic and recent literature on taphonomy, skeletal anatomy, population parameters, seasonality, quantification and sampling, butchering patterns, ethnoarchaeology, social and economic inferences. Prerequisites: 113:158.

**113:268 Seminar: Archaeological Theory and Method**

3 s.h.

Development, current status of theory, method in Americanist archaeology. Requirements: anthropology graduate standing.

**113:269 Politics of the Archaeological Past**

2-3 s.h.

How control over representation and management of the ancient past intersects with the identity of diverse groups, including archaeologists, indigenous peoples, national governments. Prerequisites: 113:268.

**Biological Anthropology****213:115 The Neanderthal Enigma**

3 s.h.

Survey of Neanderthals as the most widely known, yet enigmatic, fossil human lineage; history of discoveries; current interpretations of Neanderthal's origins, anatomy and behavior, relationship to today's people, extinction. Prerequisites: 113:013.

**213:116 Modern Human Origins**

3 s.h.

Current data and theories regarding the emergence of Homo sapiens; how human anatomical modernity is defined and recognized in the fossil record; competing models for modern humans' emergence--multiregional evolution, out of Africa, the assimilation model; interpretation of recent developments and discoveries in the human fossil record; contemporary contributions from genetics, developmental biology, evolutionary ecology, paleodemography.

**213:150 Primate Comparative Morphology**

3 s.h.

Survey of anatomical differences between primate groups; focus on function, adaptation, evolution. Prerequisites: 113:013.

**213:151 Anthropological Genetics**

3 s.h.

Application of molecular methods and theory to biological anthropology; how recent advances in genetics have provided insight into the evolution of human and nonhuman primates. Prerequisites: 113:013.

**213:152 Primate Conservation Biology**

3 s.h.

Issues faced by conservation biologists attempting to protect nonhuman primate wildlife and biodiversity; how biogeography, ecology, and behavior relate to conservation; human interaction with the environment. Prerequisites: 113:013.

**213:165 Human Variation**

3 s.h.

Range and patterning of biological diversity in contemporary human populations; past and present attempts to organize and explain human genetic, morphological variation in light of recent data, theory.

**213:169 Human Evolutionary Anatomy**

3 s.h.

Interpretation of skeletal remains as the basis for reconstructing forms, adaptations, lifestyles of prehistoric humans; body size, musculature, stance, activity patterns, brain size, and sexual dimorphism. Prerequisites: 213:190.

**213:170 Primate Evolutionary Biology**

3 s.h.

Origin and diversification of the primate order through fossil evidence, morphology, systematics, and biomolecular studies emphasizing phylogenetic interpretations, paleobiological and paleoecological reconstructions. Prerequisites: 113:013 or 002:131.

**213:187 Human Evolution**

3 s.h.

From earliest fossil record of apes to origin and diversification of hominid family and appearance of modern Homo sapiens; evidence from paleontology, comparative anatomy, biomolecular studies, archaeology considered from evolutionary perspective. Prerequisites: 002:131 or 012:121 or 113:013.

**213:188 Primate Behavior and Ecology**

3 s.h.

Systematics, anatomy, behavior, and ecology of the living species of primates; emphasis on adaptations and interactions of free-ranging primates. Prerequisites: 113:013 or 002:134.

**213:190 Human Osteology**

3 s.h.

The human skeletal system; normal and pathologic variation; skeletal measurement and analysis with application to paleoanthropology, forensic, and archaeological investigations. Prerequisites: 113:013.

**213:195 Laboratory Methods in Biological Anthropology**

arr.

Specimen preparation, cataloging, moulding and casting, photography, computer analyses, library research.

**213:285 Seminar: Biological Anthropology**

3 s.h.

Physical anthropology, including heredity and genetics, evolutionary theory, human biological characteristics, primate and human fossil record, primate behavior and ecology, human adaptations. Requirements: graduate standing in anthropology or biology or related department.

**213:288 Seminar: Paleoanthropology**

3 s.h.

Current understandings of biocultural processes and events underlying Pleistocene human evolution; cross-disciplinary approach combining human paleontology and Paleolithic archaeology. Requirements: graduate standing or undergraduate honors standing or advanced undergraduate standing.

**113:290 Feminist Perspectives on Biology and Culture**

3 s.h.

Explores feminist analyses of the cultural and historical situatedness of scientific knowledge; topics range from human evolution and primatology to developmental biology and genetics to nuclear physics. Same as 131:290.

**Linguistic Anthropology****113:122 Bad Language**

3 s.h.

Normative roles of language in society viewed in context of speech forms labeled marginal or deviant; nonstandard speech, joking registers, jargons, and obscene/indecent language from varied speech communities.

**113:123 Language and Nationalism**

3 s.h.

Varied cases of linguistic nationalism; how language has become a powerful symbol for expression of national identity across many contexts and circumstances.

**113:171 Multi-Media Ethnography**

3 s.h.

Skills and tools for using multimedia technologies in ethnographic research and presentations; students conduct research projects using audio and video recording equipment and develop media-based presentations; ethnographic emphasis on contextually situated social interaction. Prerequisites: 113:003 or 113:010 or 113:014.

**113:244 Seminar: Semiotics**

3 s.h.

Piercian semiotic and Saussurean semiological conceptual frameworks; focus on anthropological, linguistic issues.

**113:271 Seminar: Linguistic Anthropology**

3 s.h.

Fundamental concepts and methods employed in the anthropological study of language; principal areas of current research.

**113:273 Seminar: Language and Gender**

3 s.h.

Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspectives, methodological approaches that have shaped thought on the language/gender nexus. Prerequisites: 113:220 or 131:220.

**Individual Reading and Research****113:176 Honors Research**

2-4 s.h.

Project chosen in consultation with honors advisor.

**113:183 Independent Study**

arr.

**113:186 Honors Research Seminar**

2-4 s.h.

Preparation for writing honors thesis, including project conception and research, proposal writing, oral and written presentations of student research. Corequisites: 113:176, if not taken as a prerequisite. Requirements: honors standing in anthropology.

**113:383 Independent Study: Anthropology**

arr.

Repeatable.

**113:384 Research: Anthropology**

arr.

Repeatable.

**113:385 Thesis**

arr.

Repeatable.

## Art and Art History

**Director:** John Beldon Scott

**Professors:** Craig E. Adcock, Chunghi Choo, John Dilg, Robert Glasgow, Ab Gratama, Sue E. Hettmansperger, Dorothy Johnson, Joni L. Kinsey, Steve McGuire, Virginia Myers, Christopher Roy, John Beldon Scott, James Snitzer, Margaret Stratton, Wallace J. Tomasini, Kee-ho Yuen

**Professors emeriti:** Keith Achepohl, Wayne Begley, Hans Breder, Byron Burford, Richard De Puma, Peter Feldstein, Stephen Foster, Charles Hindes, Hung-shu Hu, Mauricio Lasansky, Eugene Ludins, Bunny McBride, Joseph Patrick, Howard Rogovin, Julius Schmidt, George Walker

**Associate professors:** Thomas R. Aprile, Isabel Barbuzza, Robert Bork, Ronald M. Cohen, Monica Correia, David O. Dunlap, Laurel Farrin, Julie Hochstrasser, Anita Jung, Barbara Mooney, Robert Rorex, Susan Chrysler White, Rachel Williams, Jon Winet

**Assistant professors:** Bradley Dicharry, John Freyer, Sarah Kanouse, Brenda Longfellow, Mathew Rude

**Lecturers:** Thomas Christison, Julia Leonard, Vinicius Rebello Lima, Heidi Van Wieren, Laura Young

**Undergraduate degrees:** B.A., B.F.A. in Art, B.A. in Art History

**Undergraduate nondegree programs:** Minor in Art, Art History

**Graduate degrees:** M.A., M.F.A. in Art; M.A., Ph.D. in Art History

**Web site:** <http://www.art.uiowa.edu/>

The School of Art and Art History provides a creative, multidisciplinary environment for students of the studio arts, the history of art, and art education. Established in 1936, the school is firmly grounded in the College of Liberal Arts and Sciences. It encourages interaction among its diverse faculty as well as collaboration with related disciplines across campus.

Iowa's art and art history graduates enjoy success as practicing professional artists, professors of art history, teachers, museum directors and curators, theater designers, commercial designers, and art administrators.

The University of Iowa is restoring and rebuilding School of Art and Art History facilities that were damaged or destroyed by Iowa River flooding during summer 2008. Courses are being held in other buildings on campus, and the school's main office is temporarily located in Seashore Hall, close to the Pentacrest. Visit the School of Art and Art History web site and ISIS for information about studio, office, and classroom sites.

### Studio Art

The studio art program is based on the idea that the philosophical issues of society that are questioned and interpreted by artists are the basis for an artist's work. The diversity of concept and style among School of Art and Art History faculty members encourages students to seek and work toward a keen understanding of themselves as individuals capable of making their own personal statements as part of the philosophical continuum in art's history.

Studying the broad contexts in which art is made, understood, and used by society prepares studio art students to continue work in an academic setting as well as in museums, galleries, and a multiplicity of other venues. Graduate students are especially encouraged to examine the contexts of visual and verbal issues central to their own work and that of their contemporaries.

Undergraduate and graduate students select their major and minor studio art areas from ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

### Art History

Art history, a broad intellectual discipline, is central to the humanities. Diverse approaches characterize the school's art history faculty, who have interdisciplinary ties within and beyond the University. Their primary mission is to help students develop skills for exploring issues and problems central to the history of art as a whole as well as to its specialized areas. Because the major in art history stresses the development of critical visual thinking, it prepares students for graduate work in the history of art and for other professional fields as well.

### Art Education

The Teacher Education Program in art prepares undergraduate and graduate students for licensure to teach art in grades K-12. Because teaching, like making art, is informed by experience, the art education area has established one of the nation's most extensive preservice teaching programs. Students conduct case studies of individuals making and responding to art, observe art classrooms, teach in a Saturday children's workshop, and participate in artist-in-residence programs in secondary schools. M.A. and Ph.D. students in art education draw on resources in American studies, anthropology, and sociology to prepare for positions as teachers in museums, colleges, or universities, or as art administrators.

## Undergraduate Programs

The School of Art and Art History offers a Bachelor of Arts and a Bachelor of Fine Arts in art, and a Bachelor of Arts in art history. All three degrees include an optional Teacher Education Program, in collaboration with the College of Education. The school also offers a minor in art and a minor in art history.

All undergraduate students concentrating in studio art begin their study in the B.A. program. They may request admission to the B.F.A. program in a process called "clearance," usually during the student's third year; see "B.A. in Art" and "B.F.A. in Art" below. Teacher licensure requirements are the same for B.A. and B.F.A. students.

## Bachelor of Arts in Art

The Bachelor of Arts in art requires a minimum of 120 s.h., including at least 39 s.h. of work for the major (art and art history courses). The program requires a foundation in art history as well as an understanding of the formal traditions and contemporary practices in studio art.

Undergraduate students in art begin their study in the B.A. program. Those interested in pursuing a specific area of studio art may apply for admission to the B.F.A. program through a process called "clearance," in which the faculty evaluates the student's readiness for B.F.A. study. Clearance usually takes place during the third year, but it may be conducted earlier or later, depending on the student's readiness. B.F.A. students select their major and minor studio art areas from ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

Teacher licensure requirements are the same for B.A. and B.F.A. students; see "B.A. or B.F.A. with Teacher Licensure (Art Education)" below.

### REQUIRED COURSE WORK

B.A. students in art must earn at least 70 s.h. of credit in courses outside the School of Art and Art History; they may count up to 50 s.h. earned in courses offered by the school (art history, studio art, and art education combined) toward the minimum 120 s.h. required for graduation.

However, students earning two majors or a major and a minor in more than one subject in the School of Art and Art History (e.g., a major in art and a minor in art history) may count up to 64 s.h. of credit in School of Art and Art History courses toward the minimum 120 s.h. required for graduation, and they must earn at least 56 s.h. in courses outside the school.

All students must complete the College of Liberal Arts and Sciences General Education Program.

The major in art requires the following course work. Not all courses are offered every semester, including required courses. When making a study plan, students should consult with their advisors and ISIS to determine when specific courses will be offered.

Art history—two of these:

01H:002 Arts of Africa	3 s.h.
01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:016 Asian Art and Culture	3 s.h.

Art history:

Two art history courses not in the list above, excluding 01H:007 and 01H:029	6 s.h.
--	--------

Foundational studio art—all of these, taken before the 2-D and 3-D courses listed after these:

01A:002 Woodshop Lab (prerequisite for all studio courses)	1 s.h.
01A:003 Basic Drawing (prerequisite for all studio courses)	3 s.h.
01A:004 Design Fundamentals (prerequisite for all studio courses)	3 s.h.

Studio art 3-D courses—two of these:

01C:060 Exploring Forms in Clay I	3 s.h.
01D:021 Problems in Design I: Form and Structure	3 s.h.
01G:084 Introduction to Jewelry and Metal Arts	3 s.h.
01J:090 Intermedia I	3 s.h.
01N:015 Undergraduate Sculpture I	3 s.h.

Studio art 2-D courses—two of these (may include a maximum of one photography course):

01D:090 Graphic Design I	3 s.h.
01F:007 Life Drawing I	3 s.h.
01K:009 Painting I	3 s.h.
01M:011 Introduction to Printmaking	3 s.h.

01L:034 Beginning Photography	3 s.h.
or	

01L:036 Beginning Digital Photography

3 s.h.

Electives:

Electives chosen from School of Art and Art History courses

8 s.h.

Art and art history electives must bring the total credit in art history, studio art, and art education to a minimum of 39 s.h.

### **Transfer Students**

Transfer students majoring in art must complete a minimum of 12 s.h. in studio art at The University of Iowa. The 12 s.h. must include work in at least two different studio areas.

Transfer students majoring in art may attend transfer portfolio review and show a portfolio of their art to faculty members. Faculty in the school's 10 studio art areas review transfer students' work in their respective areas in order to determine whether the student's previous work may be accepted as transfer credit and to determine the student's placement level in the School of Art and Art History. Students should plan to show 15 pieces of their best work in their intended major studio art area; they also may show additional work done outside the classroom.

All students with a major in art must complete 01A:004 Design Fundamentals, which includes safety training; transfer credit may not be substituted for that course.

### **Study Abroad**

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take studio art courses abroad must bring their artwork back to campus and present it in a portfolio review, which determines whether the work is equivalent to a course required for the major; this requirement is waived if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

Students who take art history courses abroad should present the course syllabus to their advisors well in advance of their departure. The advisor asks the head of the art history program to determine whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once he or she completes the course with a passing grade.

### **Bachelor of Fine Arts in Art**

The Bachelor of Fine Arts in art requires a minimum of 120 s.h., including 62 s.h. of work for the major (art and art history courses). B.F.A. students must meet all requirements for the B.A. major in art and must complete additional studio art courses. They select their major and minor studio art areas from ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

Prospective B.F.A. students may apply to the program after completing at least two semesters of work in a major studio art area but before completing 50 s.h. in art (normally early in the third year). Students are admitted to the B.F.A. through a process called "clearance," which is conducted once each semester. Students who wish to enter the B.F.A. program should consult the faculty in their major studio art area for information about the required portfolio review.

Teacher licensure requirements are the same for B.A. and B.F.A. students; see "B.A. or B.F.A. with Teacher Licensure (Art Education)" below.

### **REQUIRED COURSE WORK**

B.F.A. students in art must earn at least 58 s.h. of credit in courses outside the School of Art and Art History; they may count up to 62 s.h. earned in courses offered by the school (art history, studio art, and art education combined) toward the minimum 120 s.h. required for graduation.

All students must complete the College of Liberal Arts and Sciences General Education Program.

B.F.A. students must complete all courses required for B.A. students; see "Bachelor of Arts in Art" above. They also must complete the following additional studio art courses.

Three courses, beyond introductory or beginning courses, in the student's major studio art area

One introductory course and one advanced course in the student's first minor studio art area

One introductory course and one advanced course in the student's second minor studio art area

Papermaking, calligraphy, and bookbinding may not be used as major or minor studio art areas.

B.F.A. students in drawing and painting also must take this seminar (does not count toward minor studio art areas):

01F:106 Undergraduate Seminar in Drawing and Painting 3-4 s.h.

B.F.A. students in painting also must complete this sequence:

01K:009 Painting I 3 s.h.

01K:010 Painting II 3 s.h.

01K:049 Advanced Painting 4 s.h.

Students may enroll in additional painting classes.

B.F.A. students must present an exhibition of their studio work, preferably at the School of Art and Art History.

### **B.A. and B.F.A. with Teacher Licensure (Art Education)**

Students majoring in art who are interested in teaching in elementary or secondary schools may earn a B.A. or B.F.A. in art with K-12 teacher licensure through the Art Education Program. Art education requires a broad foundation in formation traditions of studio art, substantive knowledge in art history, and art teacher certification course work.

Applications for admission to the Art Education Program must be submitted to the Teacher Education Program in the College of Education, in care of the Office of Teacher Education and Student Services. Application deadlines are June 15 for fall admission, October 15 for spring admission, and March 15 for summer admission.

### **B.A. with Teacher Licensure (Art Education)**

The Bachelor of Arts with teacher licensure (art education) requires a minimum of 120 s.h., including at least 42 s.h. of work for the major (art and art history courses). Art education students concentrate in studio art and pursue broad-based knowledge in at least four areas of studio art.

#### **REQUIRED COURSE WORK**

B.A. students in art education must earn at least 70 s.h. of credit in courses outside the School of Art and Art History; they may count up to 50 s.h. earned in courses offered by the school (art history, studio art, and art education combined) toward the minimum 120 s.h. required for graduation.

All students must complete the College of Liberal Arts and Sciences General Education Program.

The major in art with teacher licensure (art education) requires the following course work.

Art history—two of these (preferably during the first or second year):

01H:002 Arts of Africa 3 s.h.

01H:005 Western Art and Culture Before 1400 3 s.h.

01H:006 Western Art and Culture After 1400 3 s.h.

01H:016 Asian Art and Culture 3 s.h.

Art history—two of these:

01H:001 Art and Visual Culture 3 s.h.

01H:004 Masterpieces: Art and Cultural Paradigms 3 s.h.

01H:008 Themes in Global Art 3 s.h.

01H:010 Tutorial for Majors: Art History as a Discipline 3 s.h.

Any course from 01H:021 through 01H:199, excluding 01H:029

Foundational studio art—all of these:

01A:002 Woodshop Lab 1 s.h.

01A:003 Basic Drawing 3 s.h.

01A:004 Design Fundamentals 3 s.h.

Studio art 3-D courses—both of these:

01C:060 Exploring Forms in Clay I 3 s.h.

01C:061 Exploring Thrown Forms in Clay II 4 s.h.

Studio art 3-D courses—one of these:



01G:084 Introduction to Jewelry and Metal Arts	3 s.h.
01J:090 Intermedia I	3 s.h.
01N:015 Undergraduate Sculpture I	3 s.h.

Studio art 2-D courses—two of these (may include a maximum of one photography course):

01D:090 Graphic Design I	3 s.h.
01F:007 Life Drawing I	3 s.h.
01K:009 Painting I	3 s.h.
01M:011 Introduction to Printmaking	3 s.h.

01L:034 Beginning Photography	3 s.h.
or	
01L:036 Beginning Digital Photography	3 s.h.
Electives:	

Electives chosen from School of Art and Art History courses	8 s.h.
---	--------

Art and art history electives must bring the total credit in art history, studio art, and art education to a minimum of 42 s.h. Students often select two additional studio art courses in an emphasis area.

### **B.F.A. with Teacher Licensure (Art Education)**

The Bachelor of Fine Arts with teacher licensure (art education) requires a minimum of 120 s.h., including 62 s.h. of work for the major (art and art history courses). Art education students concentrate in studio art and pursue broad-based knowledge in at least four areas of studio art. B.F.A. students select their major and minor studio art areas from ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

B.F.A. students in art education typically complete an additional semester of course work.

Prospective B.F.A. students may apply to the program after completing at least two semesters of work in a major studio art area but before completing 50 s.h. in art (normally early in the third year). Students are admitted to the B.F.A. through a process called "clearance," which is conducted once each semester. Students who wish to enter the B.F.A. program should consult the faculty in their major studio art area for information about the required portfolio review.

### **REQUIRED COURSE WORK**

B.F.A. students in art education must earn at least 58 s.h. of credit in courses outside the School of Art and Art History; they may count a maximum of 62 s.h. earned in courses offered by the school (art history, studio art, and art education combined) toward the minimum 120 s.h. required for graduation.

All students must complete the College of Liberal Arts and Sciences General Education Program.

B.F.A. students in art education must complete all courses required for B.A. students in art education; see "B.A. with Teacher Licensure (Art Education)" above.

They also must complete the following additional studio art courses.

Three courses, beyond introductory or beginning courses, in the student's major studio art area  
 One introductory course and one advanced course in the student's first minor studio art area  
 One introductory course and one advanced course in the student's second minor studio art area

Papermaking, calligraphy, and bookbinding may not be used as major or minor studio art areas.

B.F.A. students in drawing and painting also must take this seminar (does not count toward minor studio areas):

01F:106 Undergraduate Seminar in Drawing and Painting	3-4 s.h.
---	----------

Before they student teach, B.F.A. students must present an exhibition of their studio work, preferably at the School of Art and Art History.

### **Transfer Students**

Transfer students majoring in art with art education must complete a minimum of 3 s.h. in art history and 12 s.h. in studio art at The University of Iowa. The studio art credit must include work in at least two different studio areas.

Undergraduate transfer students majoring in art must show a portfolio of their art to faculty members before a fall or spring semester begins. The faculty members determine each student's placement in or exemption from the sequence of basic studio courses.

## Bachelor of Arts in Art History

The Bachelor of Arts in art history requires a minimum of 120 s.h., including 45 s.h. of work for the major (art and art history courses). The history of art is engaged in problems of historical analysis and the interpretation of culture, so the program provides students with a broad background in the humanities consistent with a liberal arts and sciences education. The undergraduate degree program provides students with a strong liberal arts background and prepares them for competitive placement in graduate schools across the country.

As students progress through the program, they become familiar with historical relationships between art objects and society, learn techniques of formal analysis, study patterns of patronage, and absorb methods for interpreting the meaning of paintings, sculptures, and architecture. In the course of their studies, art history majors develop their research abilities and writing skills.

### REQUIRED COURSE WORK

B.A. students in art history must earn at least 70 s.h. of credit in courses outside the School of Art and Art History; they may count up to 50 s.h. earned in courses offered by the school (art history, studio art, and art education combined) toward the minimum 120 s.h. required for graduation.

However, students earning two majors or a major and a minor in more than one subject in the School of Art and Art History (e.g., a major in art history and a minor in art) may count up to 64 s.h. of credit in School of Art and Art History courses toward the minimum 120 s.h. required for graduation, and they must earn at least 56 s.h. in courses outside the school.

All students must complete the College of Liberal Arts and Sciences General Education Program.

The major in art history requires the following course work.

Art history—all of these, taken before enrollment in courses numbered 099 and above:

01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:007 Writing About the Visual Arts	3 s.h.

Art history—one of these:

01H:002 Arts of Africa	3 s.h.
01H:016 Asian Art and Culture	3 s.h.

Art history—all of these:

01H:099 Undergraduate Seminar in the History of Art (taken fall of junior or senior year)	3 s.h.
Three courses chosen from those numbered 01H:020 - 01H:098, excluding 01H:029	9 s.h.
Five upper-level courses chosen from those numbered 01H:100 - 01H:199	15 s.h.

Studio art—all students must take this course:

01A:003 Basic Drawing	3 s.h.
-----------------------	--------

Studio art—one of these:

01C:060 Exploring Forms in Clay I	3 s.h.
01F:007 Life Drawing I	3 s.h.
01G:084 Introduction to Jewelry and Metal Arts	3 s.h.
01K:009 Painting I	3 s.h.
01M:011 Introduction to Printmaking	3 s.h.
01N:015 Undergraduate Sculpture I	3 s.h.

Disciplines outside art history (course selection must be approved by the undergraduate advisor):

Courses in at least three of these disciplines: anthropology classics, history, literature, philosophy, political science, religious studies, sociology, or others	12 s.h.
--	---------

### Transfer Students

Transfer students planning to major in art history should meet with the undergraduate advisor to discuss the requirements they may fulfill with transfer courses. Art history transfer courses must be reviewed by the art history division head to determine the student's placement in or exemption from required art history courses.

### Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take art history courses abroad should present the course syllabus to their advisors well in advance of their departure. The advisor asks the head of the art history program to determine whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once he or she completes the course with a passing grade.

Students who take studio art courses abroad must bring their artwork back to campus and present it in a portfolio review, which determines whether the work is equivalent to a course required for the major; this requirement is waived if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

## **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

### **B.A. in Art**

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least four courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least eight courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least 11 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.F.A. in Art**

Admission to the program leading to the B.F.A. in art is limited and depends on the department's evaluation of the student's work. In order to participate in the Four-Year Graduation Plan, students must be admitted to the degree program on schedule as determined by the art advisor.

**Before the third semester begins:** at least four courses in the major and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least eight courses in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least 14 courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least 18 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.A. in Art History**

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least four courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least eight courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least 11 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## **Honors**

School of Art and Art History students who are members of the University of Iowa Honors Program may apply for honors in the art or art history major during the semester before graduation. In order to graduate with honors in art or

art history, students must fulfill specific department requirements as described under "Honors in Art" and "Honors in Art History" below.

University of Iowa honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information about honors study at Iowa).

### **Honors in Art**

Honors students majoring in art must maintain a g.p.a. of at least 3.50 in the major. In order to earn a degree in art with honors, a student must complete an honors project supervised by a faculty member, prepare a statement of the sources of the studio work, and hold an exhibition of the honors project. The artist's statement can address the history of art, the history of ideas, or a personal philosophy and should be written under the supervision of faculty in the student's studio concentration area. Students must register for 01P:190 Honors in Studio Art (0-3 s.h.).

### **Honors in Art History**

Honors students majoring in art history must maintain a g.p.a. of at least 3.50 in the major. Students have two options for earning a degree in art history with honors.

Option 1: Students take two upper-division courses with honors designation and complete an extra project, such as an annotated bibliography, a supplemental paper or presentation, or a comparable project endorsed by the instructor. Then students enroll in a third upper-division course appropriate to their honors thesis topic and write the thesis (5,000 to 7,000 words) as part of the course, for an additional 1 s.h. Students register for 01H:190 Honors Research in Art History(arr.).

Option 2: Students research and write an honors thesis of 10,000 to 15,000 words under the direction of an art history faculty member, earning 3 s.h. They register for 01H:190 Honors Research in Art History (arr.). Students work with an art history faculty member as their honors thesis advisor. They must have the thesis advisor's approval before beginning work on their thesis project. The thesis should conform to the Graduate College format for theses; see the Manual of Rules and Regulations of the Graduate College in the Graduate College section of the Catalog. The title page must follow the University of Iowa Honors Program format; consult the Honors Program.

### **Minor in Art**

The minor in art requires a minimum of 16 s.h. in art courses, including at least 12 s.h. in courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor must include 01A:003 Basic Drawing (or an equivalent), and 12 s.h. of studio art (one introductory course and one advanced course in each of two studio areas). Students may substitute one art history course for one of the advanced studio courses. Before registering for a course, students must satisfy all prerequisites for the course.

Courses in art education, bookbinding, calligraphy, graphic design, and papermaking, and courses with prefixes 01B and 01P do not count toward the minor in art.

Course work applied toward the minor in art may not be used to satisfy requirements for a major in art or in art history.

### **Minor in Art History**

The minor in art history requires a minimum of 15 s.h. in art history courses, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, courses numbered 01H:021 Introduction to the Art of West Africa and above are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor must include one survey-level course chosen from 01H:002 Arts of Africa, 01H:005 Western Art and Culture Before 1400, 01H:006 Western Art and Culture After 1400, and 01H:016 Asian Art and Culture. Before registering for a course, students must satisfy all prerequisites for the course.

Course work applied toward the minor in art history may not be used to satisfy requirements for a major in art or art history.

## **Graduate Programs**

The School of Art and Art History offers a Master of Arts and a Master of Fine Arts in art, and a Master of Arts and a Doctor of Philosophy in art history. The Master of Arts in art includes an art education option. The school also collaborates with the College of Education to offer an art education subtrack in the Doctor of Philosophy in education.

### **Master of Arts in Art**

The Master of Arts in art requires a minimum of 38 s.h. of graduate credit. The degree is offered with majors in ceramics, design, drawing, intermedia and video art, metalsmithing and jewelry, painting, photography, printmaking, and sculpture.

The required 38 s.h. includes at least 16 s.h. in a major studio area; 8 s.h. in a minor studio area from one of the M.A. majors that offer at least 24 s.h. in studio courses; 3 s.h. in the history and theory of art, excluding readings and directed studies; and 3 s.h. in theory, history, criticism, or philosophy, earned in courses inside or outside of the school.

M.A. students must hold a B.A. or B.F.A. in art equivalent to that offered by The University of Iowa. Undergraduate deficiencies, if any, may be made up concurrently with graduate study but do not count toward the graduate degree requirements.

M.A. students undergo a division-wide review for M.A. candidacy by the faculty during the third semester in residence. All except painting and drawing students must submit a written artist's statement.

M.A. students choose the thesis or nonthesis option in consultation with their area advisor. They may earn 1 s.h. for writing a technical or substantial thesis by registering for 01A:302 M.A. Written Thesis, with approval of the thesis supervisor. Thesis credit earned in an M.A. program is not applicable toward M.F.A. requirements.

### **Master of Arts in Art, with Art Education**

The Master of Arts in art, with art education, requires 38 s.h. of graduate credit. Students must earn 18 s.h. of studio art and art history in a ratio of two to one (either 12 s.h. of graduate credit in studio art and 6 s.h. in art history, or 6 s.h. in studio art and 12 s.h. in art history); 8 s.h. in graduate seminars in art education; and 12 s.h. to be specified after the student begins the program. The degree also requires a written thesis based on research in art education, creative scholarship, or art history.

M.A. students must hold a B.A. or B.F.A. in art equivalent to that offered by The University of Iowa. They also must hold teaching licensure/certification in art. See "Admission" later in this Catalog section.

Art education majors may elect to take art history courses on a satisfactory-unsatisfactory basis.

### **Master of Fine Arts in Art**

The Master of Fine Arts in art requires a minimum of 60 s.h. of graduate credit. The degree is offered with thesis and with majors in ceramics, design, drawing, intermedia and video art, jewelry and metal arts, painting, photography, printmaking, or sculpture. Following completion of the M.A., students may be invited into the M.F.A. Program.

The required 60 s.h. includes at least 24 s.h. in a major studio subject; at least 12 s.h. in a minor studio field selected from the fields listed above; 3 s.h. in art history and theory of art; and 3 s.h. in theory, history, criticism, or philosophy (if not already taken).

M.F.A. students must hold an M.A. in art equivalent to that offered by The University of Iowa. Transfer credit is decided by faculty review.

All students must undergo an M.F.A. committee review. They also must complete a written theses and possibly a studio thesis.

M.F.A. students may earn 1 s.h. for writing a technical or substantial thesis by registering for 01A:304 M.F.A. Written Thesis, with approval of the thesis supervisor. Thesis credit earned in an M.A. program is not applicable toward M.F.A. requirements.

### **Master of Arts in Art History**

The Master of Arts in art history requires a minimum of 30 s.h. of graduate credit and is offered with thesis. M.A. students are expected to acquire a broad knowledge of art history and to become familiar with major periods and monuments of world art. They also become proficient scholars, receiving training in research methods and theory necessary for subsequent scholarship at the Ph.D. level.

M.A. students must maintain a g.p.a. of at least 3.50. Only one semester of academic probation is allowed. All M.A. candidates, including transfer students, must take at least 24 s.h. in residence at The University of Iowa.

M.A. students in art history must earn a grade of B or higher in semester-long courses (100-level or above) in five of the following 10 distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E.-300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary. These courses must be taken after the B.A. is granted.

M.A. students must complete a substantial thesis that demonstrates their ability to conduct scholarly research and

convey ideas in writing appropriately for the discipline and for the student's specialization field.

#### **REQUIRED COURSES**

M.A. students in art history must satisfactorily complete 01H:200 History and Methods (3 s.h.) during their first fall semester of enrollment and must register for an art history seminar in their first, second, and third semesters of enrollment. They also must satisfactorily complete 01H:210 Art History Colloquium (1 s.h.) every semester that they are enrolled for 9 s.h. or more; students who register for less than 9 s.h. are strongly encouraged to attend the colloquium, as well.

Courses outside the curriculum of the School of Art and Art History's art history division do not carry art history credit. Cross-referenced courses not taught by art history faculty members also do not carry art history credit.

#### **DIRECTED STUDIES**

Directed Studies (01H:300) is designed for graduate students who already have taken one or more advanced courses in a specific art history field. It provides students with an opportunity to work one-to-one with a professor to continue specific research interests developed in lecture courses or seminars, or on topics that eventually may be the subject of a thesis or dissertation. Directed Studies cannot be substituted for a lecture course already offered in the program. Students must discuss their decision to take Directed Studies with the professor involved and have the professor's approval. The Directed Studies topic must be within the professor's range of expertise.

Students meet with their Directed Studies professor once a week. The hours of work and written assignments required for Directed Studies must be equal to a comparable regularly scheduled course. Directed Studies is not available through Guided Correspondence Study.

#### **LANGUAGE REQUIREMENT**

M.A. students must demonstrate proficiency in French or German by the end of their third semester. Proficiency is determined by a translation exam administered under the direction of the art history division. Credit earned in language courses does not count toward the degree.

#### **M.A. COMMITTEE**

The M.A. committee consists of the student's M.A. thesis advisor and two additional tenured or tenure-track faculty members in art history.

#### **M.A. THESIS**

M.A. students must complete a written thesis on a topic chosen from one of the 10 distribution fields (see "Master of Arts in Art History" above). Students register for 01H:302 M.A. Written Thesis and may count 3 s.h. of thesis credit toward graduation. Students choose an M.A. thesis advisor who specializes in their concentration field. Students who wish to concentrate in more than one field must work closely with faculty members in both fields.

#### **FINAL EXAMINATION**

The final examination constitutes an oral defense of the written M.A. thesis. The final examination meeting with the M.A. committee normally takes place toward the end of the student's last semester of course work.

### **Doctor of Philosophy in Art History**

The Doctor of Philosophy in art history requires a minimum of 72 s.h. of graduate credit. Ph.D. students are expected to acquire great breadth and depth of knowledge in the discipline of art history, achieve a high level of expertise in a specialized field, and demonstrate professional speaking and writing skills. The program provides them with scholarly challenges, research skills, and mentoring necessary for professional development and successful careers.

Ph.D. students must maintain a g.p.a. of at least 3.50. They may count a maximum of 38 s.h. of work completed for the M.A. toward the Ph.D. Students are allowed only one semester of academic probation.

To establish academic residency, doctoral students must be enrolled full-time (at least 9 s.h.) at The University of Iowa for two semesters beyond their first 24 s.h. of graduate study; or they must enroll for at least 6 s.h. in each of three semesters during which they hold an assistantship of one-quarter-time or more. Resident tuition is assessed for

assistantship semesters and adjacent summer sessions.

Ph.D. students major in one of the following 10 distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E.-300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary. Students also minor in two fields. The first minor must be in an art history distribution field that is not contiguous with the major field; the second may be in any art history distribution field or in a relevant discipline outside of art history, subject to the faculty's approval.

Ph.D. students must complete a publishable dissertation that makes an original contribution to the art history discipline and demonstrates evidence of superior understanding of critical issues in the student's chosen specialization field.

For more detailed information, consult the Art and Art History Graduate Bulletin.

#### **REQUIRED COURSES**

Ph.D. students must satisfactorily complete 01H:200 History and Methods (3 s.h.), even if they have completed a similar course at another institution (students who have completed the course for a master's degree or other previous work at Iowa are exempt). They must register for an art history seminar in their first three semesters of Ph.D. course work (or in their fifth, sixth, and seventh semesters of graduate study), before the Ph.D. readings course and comprehensive exam. They also must satisfactorily complete 01H:210 Art History Colloquium (1 s.h.) every semester that they are enrolled for 9 s.h. or more; students who register for less than 9 s.h. are strongly encouraged to attend the colloquium, as well.

Up to 6 s.h. of credit for dissertation research may be applied toward the 72 s.h. required for the degree. Courses outside the curriculum of the School of Art and Art History's art history division do not carry art history credit.

#### **DIRECTED STUDIES**

Normally, a maximum of 6 s.h. earned in 01H:300 Directed Studies may be applied toward the semester-hour requirement for the Ph.D., although doctoral students may petition the art history faculty for permission to apply up to 9 s.h.

#### **LANGUAGE REQUIREMENT**

Students must demonstrate proficiency in French or German for admission to the Ph.D. program. They also must demonstrate proficiency in a second non-English language relevant to their research area by the end of their third semester of Ph.D. work or before their dissertation topic is approved. Proficiency is determined by a translation exam administered under the direction of the art history division. Credit earned in language courses does not count toward the degree.

#### **PH.D. COMMITTEE**

The Ph.D. committee consists of the student's faculty mentor, who is responsible for the major field, two members responsible for the two minor fields, and at least two additional members. Of these five, four must be tenured or tenure-track faculty members from the art history division. One must be from outside the division and must be a member of the Graduate College faculty. When appropriate, committees may include additional members.

#### **COMPREHENSIVE EXAMINATION**

Upon completion of course requirements, the Ph.D. candidate takes three written comprehensive examinations. The major exam consists of six questions and lasts six hours; the two minor exams each consist of three questions and last three hours. The exams normally are taken on two consecutive days.

The scope of the comprehensive exams is determined in consultation with the candidate's degree committee supervisor and the committee members responsible for the two minor fields.

#### **ORAL COMPREHENSIVE EXAMINATION**

Within approximately one month of completing the three written exams, the candidate meets with his or her degree committee for the oral comprehensive examination, which concentrates on questions that arise from the written comprehensive exams.

## **DISSERTATION PROPOSAL**

As soon as possible after completing the comprehensive examinations, the candidate submits a dissertation proposal to his or her degree committee supervisor and subsequently to the degree committee. The committee meets as a group with the candidate to discuss the dissertation proposal and to offer comments and suggestions. (The proposal must be submitted to the committee at least two weeks before the approval meeting.) The proposal includes a 1-2 page abstract, a 10-15 page précis (including a review of the state of the field), and a bibliography.

After the proposal has been approved by the committee, the candidate circulates an abstract to the entire art history faculty. He or she must give a public presentation on the dissertation topic no later than the end of the semester following the degree committee's approval. The presentation is scheduled with the head of art history.

## **FINAL EXAMINATION**

The completion of a written dissertation, which constitutes an original scholarly contribution to the field, and the successful completion of the final examination (the oral defense) of this dissertation fulfill the Ph.D. requirements.

## **Ph.D. in Education, with Art Education**

The Doctor of Philosophy in education, with art education, requires a minimum of 60 s.h. of graduate credit beyond the master's degree. The program gives college teachers and researchers in art education and art supervisors in state departments of education and school systems an opportunity to continue their inquiry and creative work in art history and in studio art.

The program is administered by the College of Education, in cooperation with the School of Art and Art History. Students must apply for admission to the College of Education. Graduates are granted a Doctor of Philosophy in education, with art education subtrack.

The curriculum must be planned with the advisor and must include at least 15 s.h. in the School of Art and Art History, 15 s.h. in art education graduate seminars, 15 s.h. in a related area (e.g., aesthetics, anthropology, higher education, psychology, sociology), and 15 s.h. in thesis and tool courses.

Students must take both oral and written comprehensive examinations. The written examination consists of an in-depth research problem to be completed within 14 days, after which an oral examination on the project is held. The research problem is assigned by the examining committee, and the written portion of the examination is not intended to relate directly to the student's dissertation proposal.

Students also must complete a written dissertation for at least 12 s.h. of credit and are expected to prepare a dissertation proposal and defend it before the dissertation committee. An oral examination on the dissertation is the Ph.D. final examination.

## **Admission**

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree programs they plan to enter. Prospective students must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed in the appropriate sections below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants to all art and art history graduate programs must submit the following to the University's Office of Graduate Admissions: a completed graduate application form (one area of interest must be specified on the form); an official copy of all transcripts of undergraduate and/or graduate work completed by the application date; TOEFL scores (if applicable); and the required application fee. Art history applicants also must submit Graduate Record Examination (GRE) scores.

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score as follows on the Test of English as a Foreign Language (TOEFL): for studio art applicants, at least 550 (paper-based), 213 (computer-based), or 81 (Internet-based); for art history applicants, at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based).

Deadline dates for submission of materials to the Office of Graduate Admissions are December 15 for art history programs, and February 1 for studio art programs and art education programs; all are for fall admission.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions. Acceptance notification cannot be given over the phone by either the admissions office or the School of Art and Art History.



## **M.A. and M.F.A. in Art**

Applications to the M.A. and M.F.A. programs in studio art, with all supporting materials and requests for financial aid, must be received at the School of Art and Art History and the Office of Graduate Admissions by February 1 for fall admission.

In addition to materials submitted to the Office of Graduate Admissions (see "Admission" above), applicants must submit the following materials to the graduate secretary at the School of Art and Art History: a one-page statement of purpose, official transcripts for all undergraduate and graduate work completed by the application date, three letters of recommendation assessing potential as a graduate student, application for graduate awards (if desired), and application for graduate scholarships and fellowships (if desired). They also must submit one of the following portfolios (portfolios are returned by mail only to applicants who supply return postage.).

Note: CDs should contain 10-20 images measuring 5x7 inches, maximum of 150 DPI, as PDF or PowerPoint files.

**Ceramics, design, intermedia and video art, jewelry and metal arts, or painting:** 8 slides, CDs, and/or photos of work in the major area; and 2 slides, CDs, or photos of work in a second studio area; CDs or DVDs may be submitted for intermedia.

**Drawing:** 8 slides, a CD, or photos of drawings, including figure drawings; and 2 slides, CDs, or photos of work in a second studio area.

**Photography:** 20 images of major field of work on slides, in prints, or on a CD; and 2-3 images in a second area on slides, in photos, or on a CD.

**Printmaking:** 10-20 images on a CD, or slides with a selection of 4-6 original printed works, sent in a returnable portfolio.

**Sculpture:** a selection of 20 slides or a CD with at least 10 sculptures or installations (multiview) and a slide of at least two drawings; for kinetic sculptures, a DVD.

Each slide, CD, or DVD must be labeled with the name, title, portfolio medium, size, and approximate date of work; the top should be indicated. An inventory list with the same information should be included. Extreme care is taken in handling all portfolios, but the school cannot be responsible for reimbursement in the event of loss or damage.

Applications and all supporting materials are reviewed by a committee of art and art history faculty from the appropriate area.

## **M.A. in Art History**

Applications to the M.A. program in art history, with all supporting materials and requests for financial aid, must be received at the School of Art and Art History and the Office of Graduate Admissions by December 15 for fall admission in the following year.

Applicants must hold a bachelor's degree, preferably in art history or a related field.

Although exceptions may be made when other components of the application are strong, applicants should have a combined verbal and quantitative score of at least 1200 and an analytical writing score of at least 5 on the Graduate Record Exam (GRE) General Test; and an undergraduate g.p.a. of at least 3.25 on a 4.00 scale.

In addition to materials submitted to the Office of Graduate Admissions (see "Admission" above), the following materials must be submitted to the graduate secretary at the School of Art and Art History: transcripts from all colleges and universities the applicant has attended; three letters of recommendation assessing the applicant's potential for graduate study in art history (sent by the person making the recommendation); and a research paper (preferably from an art history course) or undergraduate thesis that demonstrates the applicant's potential to undertake research in art history.

Applicants also must submit a 1,000-word personal statement describing their intellectual development, academic interests, and career goals; the statement must name the University of Iowa faculty member under whose guidance the applicant hopes to work and tell how that faculty member's area of expertise, or how the art history program, is especially suited to the applicant's interests and goals.

Applicants to graduate programs in art history should consult the Art and Art History Graduate Bulletin on the School of Art and Art History web site.

## **Ph.D. in Art History**

Applications to the Ph.D. program in art history, with all supporting materials and requests for financial aid, must be received at the School of Art and Art History and the Office of Graduate Admissions by December 15 for fall admission in the following year.

Applicants must hold an M.A. in art history or a related graduate degree and must be able to demonstrate proficiency in

French and German. Proficiency in a second non-English language relevant to the student's research area is required by the end of the third semester of Ph.D. work; see "Language Requirement" under "Doctor of Philosophy in Art History" above.

Although exceptions may be made when other components of the application are strong, applicants should have a combined verbal and quantitative score of at least 1200 and an analytic writing score of at least 5 on the Graduate Record Exam (GRE) General Test; and a graduate g.p.a. of at least 3.50 on a 4.00 scale.

Students who completed an M.A. at The University of Iowa and who wish to apply for entrance into the Ph.D. program must make a formal application to the program. Applications are evaluated in the context of the entire applicant pool.

In addition to materials submitted to the Office of Graduate Admissions (see "Admission" above), the following materials must be submitted to the graduate secretary at the School of Art and Art History: transcripts from all colleges and universities the applicant has attended; three letters of recommendation, including one from the applicant's M.A. thesis supervisor, assessing the applicant's potential for doctoral study in art history (sent by the person making the recommendation); and a copy of an M.A. thesis or other substantial M.A. research paper.

Applicants also must submit a 1,000-word personal statement describing their purpose in pursuing graduate studies and their intellectual development, academic interests, and career goals; the statement must name the University of Iowa faculty member under whose guidance the applicant hopes to work and how that faculty member's area of expertise, or the art history program, is especially suited to the applicant's interests and goals.

Applicants to graduate programs in art history should consult the Art and Art History Graduate Bulletin on the School of Art and Art History web site.

### **M.A. in Art Education**

Applications to the M.A. program in art education, with all supporting materials and requests for financial aid, must be received at the School of Art and Art History and the Office of Graduate Admissions by February 1 for fall admission.

Applicants to the M.A. program must hold a B.A. or B.F.A. in art equivalent to that offered by The University of Iowa. They also must hold teaching licensure/certification in art.

Applicants with course work deficiencies are required to remedy the deficiencies by taking appropriate courses.

In addition to materials submitted to the Office of Graduate Admissions (see "Admission" above), M.A. applicants must submit the following materials to the graduate secretary at the School of Art and Art History: a term paper or other example of ability to write in the field; a selection of slides or photographs of their creative work in two studio areas; three letters of recommendation assessing their potential for graduate study; and a one-page personal statement describing their purpose for pursuing graduate study.

### **Ph.D. in Art Education**

Applications to the Ph.D. program in art education, with all supporting materials and requests for financial aid, must be received at the College of Education and the Office of Graduate Admissions by February 1 for fall admission.

Applicants to the Ph.D. program must hold an M.A. or M.F.A. in art education from The University of Iowa or an equivalent degree from an accredited college or university. They also must have completed one year of successful teaching experience in an elementary or secondary school.

Applicants with course work deficiencies are required to remedy the deficiencies by taking appropriate courses.

In addition to materials submitted to the Office of Graduate Admissions (see "Admission" above), Ph.D. applicants must submit the following materials to the Art Education Office: a portfolio consisting of 12 colored slide reproductions of their art work and two examples of their written work, which may be new or previous work.

## **Financial Support**

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

In the studio programs, financial aid to new students is possible, but most assistantships and scholarships are awarded to graduate students who have been in residence for at least a year. This gives faculty members an opportunity to observe their performance and potential.

### **Presidential Graduate Fellowships**

The Graduate College awards Presidential Graduate Fellowships on the basis of a University-wide competition among incoming Ph.D. students. For information about the fellowships, including nomination and selection criteria and stipends, see Presidential Graduate Fellowship on the Graduate College web site.

### **Dean's Graduate Fellowships**

The Graduate College awards Dean's Graduate Fellowships on the basis of a University-wide competition among graduate students. Criteria for the fellowships are similar to those for the Presidential Graduate Fellowship but are designed to support incoming students who are underrepresented in graduate education. For more information, see Dean's Graduate Fellowship on the Graduate College web site.

### **Teaching and Research Assistantships**

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

### **Scholarships and Fellowships**

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships.

Information and application materials for graduate scholarships and fellowships are included in the admissions package. They also are available from the School of Art and Art History main office in Seashore Hall.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (graduate students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year. Applications and all relevant materials should be on file by February 1. Applicants should verify the submission date; consult the school's main office.

## **Student Organizations**

The undergraduate Art History Society and the graduate Art History Society sponsor activities for students. The Faculty/Graduate Student Art History Colloquium meets five times each semester to focus on professional development and issues of broad interest in art.

## **Resources and Facilities**

### **Reference Collections**

The art library contains 100,000 volumes, an outstanding periodical collection, and an extensive microfilm and microfiche archive.

The school's Office of Visual Materials contains a rapidly growing collection of 325,000 slides, 30,000 digital images, 350,000 35mm slides, 30,000 mounted photographs, and a video collection.

### **Museum of Art**

The University of Iowa Museum of Art has a significant permanent collection that includes major holdings of 20th century and contemporary art, African and pre-Columbian art, English and American silver, European and American prints, drawings and photographs, and Etruscan, Iranian, and contemporary American ceramics. As well as serving as a resource for research in a wide variety of art history areas, the museum offers a program of exhibitions, lectures, and recitals.

Due to the Iowa River flooding of summer 2008, the museum's collections are being displayed and its events are being held in a variety of other facilities. Learn about current exhibitions and events, and their locations, by visiting the Museum of Art web site.

### **Interdisciplinary Resources**

Colloquia, visiting artists and lecturer programs, and graduate workshops bring visitors to the school and provide open forums for discussion of issues in art and scholarship.

Among the school's major assets is the Project for the Advanced Study of Art and Life in Africa (PASALA), an interdisciplinary program that brings together faculty with international reputations in art history, anthropology, films, history, and literature to offer courses and independent study of art in West, Central, East, and South Africa. The result is a program of unusual breadth and depth of expertise. PASALA is among the most active of such programs in the country, organizing international symposia that discuss significant topical issues and publishing the proceedings in regular issues of *Iowa Studies in African Art*. PASALA offers scholarships and support for research in Africa and dissertation preparation to outstanding students. A major resource for PASALA is the Stanley Collection of African Art

in The University of Iowa Museum of Art.

Art history participates in a collegewide program called Crossing Borders, which offers major financial support to designated graduate student fellows whose dissertation topics involve multiple foreign language areas. Fellows take team-taught seminars in a range of disciplines, with focus on interactions across cultural, regional, or national divides. They help plan an annual convocation, at which they and invited lecturers present their research.

The school also maintains an affiliation with the University's Department of American Studies, providing students with opportunities to study not only the history of American art but a variety of interdisciplinary programs in American history, literature, and politics.

### **Art Buildings**

The School of Art and Art History's permanent buildings are closed while The University of Iowa renovates and rebuilds arts campus facilities that were damaged or destroyed by Iowa River flooding during summer 2008. The school's main office currently is located in Seashore Hall on the University's central campus. Studio classrooms are housed in the Studio Arts Building, on Iowa City's south side. Visit the School of Art and Art History web site and ISIS for information about studio, office, and classroom sites.

The school's administrative center, Art Building West, is undergoing renovation. The building, which opened in 2006, contains art history classrooms, the visual resources office, a gallery, a café, the Art Library, an auditorium, a media theater, a computer laboratory, and studios for graphic design, painting, and digital photography. Designed by architect Steven Holl, Art Building West has won numerous awards for its innovative design, including the 2007 American Institute of Architects Honor Award for Architecture.

Plans are under way for construction of a new building to replace the original Art Building, which was destroyed by the 2008 flooding.

## **Art and Art History Courses**

### **Art History, Primarily for Undergraduates**

#### **01H:001 Art and Visual Culture** 3 s.h.

Developments in Western art history from prehistoric times (ca. 25000 BCE) to the present; key monuments in architecture, painting, and sculpture in their wider cultural contexts; 19th- and 20th-century new media, such as photography. GE: Fine Arts, Humanities.

#### **01H:002 Arts of Africa** 3 s.h.

Arts, artists, and cultures of Africa; sculpture, paintings, pottery, textiles, architecture, human adornment. GE: Fine Arts, Humanities.

#### **01H:003 Art of Pre-Columbian America, Native America, and Oceania** 3 s.h.

GE: Cultural Diversity, Fine Arts, Humanities.

#### **01H:004 Masterpieces: Art and Cultural Paradigms** 3 s.h.

Masterpieces of Western art--how to look at, think about, and understand some of the worlds' most exciting works of architecture, painting, and sculpture; their construction, hidden meanings, historical content, and their meanings today. GE: Fine Arts, Humanities.

#### **01H:005 Western Art and Culture Before 1400** 3 s.h.

Survey to foster development of critical skills in thinking and writing about visual culture, and to familiarize students with broad outlines of artistic development in the Western tradition, from prehistory through later Middle Ages; aesthetic qualities of artworks, relationship between style, function, and meaning. GE: Fine Arts, Foreign Civilization & Culture, Historical Perspectives.

#### **01H:006 Western Art and Culture After 1400** 3 s.h.

Survey of the Western world's visual arts from Renaissance (ca. 1400) to the present; major movements and principal masters of Western Europe and the United States in their social and historical contexts; focus on stimulation of visual literacy and familiarity with outstanding cultural monuments. GE: Fine Arts, Foreign Civilization & Culture, Historical Perspectives.

#### **01H:007 Writing About the Visual Arts** 3 s.h.

Opportunity to develop understanding of and skill in using visual-arts writing conventions and linguistic competencies that are necessary for academic and professional success; formats such as exhibition reviews, art criticism, research writing, artist's statements; experience through exercises, formal essays, revision, workshops. Requirements: fulfillment of General Education rhetoric requirement.

**01H:008 Themes in Global Art** 3 s.h.

Key themes in art from a global perspective; propaganda and power, social functions of art, word and image, ritual and body decoration, artistic exchange, religion. GE: Foreign Civilization & Culture.

**01H:010 Tutorial for Majors: Art History as a Discipline** 3 s.h.

Introduction to the discipline of art history, its historiography and methodology, and its practice in academia and the museum world; research methods, organization. Requirements: art history major.

**01H:016 Asian Art and Culture** 3 s.h.

Art from India, China, and Japan in many media and forms, in their cultural and historical contexts; cultural distinctions of these Asian civilizations as seen through the visual arts; chronology used to highlight historical processes and provide perspectives on continuity and change. GE: Fine Arts, Foreign Civilization & Culture, Historical Perspectives. Same as 039:016.

**01H:021 Introduction to the Art of West Africa** 3 s.h.

Introduction to the visual arts of West Africa, including Burkina Faso, Mali, Nigeria, Ivory Coast, Liberia, Guinea, Ghana, and Sierra Leone; arts in cultural contexts--what objects meant to the people who created them, how they mirrored social, educational, political, and economic systems.

**01H:022 Introduction to the Art of Central Africa** 3 s.h.

Artistic production and media in Central Africa categorized by geographies but examined from perspectives of innovation, power, gender, performance, ancestry, religious beliefs, technology, death, and the body; breadth of Central Africa's artistic production, art history, and terminology; 20th-century debates around African art.

**01H:026 Introduction to Ancient Art** 3 s.h.

Art and architecture of the Mediterranean world ca. 3500 B.C.E. to death of Constantine (337 C.E.); Egyptian, Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, religion. Same as 20E:026.

**01H:029 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**01H:031 Introduction to the Art of China** 3 s.h.

Visual arts of China and their history; emphasis on understanding in context of Chinese civilization, history. Same as 039:028.

**01H:033 Introduction to the Art of Japan** 3 s.h.

Chronological survey of Japan's visual arts in their historical and cultural contexts from Neolithic age to present; extensive use of slides, films, other visual materials. Same as 39J:033.

**01H:040 Introduction to Medieval Art** 3 s.h.

How Medieval art has been known, collected, and appreciated in America; neomedieval buildings, exceptional museum holdings in New York; periodization, terminology, genres, styles, sources, original context, later history, and cultural impact of selected Medieval works of art in America.

**01H:047 Introduction to Italian Renaissance Art** 3 s.h.

Italian art, architecture from early Renaissance to 1600.

**01H:053 Introduction to Baroque Visual Culture** 3 s.h.

Art, architecture in Europe from 1600 to 1700.

**01H:062 Introduction to Nineteenth-Century Art** 3 s.h.

Major European artists, works, movements, aesthetic theories from late 18th century to 1900; works in their aesthetic, cultural, intellectual, political contexts; boundaries, definitions of movements such as Neo-Classicism, Romanticism, Realism, Impressionism, Post-Impressionism, Symbolism.

**01H:063 Introduction to Northern Renaissance Art**

3 s.h.

Northern European art between 1350 and 1600; the transition between the late Middle Ages and the Renaissance; artistic output of this period; development of critical thinking skills by exploring ways in which the Northern Renaissance has been defined with respect to Italian Renaissance and northern medieval traditions. Prerequisites: 01H:005 or 01H:006 or 01H:040 or 01H:047.

**01H:066 Introduction to American Art**

3 s.h.

Survey of painting, sculpture, architecture, and photography in the United States from colonial era to mid-20th century; how the new country grappled with creating a visual culture unique to its own character and development; portraits, landscape paintings, sculpture, and architecture in an array of styles and media; circumstances of their creation, aspirations and preconceptions of their makers, perspectives of their audiences. Recommendations: 01H:006. GE: Fine Arts, Humanities.

**01H:073 Introduction to Modern/Contemporary Art**

3 s.h.

Modern European and American painting, sculpture, and architecture from 1880 to present; major art movements of modern art history. Prerequisites: 01H:005.

**01H:084 Introduction to Western Architecture**

3 s.h.

Overview of monuments, Neolithic period to present; aesthetic and structural principles, major styles, architects.

**01H:090 Introduction to Art and Religion**

3 s.h.

How religious and cult practices have influenced the shape of objects and monuments now considered superb examples of art and architecture; late antiquity to Renaissance; case studies; focus on initiation rituals.

**01H:098 Undergraduate Topics in Art History**

3 s.h.

Varied topics in art history. Requirements: art history major and undergraduate standing.

**01H:099 Undergraduate Seminar in the History of Art**

3 s.h.

Characteristic problems, methodological issues, critical thinking and writing. Offered fall semesters. Requirements: art history major.

**Art History for Undergraduate and Graduate Students**

An introductory course in the appropriate art history area or consent of instructor is prerequisite for some courses numbered above 100. Courses designated "Themes in Art History" consider topics of current interest in the field, organized thematically rather than chronologically.

**01H:104 American Indian Art**

3 s.h.

Sculpture, painting, architecture, crafts, arts of personal adornment of native peoples of North America. GE: Cultural Diversity.

**01H:105 Art of Pre-Columbian America**

3 s.h.

Art, architecture of Mexico, Peru before Cortéz.

**01H:106 African Kings**

3 s.h.

African art created to reflect the political and military power of African rulers; in-depth study.

**01H:107 Art of West Africa**

3 s.h.

How art is used to solve problems and mark important passages in life.

**01H:110 Egyptian Art**

3 s.h.

Sculpture, painting, architecture, and luxury arts from Pyramid Age to Death of Cleopatra. Prerequisites: 01H:005. Same as 032:104.

**01H:119 Chinese Art and Culture**

3 s.h.

Archaeological discoveries, sculpture, painting, architecture, calligraphy, other arts of Greater China area in historical and cultural contexts of past 5,000 years. Prerequisites: 01H:006 or 01H:031. Same as 039:159.

**01H:120 Chinese Painting I**

3 s.h.

Early Chinese painting from fourth century B.C.E. through 14th century C.E.; figural style, religious art, emergence of landscape, other nonreligious subjects, interconnectedness of painting and calligraphy as fine arts. Prerequisites: 01H:016 or 01H:031. Same as 039:120.

**01H:122 Japanese Art and Culture**

3 s.h.

Art of Japan in historical, religious, cultural contexts; what is specifically Japanese about Japanese arts and culture; non-Japanese influences, contributions. Prerequisites: 01H:006 or 01H:033. Same as 39J:156.

**01H:123 Japanese Painting**

3 s.h.

Japanese painting in its historical, cultural contexts; focus on developments of successive eras--religious art; narrative, other literary connections; Zen; decorative traditions; popular arts; Japan and the modern world. Same as 39J:123.

**01H:124 Themes in Asian Art History**

3 s.h.

Prerequisites: 01H:016 or 039:016. Same as 039:131.

**01H:127 Classical Greek Art**

3 s.h.

Art, sacred architecture from early Classical through late fourth century B.C.E.; Athens in the Golden Age. Prerequisites: 01H:005 or 01H:026. Same as 20E:124.

**01H:128 Greek Vase Painting**

3 s.h.

Greek ceramics as documents of religious beliefs, mythology, and daily life 1000-300 B.C.E. Prerequisites: 01H:005 or 01H:026.

**01H:132 Art of Early Rome: Patrons and Politics**

3 s.h.

Examination of architecture, sculpture, and painting in central Italy from c. 800 B.C. to the end of the Roman Republic in 27 B.C.; art in the service of social ideology and political propaganda; funerary art and its relationship to the living; artistic interactions between Etruria, Greece, and Rome. Prerequisites: 01H:005 or 01H:026. Same as 20E:128.

**01H:133 Art of the Ancient Roman Empire**

3 s.h.

Major developments in architecture, sculpture, and painting from the ascension of Augustus to sole ruler in 31 B.C. to the death of Constantine in A.D. 337; influence of individual emperors on the development of artistic forms; relationship between public and private art; interdependency of Rome and the provinces. Prerequisites: 01H:005 or 01H:026. Same as 20E:130.

**01H:134 Art and Culture in Ancient Pompeii**

3 s.h.

Art and architecture, as documents of ancient society and religion in towns destroyed by Mount Vesuvius in C.E. 79. Same as 20E:129.

**01H:135 City of Rome: Image and Ideology**

3 s.h.

The myth of the city of Rome as seen in paintings, sculpture, architecture, urbanism, and cinema from early Renaissance to Mussolini; focus on urban topography and mythic origins; the divinely-ordained destiny of Rome in God's providential plan for humanity; raw imperialism of Italian fascism as manifested in the visual legacy of the city; ideological underpinnings of the city's major institutions--the papacy, municipal government, Italian monarchy, and the fascist state as supported through the appropriation of the myth of Rome.

**01H:136 Early Medieval Art**

3 s.h.

Complex artistic traditions that developed roughly between 300 and 1000 in the territories once governed by the Roman Empire and in the areas of northern Europe directly influenced by Western Christian tradition; the period not simply a "Dark Age," but a pivotal chapter in the history of Western art and culture; group discussion, individual research topics.

**01H:138 Gothic Architecture**

3 s.h.

Gothic architecture and its history, from varied perspectives (e.g., formal structural, symbolic, geometric, socioeconomic). Prerequisites: 01H:005 or 01H:040.

- 01H:140 The World of Giotto and Dante** 3 s.h.  
Painting, sculpture, and architecture 1250-1400. Prerequisites: 01H:005 or 01H:006.
- 01H:141 Masaccio to Leonardo da Vinci** 3 s.h.  
Painting, sculpture, and architecture 1400-1525.
- 01H:142 Leonardo, Raphael, and Their Contemporaries** 3 s.h.  
The arts in Italy 1485-1550. Prerequisites: 01H:005 or 01H:006.
- 01H:143 Italian Baroque Visual Culture** 3 s.h.  
Visual culture of 17th-century Italy contextualized; major media (painting, sculpture, architecture) by leading artists (Bernini, Borromini, Caravaggio, Cortona); full range of material culture, including minor and decorative arts; use of imagery by individual and institutional patrons for the persuasive purpose of political and social advancement; ideological utility of art as a recurring theme, underscoring the Baroque antecedents of media manipulation of our own time.
- 01H:144 Classical Architecture: Theory/Practice** 3 s.h.  
Architectural design in the Italian Renaissance, Brunelleschi to Borromini. Prerequisites: 01H:005 or 01H:006.
- 01H:150 Seventeenth-Century Dutch and Flemish Painting** 3 s.h.  
Painting in the age of Rubens, Rembrandt, Vermeer; rise of landscape, still life, genre. Prerequisites: 01H:006.
- 01H:155 The Romantic Revolution** 3 s.h.  
Transformations in European art and culture 1750-1850, an age of artistic, political, cultural, intellectual crisis and revolutions; major artists, including David, Ingres, Gericault, Delacroix, Goya, Friedrich, Constable, Turner.
- 01H:157 Paris and the Art of Urban Life** 3 s.h.  
City of Paris examined in varied historical, artistic, cultural contexts; interdisciplinary. Same as 009:130, 033:130.
- 01H:158 Realism, Impressionism, Post-Impressionism** 3 s.h.  
Naturalism, Realism, the Impressionist landscape, painting of modern life, new trends in subjectivity and exoticism mid- to late-19th-century European art and culture; Courbet, Manet, Degas, Monet, Renoir, Seurat, Cezanne, Van Gogh, Gauguin, Ensor, Munch.
- 01H:159 Manet to Matisse** 3 s.h.  
Development of modernism and the avant-garde in late 19th- and early 20th-century Paris; intersection of innovation and tradition, literature and art; role of theory and criticism in works of Manet, Degas, Seurat, Cezanne, Gauguin, Rodin, Matisse, and Picasso.
- 01H:160 Building a Nation: American Architecture to 1865** 3 s.h.  
How ethnic groups shaped America's cultural landscapes and architecture from colonial period to Civil War.
- 01H:162 National Images: American Art to 1865** 3 s.h.  
Painting, sculpture, and architecture from colonial times to Civil War. Prerequisites: 01H:006 or 01H:066.
- 01H:163 American Renaissance and the Gilded Age** 3 s.h.  
Architecture, painting, sculpture 1865-1913. Prerequisites: 01H:006 or 01H:066 or 01H:162.
- 01H:164 Nazi and Stalinist Art: Aesthetics of Power** 3 s.h.  
Manipulative power of art, architecture, urbanism, and film in 20th-century totalitarian regimes Italy, Germany, and Stalinist Soviet Union as well as Madrid, Warsaw, Beijing, Pyongyang, Baghdad; the dark side of art and its transnational character, particularly in architecture and urban planning; nature of propaganda and state-sponsored art, responses to modernism and industrialization, allure of militarism and empire, uses of historicism, role of public ritual and mass spectacle in totalitarianism; common currency of totalitarian art across national groups, cultures, ideologies; how aesthetics function as tools of modern autocracies, with lessons for ailing 21st-century democracies. Requirements: an introductory course in an appropriate area for art majors.
- 01H:165 American Western Art** 3 s.h.  
Painting and sculpture of the western United States, primarily from Euro-American perspective. Prerequisites: 01H:006 or 01H:066.



- 01H:166 American Landscape Art** 3 s.h.  
Landscape from 1750 to present, emphasis in 19th century; land and its use fundamental to the history and culture of the United States as American art subjects, American art in the period of territorial expansion in the 19th century; major movements of landscape aesthetics, artistic treatments, historiography. Requirements: at least one art history course.
- 01H:167 African American Art and Architecture** 3 s.h.  
Visual and material culture of African Americans, including painting, sculpture, decorative arts, and film, examined from aesthetic and ideological perspectives.
- 01H:170 Modernism and Early Twentieth-Century American Art** 3 s.h.  
American responses to European Modernism in painting, sculpture, architecture, and photography. Prerequisites: 01H:006 or 01H:066.
- 01H:171 Modern Art** 3 s.h.  
European and American art 1900-1940. Prerequisites: 01H:006 or 01H:073.
- 01H:172 Late Modern Art** 3 s.h.  
American and European art 1940-1970. Prerequisites: 01H:006 or 01H:073.
- 01H:173 Contemporary Art** 3 s.h.  
European and American art 1970 to present. Prerequisites: 01H:006 or 01H:073.
- 01H:176 Theory and Practice in Contemporary Art** 3 s.h.  
Influence of art theory on recent art practice; critics and philosophers whose ideas have been particularly important to the process of putting art and its histories into greater social and political context--Theodor Adorno, Walter Benjamin, Roland Barthes, Jacques Derrida, Michel Foucault, Jean-Francois Lyotard, Jurgen Habermas, Jean Baudrillard, Terry Eagleton, Michael Fried, T.J. Clark, Rosalind Krauss, and Homi Bhabha; general influence of feminism, poststructuralism, postcolonialism, and postmodernism.
- 01H:178 Pop Art** 3 s.h.  
Survey of pop art in America, Britain, Europe; focus on developments in painting and sculpture 1950s to early 1960s; continuing influence of Pop Art. Prerequisites: 01H:006 or 01H:073.
- 01H:179 Minimalism** 3 s.h.  
Survey of Minimalism; focus on developments in painting and sculpture during 1960s; continuing influence. Prerequisites: 01H:006 or 01H:073.
- 01H:180 Marketing, Promoting, Politicking Contemporary Public Art** 3 s.h.  
How public art projects are conceived, created, and paid for; projects sponsored and funded by federal, state, and local governments and private businesses 1960 to present; projects' operational structures, how artists are selected; Vietnam Veterans Memorial, Serra's *Tilted Arc*, recent projects. Requirements: an introductory course in an appropriate area for art majors.
- 01H:181 The Art Museum: Theory and Practice** 3 s.h.  
Introduction to different aspects of art museums; emphasis on roles of art historians, especially curatorial practice; current and historical theories and practices of art exhibitions; varying debates of the politics of display; art museum professions; the many facets of art exhibition preparation; the University of Iowa Museum of Art collections. Same as 024:162.
- 01H:182 Art, Law, and Ethics** 3 s.h.  
How law and ethics apply to individuals and institutions concerned with the visual arts. Same as 024:161, 033:175, 091:192.
- 01H:183 History of Prints** 3 s.h.  
Printmaking as important art form, influential carrier of styles and iconography from area to area; focus on Europe; history of prints from prehistoric times to present.
- 01H:184 History of Photography** 3 s.h.

Survey of photography 1839 to present. Prerequisites: 01H:006 or 01H:073.

**01H:185 Modern Architecture** 3 s.h.

Impact of new technology, artistic theory, and social practices on modern European and American architecture, 1890 to 1977. Prerequisites: 01H:006 and 01H:085.

**01H:186 Contemporary Architecture** 3 s.h.

Quality of contemporary-built environments in America, Western Europe, Asia, and Middle East from 1970 to present; stylistic evolution of postmodern design, new urbanism, sustainable architecture; impact of literary and cultural theory on contemporary practitioners such as Daniel Libeskind, Steven Holl. Prerequisites: 01H:006, 01H:085, and 01H:185.

**01H:187 Sustainable Architecture: Past, Present, and Future** 3 s.h.

Sustainable building practices of the past, traditional and indigenous cultures; current sustainable architectural practices, leading practitioners, institutional standards in the U.S. and Europe; competing demands of sustainability against the ideals of historic preservation; how architectural aesthetics can support sustainable technology. Requirements: junior, senior, or graduate standing.

**01H:188 Big-Shouldered City: Chicago Architecture** 3 s.h.

Architectural and urban development of Chicago; how changing visions of this most-American of cities has been influenced by aesthetic, social, political, and economic factors; early settlement patterns, the impact of the Great Fire of 1871, skyscraper technology, Daniel Burnham's 1909 Plan, the Bungalow Belt, and the park system; the larger history of the American city in terms of its architectural, urban, and landscape development.

**01H:190 Honors Research in Art History** arr.

Research and preparation of thesis. Requirements: honors standing.

**01H:194 Independent Study in Art History** arr.

Advanced work in art history.

**01H:199 Topics in Art History** 3 s.h.

Varied topics.

## Art History, Primarily for Graduate Students

**01H:200 History and Methods** 3 s.h.

Critical thinking and research; readings in historical development of the discipline, from Renaissance to present; methodological paradigms and trends.

**01H:210 Art History Colloquium** 1 s.h.

Current topics and research in art history. Repeatable. Requirements: art history graduate standing.

**01H:247 Crossing Borders Seminar** 2-3 s.h.

Repeatable. Same as 008:231, 013:262, 016:247, 030:242, 035:273, 044:286, 048:247, 113:247, 129:231, 160:247, 181:247.

**01H:300 Directed Studies** arr.

**01H:302 M.A. Written Thesis** arr.

**01H:310 Seminar: Problems in African Art** 2-3 s.h.

Repeatable.

**01H:316 Seminar: Problems in Asian Art** 3 s.h.

Dialogue between arts and cultures of Asia and those of other major areas; varied research topics, such as Islamic arts in relation to those of Middle Ages and/or Renaissance in Europe; China and/or Japan in relation to Europe and/or the Americas, influences of Western arts and culture on Japan or China since World War II; students determine topics and research strategies in consultation with instructor; project. Repeatable. Requirements: art history experience.

<b>01H:320 Seminar: Problems in Ancient Art</b>	3 s.h.
Ancient contexts of Roman statues and modern methodological issues surrounding their study; monuments considered in tandem with relevant archaeological evidence and textual sources read in translation; historiography of Roman statues; evidence for ancient art market and collectors; roles of statues in civic, religious, funerary, and domestic spaces; cultural forces driving the widespread emulation of earlier Greek artworks. Same as 20E:326.	
<b>01H:330 Crossing Borders Proseminar</b>	1 s.h.
Same as 013:260, 016:244, 030:243, 035:271, 044:287, 048:244, 113:248.	
<b>01H:340 Seminar: Problems in Medieval Art</b>	3 s.h.
Major issues, methodologies. Repeatable.	
<b>01H:345 Seminar: Problems in Renaissance Art</b>	3 s.h.
Special problems, issues. Repeatable.	
<b>01H:353 Seminar: Problems in Baroque Art</b>	3 s.h.
Repeatable.	
<b>01H:359 Graduate Seminar: Nineteenth-Century Art</b>	3 s.h.
Repeatable.	
<b>01H:362 Seminar: Modern/Contemporary Art</b>	3 s.h.
Major issues, methodologies. Repeatable.	
<b>01H:366 Seminar: Problems in American Art</b>	3 s.h.
Repeatable.	
<b>01H:385 Seminar: Problems in Architectural History</b>	3 s.h.
Key themes, architects, and literature that informs the history of the built environment in varied cultural contexts.	
<b>01H:400 Ph.D. Readings</b>	arr.
Repeatable.	
<b>01H:402 Ph.D. Thesis</b>	arr.
Repeatable.	

## Studio Art for Undergraduate and Graduate Students

Courses numbered through 099 are primarily for undergraduates and are not repeatable for credit except where indicated. Some courses numbered 100-199 are repeatable. Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all studio courses for art majors.

### Fundamentals

<b>01A:002 Woodshop Lab</b>	1 s.h.
Use of woodshop; broad range of standard woodshop equipment; emphasis on safe practices and procedures; basic understanding and knowledge of woodshop; how and why woodshop facilitates and enhances art making and design; laboratory component. Requirements: art major.	
<b>01A:003 Basic Drawing</b>	3 s.h.
Two-dimensional visual language, media; space, form; color. Requirements: art major.	
<b>01A:004 Design Fundamentals</b>	3 s.h.
Two- and three-dimensional concepts and their relations; working with basic drawing instruments; problems in visual arts; artists' philosophies and techniques. Corequisites: 01A:002. Requirements: art major.	
<b>01A:009 Art Student Ambassador Seminar</b>	1 s.h.

Ambassadors provide information about the School of Art and Art History to incoming and visiting students, the University community, and the broader community; conduct tours; meet with students and parents; review curriculum; provide information on opportunities; coordinate events; and develop materials for incoming students.

**01A:302 M.A. Written Thesis** 1 s.h.

**01A:304 M.F.A. Written Thesis** 1 s.h.

## Elements

**01B:001 Elements of Art** 3 s.h.

Drawing, composition; selected reading. Requirements: non-art major. GE: Fine Arts.

**01B:035 Elements of 3D Design** 3 s.h.

Introduction to 3D design using drafting, modeling, and virtual reality software; basic concepts of drafting, planning, and color theory; basic Auto CAD, 3ds Max Studio, Vizard, InDesign software; students design an object to be printed 2D and 3D and a conceptual space to be printed 2D and experienced virtually; student journal and portfolio. Requirements: nonart major.

**01B:040 Elements of Jewelry and Metal Arts** 3 s.h.

Fundamental 3-D design principles and appreciation of contemporary jewelry and metal art works; techniques and materials in jewelry and metal arts; experimentation with diverse media. Requirements: non-art major.

**01B:050 Elements of Intermedia** 3 s.h.

Introduction to intermedia for non-art majors; conceptual, interdisciplinary approach to new and emerging art forms, including time-based media, video, collaborative, and community-based projects; research in online networks, web projects. Requirements: non-art major.

**01B:051 Elements of Foil Imaging** 3 s.h.

Printmaking experience using the Iowa Foil Printer; aesthetic and technical research, documentation in *Foil Imaging ... A New Art Form*; hands-on opportunity to explore new dimensions of visual expression. Requirements: non-art major.

**01B:075 Elements of Digital Photography** 3 s.h.

Introduction for non-art majors to history, aesthetics, and practice of photography as a fine art; includes demonstrations, workshops, critiques, final portfolio; photography time outside of class; digital camera required; \$100-\$150 for materials. Requirements: non-art major.

**01B:080 Elements of Printmaking** 3 s.h.

GE: Fine Arts.

**01B:090 Elements of Sculpture** 3 s.h.

Possibilities and definition of 3-D form, including time-based, performance, structural, installation, and kinetic sculpture. Requirements: non-art major. GE: Fine Arts.

**01B:184 Vertical Integration of Business and Studio Art** 3 s.h.

Integrated hands-on experience in business and advanced technology/equipment practice for metal arts/mixed media; cutting-edge technology and equipment (e.g., CNC wax carving mill, rapid prototyping machine, laser welder, advanced stone setting); commercial aspects of making and selling art, including budgeting, pricing, marketing, display, and working with clients. Taught in collaboration with M.C. Ginsberg Gallery, downtown Iowa City.

## Ceramics

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all ceramics courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

**01C:060 Exploring Forms in Clay I** 3 s.h.

Basic handbuilding methods of forming, firing, glazing clay. Requirements: 01A:003 and 01A:004 for majors; 01B:001 for nonmajors. GE: Fine Arts.

**01C:061 Exploring Thrown Forms in Clay II** 4 s.h.

Basic wheel-throwing techniques; clay, glaze formulation and preparation in kiln firing. Prerequisites: 01C:060.

**01C:170 Advanced Clay Forming III** 4 s.h.

Advanced throwing techniques; larger scale, more professional goals; projects may be more sculptural or one of a kind. Offered fall semesters. Prerequisites: 01C:060 and 01C:061.

**01C:171 Advanced Clay Forming IV** 4 s.h.

Advanced individual projects. Offered spring semesters. Prerequisites: 01C:170.

**01C:172 Ceramic Materials and Effects** 3-4 s.h.

Empirical, practical methods of glaze and body formulation; effects of various types of kilns and firing atmospheres on glaze materials, clay bodies; digital imaging used for testing and documenting results. Offered fall semesters of even years. Prerequisites: 01C:170.

**01C:173 Undergraduate Ceramics Workshop** 3-4 s.h.

Advanced undergraduate studio; critiques of student work and electronic portfolio development, visiting artist participation; may include field trips. Prerequisites: 01C:171.

**01C:174 Wood Firing Sustainably** 4 s.h.

Kiln theory, design, construction methods; may include participation in kiln construction. Offered fall semesters of odd years. Prerequisites: 01C:170.

**01C:190 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in ceramics for advanced students.

**01C:270 Graduate Individual Instruction in Ceramics** arr.

Repeatable. Requirements: knowledge of clay and glaze computation, and ability to fire kilns.

**01C:275 Ceramics Workshop** 3-4 s.h.

Advanced graduate studio; critique of student work; visiting artists, field trips. Repeatable. Prerequisites: 01C:171.

## Design

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all design courses for art majors; 01B:001 Elements of Art is the prerequisite for nonmajors.

**01D:021 Problems in Design I: Form and Structure** 3 s.h.

Materials, their formal and structural possibilities. Offered fall semesters. Requirements: 01A:003 and 01A:004 for majors; 01A:004 for nonmajors.

**01D:022 Problems in Design II: Form and Function** 4 s.h.

How objects are designed and structured; modeling, graphic skills necessary for basic project development. Offered spring semesters. Prerequisites: 01D:021.

**01D:023 Basic Drafting** 3 s.h.

How to prepare drawings for interior design projects; skills and techniques for translating 3-D design concepts to paper; drafting tools; conventions of notation and line weights and drafting in different scales; basic lettering; orthographic projections (e.g., floor plans, ceiling plans, elevations). Prerequisites: 01A:003 and 01A:004.

**01D:025 Introduction to Portfolio Design** 4 s.h.

Preparation of presentation boards and portfolio production for print and job application; for students in 3-D design and related areas. Prerequisites: 01A:003 and 01A:004.

**01D:064 Introduction to Computer-Aided Design for 3-D Design** 4 s.h.

Basic principles of 2-D and 3-D computer-aided drafting; use of AutoCAD software to draw plans, elevations, and sections for objects and interior spaces. Prerequisites: 01A:003, 01A:004, and 01B:035.

**01D:070 Introduction to Computer Modeling for 3-D Design** 3 s.h.

Basic knowledge and practical technical skills using 3DS Max Studio software; experience creating and manipulating basic forms and working with texture, background, light, and camera viewpoints; basic animation. Requirements: 01A:003 and 01A:004 for majors; 01B:035 for nonmajors.

**01D:075 Introduction to Virtual Reality for 3-D Design** 3 s.h.

Introduction to Vizard software; design of virtual 3-D space; translation of environments created in 3DS Max software into Vizard software. Corequisites: 01D:070.

**01D:082 Introductory Computer Graphic Design** 3 s.h.

Macintosh computer as creative tool for graphic design; composition, manipulation, organization of type and image; projects, demonstrations, discussions. Prerequisites: 01A:004 and 01D:028.

**01D:090 Graphic Design I** 3 s.h.

Basic principles, techniques, and applications of graphic design, typography, composition, visual perception; creative, problem-solving aspects of graphic design. Prerequisites: 01A:003 and 01A:004. Requirements: two art history courses.

**01D:100 Typography** 4 s.h.

Introduction to letterform and typographic fundamentals; designing with type--attention to composition, hierarchy, historical practice. Corequisites: 01D:090, if not taken as a prerequisite.

**01D:110 Web Site Design I** 3 s.h.

Designing for the World Wide Web; composition, manipulation, organization of type and images; projects, demonstrations, discussions. Prerequisites: 01D:090 and 01D:100.

**01D:120 Graphic Design II** 4 s.h.

In-depth study and exploration of graphic design as creative and problem-solving tool of visual communication; translation of ideas and concepts into comprehensible visual language. Prerequisites: 01D:090 and 01D:100.

**01D:128 Computer Graphic Design** 3 s.h.

Advanced composition, manipulation of image and type; organization and pre-press file management using Macintosh platform. Prerequisites: 01D:028 and 01D:082.

**01D:137 Environmental Design I** 4 s.h.

Human interaction with the interior and exterior environment. Offered fall semesters of odd years. Prerequisites: 01D:021. Same as 049:158.

**01D:140 Web Site Design II** 4 s.h.

Continuation of 01D:110; in-depth exploration and study of graphic design principles and their application in online and interactive media; further development of HTML, CSS, other related technologies. Prerequisites: 01D:110 and 01D:120.

**01D:141 Interior Design I** 3 s.h.

Relationship of interior space to its architecture, environment, human element; color, materials, furnishings, lighting; projects. Offered spring semesters. Prerequisites: 01B:035 and 01D:021.

**01D:142 Color for Interior Design** 3 s.h.

Use of color for interior spaces; principles of color theory reviewed and applied to 3-D environments; color as a compositional element and psychological tool. Prerequisites: 01D:021.

**01D:144 Interior Design II** 3 s.h.

Continuation of 01D:141. Offered fall semesters of even years. Prerequisites: 01D:064 and 01D:141.

**01D:150 Graphic Design III** 4 s.h.

Continuation of 01D:120; graphic design knowledge and skills applied to complex design problems such as visual identity, packaging, information design. Prerequisites: 01D:110 and 01D:120.

<b>01D:160 Problems in Graphic Design</b>	4 s.h.
Design topics; content varies. Prerequisites: 01D:090, 01D:100, and 01D:120.	
<b>01D:175 Advanced Typography</b>	3 s.h.
In-depth exploration of typographic principles and experimentation. Prerequisites: 01D:125.	
<b>01D:190 Undergraduate Individual Instruction</b>	1-3 s.h.
Individual instruction in design for advanced students.	
<b>01D:200 Graduate Graphic Design Workshop</b>	4 s.h.
Complex problems in graphic design; planning, development, organization of integrated design programs. Repeatable.	
<b>01D:238 Environmental Design II</b>	3 s.h.
Continuation of 01D:137; design of virtual environments. Repeatable.	
<b>01D:240 Individual Instruction in Design</b>	arr.
Repeatable.	
<b>01D:249 Advanced Problems in Design</b>	4 s.h.
Special issues and topics in design. Repeatable.	

## Drawing

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all drawing courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

All B.F.A. students in drawing and painting must take 01F:106 Undergraduate Seminar in Drawing and Painting. Offered fall semesters.

<b>01F:007 Life Drawing I</b>	3 s.h.
Observational drawing of form in its spatial contexts; drawing in varied media; figural as well as nonfigural content. Requirements: 01A:003 and 01A:004 for majors; 01B:001 for nonmajors.	
<b>01F:105 Concepts in Drawing</b>	3-4 s.h.
Drawing from topics at the intermediate level; observation, theory, media, form, content; emphasizes personal direction. Prerequisites: 01F:007. Same as 049:157.	
<b>01F:106 Undergraduate Seminar in Drawing and Painting</b>	3-4 s.h.
Contemporary issues, practical and professional skills, interdisciplinary concerns, education and career goals. Offered fall semesters. Prerequisites: 01F:105.	
<b>01F:109 Advanced Concepts in Drawing</b>	3-4 s.h.
Drawing from topics at the advanced level. Prerequisites: 01F:105.	
<b>01F:190 Undergraduate Individual Instruction</b>	1-3 s.h.
Individual instruction in drawing for advanced students.	
<b>01F:199 Special Topics in Drawing and Painting</b>	3-4 s.h.
Advanced issues in drawing and painting. Prerequisites: 01F:105.	
<b>01F:201 Graduate Drawing</b>	3-4 s.h.
Compositional and conceptual drawing as related to the student's major interest; varied media. Repeatable. Requirements: 6 s.h. of 01F:105.	
<b>01F:205 Individual Instruction in Drawing</b>	arr.
Repeatable.	

## Jewelry and Metal Arts

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all metalsmithing and jewelry courses for art majors; 01B:001 Elements of Art prerequisite for nonmajors.

### **01G:084 Introduction to Jewelry and Metal Arts** 3 s.h.

Fabrication, hammer forming, hydraulic die forming, soldering, riveting, etching, texturing, anodization of aluminum and titanium, stone setting, and patination techniques; creation of jewelry, flatware, and other functional and nonfunctional sculptural objects using varied metals and other materials; emphasis on creativity, learning, and basic metalworking techniques. Requirements: 01A:003 and 01A:004 for majors; 01A:003 for nonmajors.

### **01G:185 Intermediate Jewelry and Metal Arts** 4 s.h.

Applications with casting (gold, silver, bronze), enameling, and stone setting, processes may be combined; photo etching and 3-D computer modeling; trends in craft; emphasis on development of student's personal aesthetics, learning, and refining technical skills in metalworking and jewelry techniques. Prerequisites: 01G:084.

### **01G:186 Advanced Jewelry and Metal Arts** 4 s.h.

Electroforming; production of hollow copper structures through prolonged electroplating on a nonmetallic form (typically wax) with a conductive coating; metal-forming techniques (e.g., raising and fold forming); emphasis on development of personal aesthetics, learning, and refining technical skills in metalworking and jewelry techniques. Prerequisites: 01G:084.

### **01G:187 Mixed Media Workshop** 3-4 s.h.

Free exploration of all media and materials, including found objects; creation of conceptual and/or functional mixed media objects, jewelry, sculptures, installation pieces; pioneering use of new materials, development of new techniques, creation of diverse innovative art works. Prerequisites: 01G:084. Recommendations: 01G:185 and 01G:186.

### **01G:188 Graduate Workshop** 4 s.h.

Independent studio work; personal aesthetics, conceptual and technical skills developed and refined; creation of work without boundaries of media; portfolios, exhibitions, professional goals. Prerequisites: 01G:185, 01G:186, and 01G:187.

### **01G:190 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in metalsmithing and jewelry for advanced students.

### **01G:240 Individual Instruction in Metalsmithing and Jewelry** arr.

## Intermedia

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all intermedia courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

### **01J:090 Intermedia I** 3 s.h.

Interdisciplinary focus; emphasis on conceptual, installation, video, time-based media, performance art. Requirements: 01A:003 and 01A:004 for art majors.

### **01J:091 Intermedia II** 4 s.h.

Interdisciplinary investigation of materials and concepts in relation to time-based media, performance, video, installation; individual and collaborative projects. Prerequisites: 01J:090.

### **01J:100 Intermedia Topics** 3-4 s.h.

Areas of intermedia practice, including installation, video, Internet-based production, sound design, image and text, new media. Prerequisites: 01J:090.

### **01J:104 Media Art Lab** 4 s.h.



Study and production in the media arts--digital video, sound, installation/performance, Internet, new media art; conceptual development through readings, screenings; hands-on workshops using a range of media production equipment and platforms; in-class, short-term projects. Prerequisites: 01J:090. Recommendations: experience with media technologies.

**01J:105 Time-Based Media/Video I** 3-4 s.h.

Studio experimentation, individual projects. Prerequisites: 01J:090.

**01J:106 Time-Based Media/Video II** 3-4 s.h.

Continuation of 01J:105. Prerequisites: 01J:105.

**01J:108 Art and Ecology** 4 s.h.

Collaborative, creative research group; artistic responses to environmental sustainability and related social issues; critical approaches rooted in humanities, other disciplines. Requirements: 01J:090 for majors, or senior or graduate standing.

**01J:110 Intermedia Workshop** 3-4 s.h.

Visual practice/visual theory; projects, critiques, visiting artists and scholars. Requirements: 01J:091 or graduate standing in intermedia.

**01J:115 What is Storytelling For?** 3 s.h.

Same as 033:115.

**01J:140 Artists in the Community--Intermedia** 3-4 s.h.

Student participation in internships at Iowa City and Johnson county nonprofit organizations; interdisciplinary seminar.

**01J:190 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in intermedia for advanced students.

**01J:201 Individual Instruction in Intermedia and Video Art** arr.

Repeatable.

**01J:208 Intermedia Graduate Special Topics** 3-4 s.h.

Areas of intermedia practice, including installation, video, Internet-based production, sound design, image and text, new media. Repeatable.

## Painting

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all painting courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

**01K:009 Painting I** 3 s.h.

Emphasis on observational painting, theory and development of pictorial ideas and skills. Prerequisites: 01A:003 and 01A:004.

**01K:010 Painting II** 3-4 s.h.

Materials, techniques, beginning of a personal painting language through observation and imagination. Prerequisites: 01K:009.

**01K:046 Painting III** 4 s.h.

Painting, with contemporary issues overlying study in materials and techniques; language and direction of personal painting. Prerequisites: 01K:010.

**01K:049 Advanced Painting** 4 s.h.

Individual projects as they aid the realization of a personal vision.

**01K:190 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in painting for advanced students.

**01K:199 Special Topics in Painting and Drawing**

3-4 s.h.

Advanced issues in painting, drawing. Prerequisites: 01K:010.

**01K:206 Graduate Painting: Topics**

3-4 s.h.

Individual painting projects in desired medium; topics vary. Corequisites: 01K:208.

**01K:207 Graduate Drawing and Painting Workshop**

3-4 s.h.

Group and individual criticism, team-taught. Corequisites: 01K:208.

**01K:208 Graduate Drawing and Painting Forum**

1 s.h.

Problems and issues of contemporary artists.

**01K:215 Individual Instruction in Painting**

arr.

Repeatable.

**Photography**

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all photography courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

**01L:034 Beginning Photography**

3 s.h.

Camera, light meter, darkroom; history, theory of photography. Requirements: 01A:003 and 01A:004 for majors; 01B:001 for nonmajors.

**01L:036 Beginning Digital Photography**

3 s.h.

How to use digital technology to make high-quality color and black-and-white photographs from scanned film and digital files; basic photography skills, including exposure, bracketing, composition; how to use raw files to make large digital prints; color profiles for fine digital printing. Requirements: 01A:003 and 01A:004 for majors; 01A:003 for nonmajors.

**01L:040 Digital Imaging I**

3-4 s.h.

Working knowledge of digital image-making techniques, including image capture, image building/editing, printing/output options, work with Photoshop on Macintosh computers.

**01L:101 Intermediate Darkroom**

3-4 s.h.

Darkroom techniques, including film developing and printing; theory and practice of photography as fine art and cultural phenomenon; development of visual literacy, students' critical awareness of their work. Requirements: 01L:034 or 01L:036 for majors; 01L:036 or 01L:040 for nonmajors.

**01L:102 Intermediate Photography Digital**

3-4 s.h.

Digital photography including landscape, portrait, collage, still life, manipulated images; black-and-white and color printing; computer technology; history of photography in political and social issues. Prerequisites: 01L:034 or 01L:036.

**01L:105 Advanced Photography**

3-4 s.h.

Individual projects; development of personal vision. Prerequisites: 01L:101.

**01L:129 Materials and Techniques**

4 s.h.

Concepts and techniques, from reading contemporary topics to understanding and applying nontraditional photographic processes and digital imaging. Prerequisites: 01L:101.

**01L:140 Advanced Digital Imaging**

3-4 s.h.

Varied image editing programs, with focus on Photoshop and the web. Prerequisites: 01L:101 or 01L:102.

**01L:165 4x5 Camera and Lighting**

3-4 s.h.

Use of a 4 x 5 camera to correct perspective, depth of field; large format printing, negative processes. Prerequisites: 01L:101.

**01L:190 Undergraduate Individual Instruction**

1-3 s.h.

Individual instruction in photography for advanced students.

**01L:231 Individual Instruction in Photography**

arr.

Repeatable.

**01L:236 Graduate Photography Workshop**

4 s.h.

Projects; group critiques; readings.

**Printmaking**

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all printmaking courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

**01M:011 Introduction to Printmaking**

3 s.h.

Introduction to methods, materials, and concepts of printmaking. Prerequisites: 01A:003 and 01A:004. Requirements: art major.

**01M:021 Undergraduate Intaglio**

3-4 s.h.

Concepts, techniques; Renaissance and contemporary ideas, methods; emphasis on metal plate printing, including etching, drypoint, engraving, softground, aquatint. Requirements: 01A:003 and 01A:004 for majors; 01B:001 for nonmajors.

**01M:024 Undergraduate Relief**

3-4 s.h.

Relief printmaking techniques. Requirements: 01A:003 and 01A:004 for majors, 01B:001 for nonmajors.

**01M:031 Undergraduate Lithography**

3-4 s.h.

Fundamental techniques, characteristics of lithography; basic direct drawing, processing, printing of stone and plate images in black and white. Prerequisites: 01F:007.

**01M:042 Undergraduate Monoprint**

3-4 s.h.

Concepts and techniques in using traditional and alternative printmaking media to produce unique, matrix generated prints. Prerequisites: 01M:021.

**01M:121 Intaglio**

4 s.h.

Concepts, techniques; traditional through contemporary ideas, methods; emphasis on metal plate printing, including etching, drypoint, engraving, softground, aquatint. Requirements: 01M:011 or BFA candidacy in any area or graduate standing.

**01M:122 Advanced Intaglio and Relief**

3-4 s.h.

Concepts and techniques of intaglio/relief; etching, engraving, drypoint, softground, aquatint, woodcut, linocut, color printing; emphasis on advanced methods, personal vision. Prerequisites: 01M:021, and 01M:024 or 01M:031.

**01M:124 Relief**

3-4 s.h.

Concepts and techniques of relief printmaking, including woodcut, linocut, relief etching, black-and-white and color printing methods; traditional and contemporary approaches; for graduate students with no printmaking experience. Requirements: 01A:003, 01A:004, and 01M:011 for majors; 01B:001 and 01B:080 for nonmajors; or BFA candidacy in any area; or graduate standing.

**01M:131 Lithography**

4 s.h.

Technical, aesthetic characteristics; basic direct drawing, processing, printing of stone and plate images in black and white. Requirements: 01A:003, 01A:004, and 01M:011 for art majors; 01B:001 and 01B:080 for nonmajors; or BFA candidacy in any area; or graduate standing.

**01M:132 Advanced Lithography**

3-4 s.h.

Technical, aesthetic aspects; emphasis on color printing, indirect image-forming and photo-mechanical processes. Prerequisites: 01M:011 and 01M:131.

**01M:134 Silkscreen**

4 s.h.

Photographic, nonphotographic stencil techniques for silkscreen printing. Requirements: 01A:003, 01A:004, and 01M:011 for art majors; 01B:001 and 01B:080 for nonmajors; or BFA candidacy in any area; or graduate standing.

**01M:142 Monoprint**

3-4 s.h.

Concepts, techniques in use of traditional and alternative printmaking media to produce unique, matrix-generated prints. Offered spring semesters. Prerequisites: 01M:021, and 01M:024 or 01M:031.

**01M:151 Foil Imaging I**

4 s.h.

Participation in development of a new art form involving creation of original prints and other works of art using hot stamped foil and Iowa Foil Printer. Requirements: 01A:003, 01A:004, and 01M:011 for art majors; 01B:001 and 01B:080 for nonmajors; or BFA candidacy in any area; or graduate standing.

**01M:152 Foil Imaging II**

4 s.h.

Advanced aesthetic and technical research for creation of original prints and other works of fine art using hot stamped foil and other printmaking techniques; individual instruction. Prerequisites: 01M:151.

**01M:160 Special Workshop in Printmaking**

2-3 s.h.

Issues, themes, or studio practice.

**01M:170 Foil Workshop in Printmaking**

2 s.h.

Hands-on experience creating foil prints; workshop format. One or two weeks. Offered summer session.

**01M:190 Undergraduate Individual Instruction**

1-3 s.h.

Individual instruction in printmaking for advanced students.

**01M:250 Individual Instruction in Printmaking**

arr.

Repeatable.

**01M:260 Graduate Print Workshop**

3-4 s.h.

Contemporary issues in printmaking; emphasis on development of personal work and independent studio practice through group critiques, special research projects, work in all print media. Repeatable.

**Sculpture**

Courses 01A:003 Basic Drawing and 01A:004 Design Fundamentals are prerequisites for all sculpture courses for art majors; 01B:001 Elements of Art is prerequisite for nonmajors.

**01N:015 Undergraduate Sculpture I**

3 s.h.

Basic sculptural concepts, processes, investigation of materials such as plaster, clay, wood; emphasis on developing formal language, acquiring basic skills; spatial, conceptual, technical issues. Requirements: 01A:003 and 01A:004 for majors; 01A:003 for nonmajors. GE: Fine Arts.

**01N:016 Undergraduate Sculpture II**

3-4 s.h.

Continuation of 01N:015; form, materials, processes, woodcarving, welding, concrete carving and direct application; expanding concept development; contemporary sculptural formats, collaborative process. Prerequisites: 01N:015.

**01N:017 Welding and Fabrication**

1 s.h.

Metal welding, cutting, forging, and fabrication. Requirements: 01A:003 and 01A:004 for majors; 01B:001 or 01B:090 for nonmajors.

**01N:019 Sculpture Workshop**

3-4 s.h.

Critiques with focus on concept and form development; new processes. Prerequisites: 01N:015.

**01N:140 Topics in Sculpture**

4 s.h.

Projects, reading; specialized conceptual forms and issues in contemporary sculpture, such as public art, installation. Prerequisites: 01N:015.

**01N:150 Figure Modeling**

3-4 s.h.

Exploration of the human form with live model; clay on a wire armature, portrait modeling, relief. Prerequisites: 01N:015.

**01N:155 Advanced Figure Modeling**

4 s.h.

Exploration of human form in clay on wire armature, from live model; portrait modeling and relief human anatomy; human form in full scale on welded armature. Prerequisites: 01F:007 and 01N:150.

**01N:160 Mold Making**

3-4 s.h.

All aspects of mold making--plaster, rubber, silicone; technical preparation for 01N:165. Prerequisites: 01N:015 and 01N:016.

**01N:165 Casting in Hot Metal**

3-4 s.h.

Foundry work, wax working, mold making, and processes. Prerequisites: 01N:016 and 01N:160.

**01N:190 Undergraduate Individual Instruction**

1-3 s.h.

Individual instruction in sculpture for advanced students.

**01N:260 Individual Instruction in Sculpture**

arr.

Repeatable.

**01N:264 Graduate Sculpture Workshop**

3-4 s.h.

Critique seminar with readings for graduate sculptors and nonsculpture graduate students. Repeatable.

**Interdepartmental Courses****01P:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**01P:030 Art and Design Learning Community**

1 s.h.

Varied studio art-related techniques taught in workshop setting. Saturdays and evenings. Requirements: first-year standing in Art and Design Learning Community.

**01P:090 Issues in Contemporary Art**

3 s.h.

**01P:130 Cycling the American Discovery Trail: Iowa Route**

3 s.h.

Bicycle touring on the American Discovery Trail, Iowa Route; gravel route (or paved, depending on weather), 60 miles per day for eight days carrying camping and other gear which students must supply; focus on poetics of adventure, landscape, teamwork; assigned readings, digital portfolio, presentation of stories on UTV; expenses in addition to tuition. Requirements: good physical condition and bicycling experience.

**01P:134 Scene Design I**

3 s.h.

The development of theatre scenery; how to research, conceptualize, and express ideas in sketches, models, simple drafting. Same as 049:134.

**01P:150 Comics, Graphic Novels: Introduction to Sequential Art**

3 s.h.

Overview of contemporary American comic artists, history of comics and graphic novels in the United States; genres and structures in sequential art; students create works that combine design, images, texts, story. Requirements: satisfaction of rhetoric requirement.

**01P:160 Introduction to Letterpress Printing**

3 s.h.

Mechanics of letterpress printing, basic elements of typographic design as applied to letterpress edition printing; hand setting and printing from metal type on Vandercook proof presses; printing text and illustration from photopolymer plates; historical aspects of printing, early development of printing technologies, evolution of letterpress printing through 20th century. Same as 108:160.

**01P:161 Handprinted Book: Design and Production**

3 s.h.

Exploration of problems in hand-printing books--choice of manuscript, editing, design, typesetting, proofreading, printing and binding; histories of printing and of the book, emphasis on 20th- and 21st-century book design and literature. Same as 108:161.

- 01P:162 Digital Book Design** 3 s.h.  
Students plan, design, and produce a book using Adobe Creative Suite; page layout software, typography, page layout and design, book formatting, handling of image files, preparation of materials for print and other contemporary book media; history of book design, book design in contemporary publishing; visit to University of Iowa Libraries Special Collections. Prerequisites: 01D:125 or 108:160. Same as 108:162.
- 01P:163 Digital to Letterpress Book Design** 3 s.h.  
Digital typesetting and book design; chapbook production using photopolymer plates and Vandercook presses; text and content, book typography, practical and aesthetic considerations. Same as 108:163.
- 01P:164 Digital Design for Artists' Books** 3 s.h.  
Introduction to concepts, techniques, and technologies used to design and produce artists' books with personal computers and graphic design software. Same as 108:164.
- 01P:165 Innovative Letterpress** 3 s.h.  
Creation of the visual book using letterpress printing; narrative, serialization, type as graphic, physical structure of the book; traditional letterpress printing, monoprinting, nontraditional letterpress techniques using technology ranging from metal to digital. Same as 108:165.
- 01P:170 Issues in Contemporary Art** 3 s.h.  
Current trends and developments in art and related culture; interdisciplinary approach. Requirements: art major and one introductory art course.
- 01P:180 Digital Portfolios in the Arts** 1-3 s.h.  
Students create a World Wide Web-based digital portfolio featuring their studio work and creative scholarship.
- 01P:185 Grant Writing in the Arts** 3 s.h.  
Same as 024:170.
- 01P:190 Honors in Studio Art** 0-3 s.h.  
Research, preparation, and exhibition of an honors project in studio art.
- 01P:199 Topics in Studio Arts** 3 s.h.
- 01P:299 Graduate Independent Study** arr.  
Individual instruction by a faculty member.

## Papermaking

- 01X:110 Papermaking** 3 s.h.  
History, fundamental techniques of Western and Eastern hand papermaking; projects in traditional sheet forming, basic paper chemistry, paper coloring. Offered spring semesters. Same as 108:110.
- 01X:120 Papermaking History and Technique** 3 s.h.  
Traditional Eastern and Western sheet forming techniques, history, aesthetics; emphasis on fiber selection and preparation. Offered fall semesters. Same as 108:132.
- 01X:130 Paperworks** 3 s.h.  
Conceptual and methodological approaches to 2-D and 3-D paper works; students create a body of works that couple the unique properties of paper-pulp medium with personal visual ideas and clarity of intent; contemporary issues in paper pulp and the medium's relationship to larger art and craft contexts. Same as 108:130.
- 01X:210 Individual Instruction in Papermaking/Paperworks** arr.  
Repeatable. Prerequisites: 01X:120.

## Bookbinding

**01Y:150 Bookbinding I: Materials and Techniques**

3 s.h.

Hands-on introduction to materials and techniques commonly used in bookbinding. Same as 108:150.

**01Y:151 Bookbinding II**

3 s.h.

Build on skills acquired in 108:150; projects to complete six bindings based on historical and contemporary models; sewing styles, board attachments, endband types; nonadhesive and case-bound structures, varied materials and binding styles, their effects on structure, aesthetic considerations, further development of solid binding skills; historical development of particular binding practices. Prerequisites: 108:150. Same as 108:151.

**01Y:152 Bookbinding III**

3 s.h.

Bookbinding structures based on historical and contemporary models; differences in various binding practices, how these differences affect function, why the styles developed; experience choosing appropriate structures for particular uses; emphasis on fine tuning skills and techniques required for advanced binding practices; sewn endbands, rounding and backing, sewing on varied supports, board attachments, and covering methods. Requirements: (for 108:152) 108:150 and 108:151; (for 01Y:152) 01Y:150 or 01Y:151 or 108:150 or 108:151. Same as 108:152.

**01Y:153 Studies in Bookbinding**

3 s.h.

Topics related to hand bookbinding. Same as 108:153.

**01Y:154 Artists' Books**

3 s.h.

Exploration of the book as a form for artistic expression; emphasis on conceptual development; relationship between content, form, and structure; how a book's structure and design can enhance and integrate part of the work's meaning. Prerequisites: 01Y:150 or 108:150. Same as 108:154.

**01Y:156 Boxes and Enclosures**

3 s.h.

Hands-on techniques for a variety of book enclosures; appropriateness, aesthetic issues concerning box design; Japanese wraparound case, drop-spine box, hinged and lidded boxes, slipcase; technical skill development. Prerequisites: 108:150. Same as 108:156.

**01Y:157 Moveable/Sculptural Books**

3 s.h.

Varied formats for moveable and/or sculptural books; history; readings, hands-on model making. Same as 108:157.

**01Y:158 Pop-Up Book Structures**

3 s.h.

Hands-on exploration of varied aspects of paper engineering for bookmaking; historical and modern models studied and executed. Prerequisites: 108:150. Same as 108:158.

**Calligraphy****01Z:142 History of Western Letterforms**

3 s.h.

History of Western letterforms, with focus on tools, materials, techniques; the major hands, their place in history, their influence on modern times; creation of letterforms using appropriate tools; hands-on approach with emphasis on understanding rather than mastery. Same as 108:142.

**01Z:143 Calligraphy: Foundational Hands**

3 s.h.

Fundamental calligraphic skills using Roman majuscule, Humanistic minuscule, Italic; basic layout and color theory incorporated into letter practice. Same as 108:143.

**01Z:144 Calligraphy: Italic and Script Hands**

3 s.h.

Hands-on instruction in italic and pressure pen scripts; historical relationships, effects on modern letterforms. Same as 108:144.

**01Z:146 Studies in Letter Arts**

3 s.h.

Special topics and advanced projects in calligraphy and letter arts. Prerequisites: 108:140 or 108:141 or 108:142 or 108:143. Same as 108:146.

**Art Education for Undergraduate and Graduate Students**

**01E:143 Composing Art Workshops**

3-4 s.h.

Application of studio methods to teaching children in Saturday Children's Art Class Program. Prerequisites: 01E:196. Same as 07E:143.

**01E:190 Undergraduate Individual Instruction**

1-3 s.h.

Individual instruction in art education. Prerequisites: 01A:003 and 01A:004.

**01E:195 Methods and Materials: Art for the Classroom Teacher**

2 s.h.

Projects, techniques, processes in art for elementary majors; combination lecture and studio; painting, drawing, printmaking, sculpture, and crafts with materials and tools commonly available in the elementary schools. Requirements: admission to TEP. Same as 07E:122.

**01E:196 Designing and Teaching Art Workshops**

4 s.h.

Overview; child, adolescent art; relationships with art, education; survey of literature; community art teaching experiences.

**01E:198 Art Education Studio**

3-4 s.h.

Art training related to processes of elementary, secondary school art teaching; studio methods applied to teaching children, adolescents. Prerequisites: 01E:196. Requirements: concurrent enrollment in 07S:090 for Teacher Education Program student.

**01E:215 Visual Art Practice as Research: Portfolio**

4 s.h.

Storytelling with interactive media; strategies for conveying story performance, case studies, and visual conceptualization; portfolio, case study, or story inquiry project. Repeatable.

**01E:290 Individual Instruction in Art Education**

arr.

**01E:367 Seminar: Current Issues in Art Education**

3-4 s.h.

Analysis of literature in art education and related disciplines. Repeatable. Same as 07S:367.

**01E:406 Research in the Arts and Humanities**

arr.

Individual research under supervision; applicable to thesis preparation, doctoral prospectus development. Repeatable. Same as 07S:406.



# Asian and Slavic Languages and Literatures

**Chair:** Marc P. Armstrong

**Professors:** W. South Coblin, Chuanren Ke, Philip Lutgendorf, Margaret H. Mills, Frederick Smith (Religious Studies/Asian and Slavic Languages and Literatures), Russell Valentino

**Professors emeriti:** Vadim Kreyd, Norman Luxenburg, Ray J. Parrott Jr., Helene A. Scriabine

**Associate professors:** Robert W. Leutner, Maureen Robertson (Asian and Slavic Languages and Literatures/Cinema and Comparative Literature), Helen Shen

**Associate professor emeritus:** Christopher A. Wertz

**Assistant professors:** Jennifer Feeley, Ikuko Yuasa

**Assistant professor emerita:** Miriam J. Gelfand

**Lecturers:** Irina Kostina, Kuriko Mizuno, Jitka Sonkova, Xiaoyuan Zhao

**Undergraduate degrees:** B.A. in Asian Languages and Literature, Russian

**Undergraduate nondegree programs:** Minor in Asian Languages, Russian

**Graduate degrees:** M.A. in Asian Civilizations, Russian

**Web site:** <http://www.uiowa.edu/~asll/>

The Department of Asian and Slavic Languages and Literatures offers instruction in languages of Asia and eastern Europe as well as in the literatures, civilizations, and cultures of the regions. In addition to offering undergraduate and graduate degrees, the department welcomes students from across the University to enroll in courses that complement their degree programs or that satisfy personal interests.

## Undergraduate Programs

The department offers a Bachelor of Arts in Asian languages and literature and in Russian, a minor in Asian languages, and a minor in Russian. The B.A. in Asian languages and literature is offered with four tracks: Chinese, Hindi, Japanese, and Sanskrit.

The major in Asian languages and literature is intended for students who wish to concentrate on one of the language and literature programs offered by the department. Students interested in Asian studies may add a second major by pursuing a Bachelor of Arts in international studies with an emphasis in Asian studies; see International Studies in the Catalog.

The major in Asian languages and literature offers students the opportunity to develop advanced skills in an Asian language while they study the people, literatures, and cultures of Asia. Many students find that they can combine an Asian languages and literature major conveniently with a major in international studies, history, political science, art history, religion, sociology, journalism, business, anthropology, or other disciplines.

Graduates have found careers in education, government, communications, business, and other fields in the United States and abroad. The program also provides excellent background for advanced study in a variety of fields in the humanities and social sciences and for professional schools, such as law and business.

The Russian major trains students in both written and spoken Russian and in Russian literature, culture, and civilization. The department encourages students to pursue a second major (e.g., global health, history, linguistics, political science) and to develop their interests in related or complementary fields. Students interested in focusing on a broader interdisciplinary understanding of the region may pursue a second major in International Studies.

Training in Russian is often an important asset to careers in the natural and physical sciences, engineering, medicine, business, journalism, library and information science, and the social and military sciences. It also may be appropriate preparation for study of law or international relations as well as Slavic languages and literatures, comparative literature, and other humanistic disciplines.

Some governmental agencies are interested in job candidates who have advanced training in Russian; these agencies give preference to applicants who combine strong language proficiency with a well-rounded background in area studies. Students who develop an exceptional facility with the Russian language may pursue careers in literary and technical translation and interpretation.

## Bachelor of Arts in Asian Languages and Literature

The Bachelor of Arts in Asian languages and literature requires a minimum of 120 s.h., including 30-34 s.h. of work for the major. Students choose one of four tracks: Chinese, Hindi, Japanese, or Sanskrit. Required credit for the major depends on choice of track; requirements for each track are listed below. Transfer work is accepted to satisfy some requirements of the major, but at least half of the semester hours of advanced work required for the major must be earned at The University of Iowa. Students must complete the College of Liberal Arts and Sciences General Education Program.

### CHINESE TRACK

The Chinese track requires a minimum of 30 s.h. of work for the major. Students must complete the following courses.

#### Chinese Language

Students must successfully complete 039:105 Second-Year Chinese: First Semester and 039:106 Second-Year Chinese: Second Semester (total of 10 s.h.) at The University of Iowa with a grade of C or higher, or the equivalent, before they may enroll in the following required courses.

039:108 Classical Chinese: First Semester	3 s.h.
039:115-039:116 Third-Year Chinese: First Semester - Third-Year Chinese: Second Semester	6 s.h.
039:128-039:129 Fourth-Year Chinese: First Semester - Fourth-Year Chinese: Second Semester	6 s.h.

#### **Advanced Chinese Language**

One of these:

039:165 Fifth-Year Chinese: First Semester	3 s.h.
039:166 Fifth-Year Chinese: Second Semester	3 s.h.
039:171 Readings in Chinese Literature	3 s.h.
039:215 Individual Chinese for Advanced Students	arr.

#### **Chinese Literature and Cinema**

One of these:

039:141 Chinese Literature: Poetry	3 s.h.
039:142 Chinese Literature: Prose	3 s.h.

One of these:

039:173 Transnational Chinese Cinemas	3 s.h.
039:180 Modern Chinese Writers	3 s.h.

#### **Chinese Literature and Culture**

The following courses support the study of literature and culture. Courses that pertain to Chinese culture (the arts, history, literature, politics, religion, and translation) and to the methodology of literary or cultural studies, and are cross-listed with the Department of Asian and Slavic Languages and Literatures or are offered by other departments, may be counted toward this requirement. Course content may vary by semester or instructor; students should consult their advisors for approval.

Two of these:

039:032 Chinese Popular Culture	3 s.h.
039:140 The Literature of Daoism	3 s.h.
039:158 East-West Literary Relations	3 s.h.
039:198 Topics in Asian Studies	arr.
039:213 Advanced Classical Chinese	3 s.h.
039:240 Seminar in Chinese Fiction	3 s.h.
039:241 Seminar in Chinese Literature	arr.

#### **HINDI TRACK**

The Hindi track requires a minimum of 30 s.h. of work for the major. Students must complete the following courses.

039:126-039:127 Second-Year Hindi: First Semester - Second-Year Hindi: Second Semester	8 s.h.
039:184-039:185 Third-Year Hindi: First Semester - Third-Year Hindi: Second Semester (students may substitute 6 s.h. of 100-level courses in South Asian studies, with the approval of their major advisors)	6 s.h.
039:136 Indian Literature	3 s.h.
Additional advanced courses (100-level) in South Asian studies, including 1-3 s.h. of independent study	13 s.h.

A list of advanced courses is available from the department.

Hindi track students are urged to fulfill the General Education Program historical perspectives requirement (3 s.h.) by completing 016:007 Civilizations of Asia: South Asia.

#### **JAPANESE TRACK**

The Japanese track requires a minimum of 34 s.h. of work for the major. Students must complete the following courses.

39J:101-39J:102 Second-Year Japanese: First Semester - Second-Year Japanese: Second Semester	10 s.h.
39J:105-39J:106 Third-Year Japanese: Conversation I-II	6 s.h.
39J:107-39J:108 Third-Year Japanese: Reading and Writing I-II	6 s.h.
Advanced courses in Japanese literature taught by faculty members in the department (e.g. 39J:141, 39J:142, 39J:143)	6 s.h.
Additional advanced courses taught by faculty members in the department	6 s.h.

Lists of advanced courses are available from the department.

#### **SANSKRIT TRACK**

The Sanskrit track requires a minimum of 30 s.h. for the major. Students must complete the following courses.

039:112-039:113 Second-Year Sanskrit: First Semester - Second-Year Sanskrit: Second Semester	6 s.h.
039:186-039:187 Third-Year Sanskrit: First Semester - Third-Year Sanskrit: Second Semester (students may substitute 6 s.h. of advanced courses (100-level) in South Asian studies, with the approval of their major advisors)	6 s.h.
039:136 Indian Literature	3 s.h.
039:163 Indian Religious Texts	3 s.h.
Additional advanced courses (100-level) in South Asian studies, including 1-3 s.h. of independent study	12 s.h.

A list of advanced courses is available from the department.

Sanskrit track students are urged to fulfill the General Education Program historical perspectives requirement (3 s.h.) by completing 016:007 Civilizations of Asia: South Asia.

#### **Bachelor of Arts in Russian**

The Bachelor of Arts in Russian requires a minimum of 120 s.h., including 31 s.h. of work for the major earned in advanced Russian courses. Students must complete the College of Liberal Arts and Sciences General Education Program.

The major in Russian requires the following courses.

One of these:

041:109 Beginning Composition and Conversation I	4 s.h.
041:110 Beginning Composition and Conversation II	4 s.h.

Both of these sequences:

041:111-041:112 Third-Year Russian I-II	8 s.h.
041:113-041:114 Fourth-Year Russian I-II	8 s.h.

Four of these (Russian/East European culture):

041:093 Slavic Folklore	3 s.h.
041:094 Religion and Culture of Slavs	3 s.h.
041:096 Islamic Women in Russia	3 s.h.
041:097 Istria	3 s.h.
041:098 Introduction to Russian Culture	3 s.h.
041:099 Russia Today	3 s.h.
041:102 Russian Literature in Translation 1860-1917	3 s.h.
041:104 Health Care and Health Reforms in Russia	3 s.h.
041:155 Tolstoy and Dostoevsky	3 s.h.

041:156 Invitation to Nabokov	3 s.h.
041:160 Women in Russian Society	3 s.h.
041:164 Topics in Russian, East European, and Eurasian Studies	arr.
041:168 Twentieth-Century Czech Authors	3 s.h.

Students may substitute one of the following Slavic language two-course sequences for one of the four required Russian/East European culture courses (see list above). Availability of Croatian and Polish language courses varies.

041:141-041:142 First-Year Czech I-II	8 s.h.
041:143-041:144 Second-Year Czech I-II	8 s.h.
041:181-041:182 First-Year Croatian I-II	8 s.h.
041:183-041:184 Second-Year Croatian I-II	8 s.h.

Students majoring in Russian are urged to choose elective courses in economics, geography, history, political science, global health, and international studies. Nearly every avenue of professional training and employment requires a solid background in Russian area studies. For example, criteria for U.S. government employment include substantive knowledge in history, economics, political science, sociological disciplines, scientific specialties, demography, military-related skills, and in some cases cultural and religious background. In-depth knowledge of literature or linguistics without other substantive background may be of limited practical use in gaining employment.

## **B.A. with Teacher Licensure**

### **Teacher Licensure in Chinese and Japanese**

Chinese and Japanese majors interested in licensure to teach in elementary and/or secondary schools must successfully complete the requirements for a major, or the equivalent, plus designated pedagogy and linguistics courses in the Department of Asian and Slavic Languages and Literatures. In addition, students must be admitted to the College of Education's foreign language Teacher Education Program. Several courses in the College of Education are required, as is one semester of student teaching, taken in the senior year. Contact the College of Education's Department of Teaching and Learning for more information.

Students who plan to use a Chinese or Japanese minor to teach at the elementary and/or secondary level must contact the College of Education for requirements.

### **Teacher Licensure in Russian**

Russian majors interested in licensure to teach in elementary and/or secondary schools must successfully complete the requirements for a major in Russian and must be admitted to the College of Education's foreign language Teacher Education Program. Several courses in the College of Education are required, as is one semester of student teaching in the senior year. All students in the program have the option of earning a K-12 endorsement to teach Russian along with the bachelor's degree. For information about the foreign languages Teacher Education Program and graduate programs in foreign language education, contact the Department of Teaching and Learning (College of Education).

Students who plan to use a Russian minor to teach at the elementary and/or secondary level must contact the College of Education for requirements.

## **Four-Year Graduation Plan**

### **B.A. in Asian Languages and Literature**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Before the third semester begins:** for students in Chinese and Japanese tracks, language work begun (students in the Hindi and Sanskrit tracks may begin language work in their sophomore year) and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least first-year language competency and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least second-year language competency and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least third-year, first-semester language competency and one additional course in the major (two additional courses in the Japanese track)

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.A. in Russian**

**Before the third semester begins:** competence in first-year Russian and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** competence in second-year Russian and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** competence in third-year Russian, an additional course in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester:** competence in fourth-year Russian and two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## **Honors**

### **Honors in Asian Languages and Literature**

Students who maintain a cumulative University of Iowa g.p.a. of at least 3.33 are encouraged to enroll in the University of Iowa Honors Program. With consent of the department chair and a faculty sponsor (an Asian specialist from any department), students register for 039:191 Honors Tutorial and 039:195 Senior Honors Thesis. To receive a B.A. with honors, students must complete an acceptable thesis based on original research.

### **Honors in Russian**

Russian majors with junior or senior standing, a g.p.a. of at least 3.33 in Russian, and a cumulative University of Iowa g.p.a. of at least 3.33 may enroll in the honors program in Russian. An extensive reading program with discussions, regular reports, and a semester paper constitute each honors work unit of 3 s.h. Students may take up to 9 s.h. of honors in Russian. Contact the University of Iowa Honors Program for more information about honors study at Iowa.

### **Minor in Asian Languages**

The minor in Asian languages requires a minimum of 15 s.h. (or 14 s.h. for the Hindi emphasis), including 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may earn the minor with an emphasis in Chinese, Hindi, Japanese, or Sanskrit. Course work for each emphasis is as follows.

Students with a Chinese emphasis must complete 039:115 Third-Year Chinese: First Semester and 039:116 Third-Year Chinese: Second Semester, 039:128 Fourth-Year Chinese: First Semester and 039:129 Fourth-Year Chinese: Second Semester, and one course chosen from 039:141 Chinese Literature: Poetry, 039:142 Chinese Literature: Prose, 039:173 Transnational Chinese Cinemas, or 039:180 Modern Chinese Writers.

Students with a Hindi emphasis may complete the advanced course requirement with 11 s.h., and the minor with a total of 14 s.h. The courses 039:123 First-Year Hindi: First Semester and 039:124 First-Year Hindi: Second Semester do not count as advanced courses for the minor.

Students with a Japanese emphasis must choose one of the advanced courses from literature, culture, or linguistics courses. A list of courses approved for the minor is available from the department.

Students with a Sanskrit emphasis must complete at least 12 s.h. of advanced courses chosen from 039:111 First-Year Sanskrit: Second Semester, 039:112 Second-Year Sanskrit: First Semester, 039:113 Second-Year Sanskrit: Second Semester, 039:186 Third-Year Sanskrit: First Semester, 039:187 Third-Year Sanskrit: Second Semester, and 039:216 Individual Sanskrit for Advanced Students. They may not count 039:110 First-Year Sanskrit: First Semester as an advanced course for the minor.

### **Minor in Russian**

The minor in Russian requires a minimum of 15 s.h. in Russian, including 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 3 s.h. taught in English toward the minor. The department recommends that students choose 100-level courses for the minor, such as the sequences 041:109 Beginning Composition and Conversation I and 041:110 Beginning Composition and Conversation II, 041:111 Third-Year Russian I and 041:112 Third-Year Russian II, and 041:113 Fourth-Year Russian I and 041:114 Fourth-Year Russian II.

## Courses for Nonmajors

The department offers several opportunities for students who wish to study the languages of Asia, South Asia, and eastern Europe. Language study is available in Chinese, Croatian, Czech, Hindi, Japanese, Korean, Russian, Sanskrit, and Uzbek.

Students who have had experience with Japanese or Russian should take the Japanese or Russian Foreign Language Placement Test, offered during summer orientation programs and at other times during the year by Evaluation and Examination Service. The tests help determine the level at which a student should begin Japanese or Russian language study at The University of Iowa. Students with backgrounds in Chinese, Hindi, Korean, or Sanskrit may receive individual evaluations from the department.

The department also offers survey courses in Russian literature and culture, a monograph course on Tolstoy and Dostoevsky, and courses on women in Russian society, Russia today, and Russian and Slavic civilization and folklore, all taught in English.

## Foreign Language and General Education

The department offers course sequences that students may use to fulfill the foreign language requirement of the General Education Program. Sequences are available in Chinese, Hindi, Japanese, Korean, Russian, and Sanskrit.

### CHINESE

The following sequence fulfills the General Education foreign language requirement and is most appropriate for students who have no background in Chinese.

039:008 First-Year Chinese: First Semester	5 s.h.
039:009 First-Year Chinese: Second Semester	5 s.h.
039:105 Second-Year Chinese: First Semester	5 s.h.
039:106 Second-Year Chinese: Second Semester	5 s.h.

Students who have participated in 165:814 Iowa in Tianjin after completing 039:008 and 039:009, and students from Chinese-speaking families who perform exceptionally well in 039:008 and 039:009, may substitute 039:107 Accelerated Second-Year Chinese: First Semester and 039:114 Accelerated Second-Year Chinese: Second Semester for 039:105 and 039:106 in the sequence above. Students who have taken 039:107 and/or 039:114 should not enroll in 039:105 and/or 039:106.

High school students, part-time University of Iowa students, and full-time UI students who do not plan to satisfy the General Education foreign language requirement with Chinese may wish to take the following sequence of courses (none of these are approved for General Education in foreign language), followed by 039:105 and 039:106.

039:003 Beginning Chinese I	3 s.h.
039:004 Beginning Chinese II	3 s.h.
039:010 Beginning Chinese III	3 s.h.
039:011 Beginning Chinese IV	3 s.h.

Additional course work is available, including advanced Chinese, classical Chinese, and business Chinese.

### HINDI

The following sequence fulfills the General Education foreign language requirement. Additional courses are available.

039:123 First-Year Hindi: First Semester	5 s.h.
039:124 First-Year Hindi: Second Semester	5 s.h.
039:126 Second-Year Hindi: First Semester	4 s.h.
039:127 Second-Year Hindi: Second Semester	4 s.h.

### JAPANESE

The following sequence fulfills the General Education foreign language requirement and is appropriate for students who have not studied Japanese.

39J:010 First-Year Japanese: First Semester	5 s.h.
39J:012 First-Year Japanese: Second Semester	5 s.h.
39J:101 Second-Year Japanese: First Semester	4-5 s.h.
39J:102 Second-Year Japanese: Second Semester	4-5 s.h.

Students with some prior study of Japanese should substitute 39J:011 Elementary Japanese: Review for 39J:010 in the sequence above in order to fulfill the General Education foreign language requirement. Additional course work is available, including classical Japanese.

### **KOREAN**

The following sequence leads to elementary/intermediate proficiency in Korean.

039:040 First-Year Korean: First Semester	4 s.h.
039:041 First-Year Korean: Second Semester	4 s.h.
039:042 Second-Year Korean: First Semester	4 s.h.
039:043 Second-Year Korean: Second Semester	4 s.h.

Students who complete 039:043 may request recognition of their proficiency and may fulfill the General Education foreign language requirement; contact the Department of Asian and Slavic Languages and Literatures.

### **RUSSIAN**

Students with no background in Russian should begin their study with 041:001 First-Year Russian I. The following sequence fulfills the General Education foreign language requirement.

041:001 First-Year Russian I	4 s.h.
041:002 First-Year Russian II	4 s.h.
041:003 Second-Year Russian I	4 s.h.
041:004 Second-Year Russian II	4 s.h.

### **SANSKRIT**

The following sequence fulfills the General Education foreign language requirement. Additional courses are available.

039:110 First-Year Sanskrit: First Semester	4 s.h.
039:111 First-Year Sanskrit: Second Semester	4 s.h.
039:112 Second-Year Sanskrit: First Semester	3 s.h.
039:113 Second-Year Sanskrit: Second Semester	3 s.h.

## **Certificate in International Business**

Students pursuing a B.A. in Asian languages and literature or in Russian may be interested in earning the Certificate in International Business, which is offered jointly by the Henry B. Tippie College of Business and the College of Liberal Arts and Sciences. The certificate offers a wide range of electives, permitting undergraduate students to tailor the program to their individual interests and to complement their majors. The certificate has a foreign language requirement, which students of Chinese, Japanese, Hindi, or Russian are likely to satisfy while completing the requirements for their major. It also includes courses in international business, relations, and institutions as well as area studies courses. For more information, see International Business in the Catalog.

## **Graduate Programs**

The Department of Asian and Slavic Languages and Literatures offers a Master of Arts in Asian civilizations and in Russian. The department is not accepting graduate students in Russian for 2010-11.

The program prepares students for doctoral study in a variety of disciplines. The program is also of interest to students with nonacademic career plans for whom graduate-level work in an Asian language and culture would be useful. Students in professional programs are encouraged to consider working concurrently toward a degree in Asian civilizations. Application materials are available from the department, as is specific information on program tracks (Hindi language and literature; Sanskrit language and literature; South Asian studies; Chinese literature and culture; Chinese linguistics; teaching Chinese as a foreign language; interdisciplinary Chinese studies; teaching Japanese as a foreign language; Japanese studies; and interdisciplinary Japanese studies).

### **Master of Arts in Asian Civilizations**

The Master of Arts in Asian Civilizations requires a minimum of 30 s.h. of graduate credit, including 24 s.h. earned in residence at The University of Iowa. All students must maintain a g.p.a. of 3.00 or higher. Detailed information on degree requirements is sent to all applicants.

By the end of the first semester in residence, students propose a study plan developed in consultation with their advisor and in accordance with guidelines for specializations within the program.

By the end of the final semester in residence, students are expected to demonstrate, either by departmental examination or the successful completion of courses at the appropriate level, advanced competence in Chinese, Japanese, Hindi, or Sanskrit, defined generally as corresponding to the fourth-year level of language course work in Chinese or Japanese and the third-year level in Hindi and Sanskrit.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. The Department of Asian and Slavic Languages and Literatures requires a g.p.a. of at least 3.00 for regular admission and a g.p.a. of at least 2.75 for conditional admission.

Applicants must submit a statement of purpose, a research paper written in English, three letters of recommendation, and GRE General Test scores. Applicants whose first language is not English must score at least 590 (paper-based), 243 (computer-based), or 97 (Internet-based) on the Test of English as a foreign language (TOEFL).

Both international and U.S. graduate applications requesting financial support for the following academic year are due February 1. All other applications are accepted until April 15 for fall admission and October 1 for spring admission.

## **Study Abroad**

The department strongly urges its students to seek opportunities for summer language study and study abroad to accelerate the language acquisition process. The University's memberships in the American Institute of Indian Studies and the China Cooperative Language and Study Programs consortium help facilitate students' access to quality international programs in India and China. The government of the People's Republic of China offers scholarships for two students to live and study in Mainland China each year.

The UI-Nanzan Exchange allows Iowa students to pay Iowa tuition, room, and board while attending the Center for Japanese Studies at Nanzan University in Nagoya, Japan. There also is a cooperative agreement with the Landour Language School in the Himalayan foothills of India. The South Asian Studies Program has launched a new study abroad program in Mysore and Bangalore, India, where students have the opportunity to study a variety of aspects of traditional and modern Indian civilization.

Iowa students participate in summer, semester, or academic year programs in Russian under the auspices of the American Council of Teachers of Russian (ACTR), the association that directs academic language training programs in the cities of Moscow, St. Petersburg, and Vladimir.

Many students participate in summer, semester-long, and year-long study abroad programs in India, China, and Japan offered through other U.S. universities. In many cases credit is transferable, and it is possible for a student to study abroad and still complete the Four-Year Graduation Plan. There are many resources available for funding research and study abroad. It also may be possible for students to apply University of Iowa financial aid to their study abroad programs.

Contact the Department of Asian and Slavic Languages and Literatures or the Office for Study Abroad for more information.

## **Summer Study, Internships**

The department offers an intensive course of language study (second year) each summer in which students complete the equivalent of one academic year of study (equivalent of one course for each of two semesters, totaling 8 s.h.). Scholarships are available for summer intensive Russian.

Students are encouraged to enrich their programs of study through internships designed to combine work experience in Asia or the United States with study or research projects. The University's Pomerantz Career Center keeps a list of internships.

## **Activities**

### **Student Associations**

Students have many opportunities to enrich their studies in Asian languages and literature while living in Iowa City. The University sponsors student associations for students from many Asian countries, including mainland China, Japan, Korea, India, Pakistan, and Taiwan. All University of Iowa students are welcome to join. Various international



community groups sponsor cultural events and holiday celebrations throughout the year.

### **International Crossroads Community**

The International Crossroads Community, located in Hillcrest Residence Hall, welcomes both American and international students who wish to broaden their knowledge of international issues and foreign languages and cultures. Its programs include weekly language dinners with students and faculty, public festivals and celebrations of cultural holidays, educational presentations on topics such as study abroad and international careers, and music and theater performances. The community's Japanese House is a focal point for activities among resident and nonresident students and the Japanese Student Association.

## **Facilities**

### **Language Media Center**

The University's Language Media Center provides facilities for language learning, teaching, and research. Equipment in the center includes state-of-the-art computer, audio, and video facilities as well as standard and short-wave radios, tape and cassette recorders, record players, and soundproof recording rooms. An electronic classroom, a soundproof workroom, and a library of tape, disc, and cassette recordings also are available.

### **University of Iowa Libraries**

Since 1960 the University of Iowa Libraries has routinely acquired most American titles in Asian studies and selected overseas scholarly publications in English and other Western languages. The Main Library's Asian collection includes approximately 80,000 volumes in Asian languages and about 140,000 Western-language volumes on Asian subjects. Since 1975, the University has been a member of the Library of Congress Foreign Currency Exchange Program for Indian books and periodicals. The library's nonprint media collection includes a growing number of Asian feature films. A Chinese-Japanese-Korean computer terminal gives students and faculty access to the growing Research Libraries Information Network database in Asian languages.

## **Financial Support**

Undergraduate and graduate students have access to the following financial aid and scholarship resources. Contact the Department of Asian and Slavic Languages and Literatures for application information.

**Cheng/Liu Scholarship:** Undergraduate and graduate students currently majoring in Chinese in the Department of Asian and Slavic Languages and Literatures at The University of Iowa may apply for the Cheng/Liu Scholarship. The award can be used for summer Chinese language study.

**Fairall Scholarship:** Undergraduate or graduate majors who have attended and/or graduated from Iowa elementary or secondary schools may be nominated by the department to receive a Fairall Scholarship. Preference is given to Japanese studies students. Applications are available late spring, with scholarships to be awarded the following fall semester.

**Foreign language and area studies fellowships:** Only U.S. citizens are eligible. Graduate students combining work in Asian languages at an advanced level with interdisciplinary or professional programs may apply. The award is offered by International Programs for academic year and summer language study.

**Graduate assistantships:** The department offers teaching assistantships for graduate students in the program. All applicants to graduate study in the program receive information on applying for an assistantship. Assistantships are awarded each spring for the following academic year.

**Graduate international research:** Opportunities for funding research abroad include Stanley Fellowships for Graduate Student Research Abroad, CIREH Research Scholarships in International Health, Fulbright Grants, and Foreign Language Area Scholarships.

**Summer language scholarships:** Currently enrolled undergraduate and graduate students may compete for a Stanley-University of Iowa Foundation Support Organization Summer Language Scholarship, to be used for intensive summer language study in Chinese, Hindi, Japanese, or Sanskrit. Eight to ten awards of \$2,000-\$2,500 are made each summer. Applications are due March 1.

**Support for undergraduate study abroad:** Opportunities for undergraduates to study abroad include the Presidential Scholarships for Study Abroad and the Stanley Scholarships for International Research and Study.

## **Asian and Slavic Languages and Literatures Courses**

### **Language for Undergraduate and Graduate Students**

## Chinese

- 039:001 Conversational Chinese I** 1 s.h.  
Introduction to modern Chinese, with focus on communication "survival" skills for discussing oneself, family, daily activities, interests, personal preferences, food, shopping, travel, lodging; situational activities and performance.
- 039:002 Conversational Chinese II** 1 s.h.  
Continuation of 039:001, with focus on speaking and listening.
- 039:003 Beginning Chinese I** 3 s.h.  
Beginning Chinese; offered through UI Confucius Institute; first of a four-course sequence.
- 039:004 Beginning Chinese II** 3 s.h.  
Continuation of 039:003; offered through UI Confucius Institute; second of a four-course sequence. Prerequisites: 039:003.
- 039:008 First-Year Chinese: First Semester** 5 s.h.  
Sound system of Mandarin Chinese, basic sentence patterns; aural understanding, speaking, reading, writing. Offered fall semesters. Requirements: undergraduate standing. GE: Foreign Language First Level Proficiency.
- 039:009 First-Year Chinese: Second Semester** 5 s.h.  
Continuation of 039:008. Offered spring semesters. Prerequisites: 039:008. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency.
- 039:010 Beginning Chinese III** 3 s.h.  
Continuation of 039:004; offered through UI Confucius Institute; third of a four-course sequence. Prerequisites: 039:004.
- 039:011 Beginning Chinese IV** 3 s.h.  
Continuation of 039:010; offered through UI Confucius Institute; last of a four-course sequence. Prerequisites: 039:010.
- 039:105 Second-Year Chinese: First Semester** 5 s.h.  
Continuation of 039:009. Offered fall semesters. Prerequisites: 039:009. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency.
- 039:106 Second-Year Chinese: Second Semester** 5 s.h.  
Continuation of 039:105. Offered spring semesters. Prerequisites: 039:105. Requirements: undergraduate standing. GE: Foreign Language Fourth Level Proficiency.
- 039:107 Accelerated Second-Year Chinese: First Semester** 3 s.h.  
Intermediate Chinese. Requirements: grades of C or higher in 039:008 and 039:009, and one summer of Chinese study in China. GE: Foreign Language First Level Proficiency.
- 039:108 Classical Chinese: First Semester** 3 s.h.  
Late Zhou period; readings from *Zhanguoce*, *Mengzi*, *Zhuangzi*; focus on grammatical analysis, exact translation. Offered fall semesters. Prerequisites: 039:106.
- 039:109 Classical Chinese: Second Semester** 3 s.h.  
Continuation of 039:108. Offered spring semesters. Prerequisites: 039:108.
- 039:114 Accelerated Second-Year Chinese: Second Semester** 3 s.h.  
Intermediate Chinese. Requirements: grade of C or higher in 039:107. GE: Foreign Language Fourth Level Proficiency.
- 039:115 Third-Year Chinese: First Semester** 3 s.h.  
Reading of advanced modern Chinese texts; speaking, writing. Offered fall semesters. Prerequisites: 039:106.
- 039:116 Third-Year Chinese: Second Semester** 3 s.h.  
Continuation of 039:115. Offered spring semesters. Prerequisites: 039:115.

- 039:117 Business Chinese I** 3 s.h.  
Skill development in communicating with Chinese counterparts on a number of domains in business translations; first of a two-course sequence. Prerequisites: 039:106.
- 039:118 Business Chinese II** 3 s.h.  
Skill development in communicating with Chinese counterparts on a number of domains in business translations; second of a two-course sequence. Prerequisites: 039:117.
- 039:128 Fourth-Year Chinese: First Semester** 3 s.h.  
Proficiency through oral and written discussions of modern texts. Offered fall semesters. Prerequisites: 039:116.
- 039:129 Fourth-Year Chinese: Second Semester** 3 s.h.  
Offered spring semesters. Prerequisites: 039:128.
- 039:165 Fifth-Year Chinese: First Semester** 3 s.h.  
Improvement of language skills in modern Chinese: listening, speaking, reading, writing; skill development in reading authentic texts related to topics of student interest. Prerequisites: 039:129.
- 039:166 Fifth-Year Chinese: Second Semester** 3 s.h.  
Continuation of 039:165. Prerequisites: 039:165.
- 039:171 Readings in Chinese Literature** 3 s.h.  
Readings for advanced modern Chinese learners to elevate reading and writing abilities; essays, fiction, poetry by contemporary Chinese writers. Taught in Chinese.
- 039:213 Advanced Classical Chinese** 3 s.h.  
Readings from *Zuozhuan*, *Guoyu*, other texts of early classical period. Prerequisites: 039:109.
- 039:220 Literary Chinese I** 3 s.h.  
Readings from literary and historical texts of Han and Wei-Jin periods. Prerequisites: 039:109.

## Croatian

- 041:181 First-Year Croatian I** arr.  
Basic language skills--listening, reading, speaking, and writing Croatian; fundamentals of grammar; emphasis on student participation; first of a two-semester sequence.
- 041:182 First-Year Croatian II** arr.  
Continuation of 041:181. Prerequisites: 041:181.
- 041:183 Second-Year Croatian I** 4 s.h.  
Continuation of 041:182; proficiency in vocabulary and grammatical foundations of understanding, speaking, reading, and writing Croatian (Bosnian, Serbian). Prerequisites: 041:182.
- 041:184 Second-Year Croatian II** 4 s.h.  
Continuation of 041:183; basic grammatical forms; practice listening, speaking, and writing Croatian (Bosnian, Serbian). Prerequisites: 041:183.

## Czech

- 041:141 First-Year Czech I** 4 s.h.  
Basic language skills--listening, reading, speaking, and writing Czech; fundamentals of grammar; emphasis on student participation; first of a four-semester sequence.
- 041:142 First-Year Czech II** 4 s.h.

Continuation of 041:141; second of a four-semester sequence. Prerequisites: 041:141.

**041:143 Second-Year Czech I** 4 s.h.

Proficiency building in vocabulary and grammatical foundations of elementary Czech; use and recognition of oral, aural, written, and reading language skills; third of a four-semester sequence. Prerequisite: 041:142.

**041:144 Second-Year Czech II** 4 s.h.

Continuation of 041:143; last of a four-semester sequence. Prerequisites: 041:143.

**041:145 Third-Year Czech I** 4 s.h.

Advance knowledge of Czech grammar, as well as reading, comprehension, conversation, and writing skills; varied techniques and activities for proficiency in Czech; conversation in small groups, present oral reports, written compositions, group projects; read and discuss articles from the press and contemporary Czech short stories; videotapes and DVDs of contemporary Czech cultural scene. Prerequisites: 041:144.

**041:146 Third-Year Czech II** 4 s.h.

## Hindi

**039:123 First-Year Hindi: First Semester** 5 s.h.

Reading, writing, speaking. Offered fall semesters of odd years. GE: Foreign Language First Level Proficiency.

**039:124 First-Year Hindi: Second Semester** 5 s.h.

Continuation of 039:123. Offered spring semesters of even years. Prerequisites: 039:123. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency.

**039:126 Second-Year Hindi: First Semester** 4 s.h.

Conversation, reading of folktales and modern short stories. Offered fall semesters of even years. Prerequisites: 039:124. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency.

**039:127 Second-Year Hindi: Second Semester** 4 s.h.

Continuation of 039:126. Offered spring semesters of odd years. Prerequisites: 039:126. Requirements: undergraduate standing. GE: Foreign Language Fourth Level Proficiency.

**039:184 Third-Year Hindi: First Semester** 3 s.h.

Advanced level Hindi texts; speaking, writing. Offered fall semesters. Prerequisites: 039:127.

**039:185 Third-Year Hindi: Second Semester** 3 s.h.

Continuation of 039:184. Offered spring semesters. Prerequisite: 039:185.

## Japanese

**39J:010 First-Year Japanese: First Semester** 5 s.h.

Modern Japanese. Offered fall semesters. Prerequisite: undergraduate standing. GE: Foreign Language First Level Proficiency.

**39J:011 Elementary Japanese: Review** 3 s.h.

Review of material presented in 39J:010. Requirements: Japanese language study, and first-year or new transfer standing. GE: Foreign Language First Level Proficiency.

**39J:012 First-Year Japanese: Second Semester** 5 s.h.

Continuation of 39J:010 or 39J:011. Offered spring semesters. Prerequisites: 39J:010. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency.

**39J:101 Second-Year Japanese: First Semester** 4-5 s.h.

Continuation of 39J:012. Offered fall semesters. Prerequisites: 39J:012. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency.

**39J:102 Second-Year Japanese: Second Semester** 4-5 s.h.

Continuation of 39J:101. Offered spring semesters. Prerequisites: 39J:101. Requirements: undergraduate standing. GE: Foreign Language Fourth Level Proficiency.

**39J:105 Third-Year Japanese: Conversation I** 3 s.h.

Modern Japanese; focus on speaking, listening. Offered fall semesters. Prerequisites: 39J:102. Recommendations: concurrent enrollment in 39J:107.

**39J:106 Third-Year Japanese: Conversation II** 3 s.h.

Continuation of 39J:105. Offered spring semesters. Prerequisites: 39J:105. Recommendations: concurrent enrollment in 39J:108.

**39J:107 Third-Year Japanese: Reading and Writing I** 3 s.h.

Modern Japanese; focus on reading, writing. Offered fall semesters. Prerequisites: 39J:102. Recommendations: concurrent enrollment in 39J:105.

**39J:108 Third-Year Japanese: Reading and Writing II** 3 s.h.

Continuation of 39J:107. Offered spring semesters. Prerequisites: 39J:107. Recommendations: concurrent enrollment in 39J:106.

**39J:119 Classical Japanese: First Semester** 3 s.h.

Grammar, readings in classical Japanese. Offered fall semesters. Prerequisites: 39J:106.

**39J:121 Fourth-Year Japanese: First Semester** 3 s.h.

Modern Japanese; emphasis on communication skills. Offered fall semesters. Prerequisites: 39J:106 and 39J:108.

**39J:122 Fourth-Year Japanese: Second Semester** 3 s.h.

Continuation of 39J:121. Offered spring semesters. Prerequisites: 39J:121.

**39J:131 Fifth-Year Japanese: First Semester** 3 s.h.

Improvement of Japanese for academic and professional purposes. Offered fall semesters. Prerequisites: 39J:121.

**39J:132 Fifth-Year Japanese: Second Semester** 3 s.h.

Continuation of 39J:131. Offered spring semesters.

## Korean

**039:040 First-Year Korean: First Semester** 4 s.h.

Modern Korean; speaking, listening, reading, writing. Offered fall semesters.

**039:041 First-Year Korean: Second Semester** 4 s.h.

Continuation of 039:040. Offered spring semesters. Prerequisites: 039:040.

**039:042 Second-Year Korean: First Semester** 4 s.h.

Continuation of 039:041; conversation and readings in intermediate Korean language; Korean culture. Prerequisites: 039:041.

**039:043 Second-Year Korean: Second Semester** 4 s.h.

Continuation of 039:042. Prerequisites: 039:042.

**039:150 Third-Year Korean: First Semester** 3 s.h.

Continuation of 039:043; advanced intermediate Korean--conversation and grammar skills beyond basic intermediate level; vocabulary expansion with increasingly complex, abstract concepts; how to advance one's opinion and discuss thoughts, ideas. Prerequisites: 039:043.

**039:151 Third-Year Korean: Second Semester**

3 s.h.

Continuation of 039:150; conversation and grammar skills beyond basic intermediate level; writing skills for formal occasions; advanced discussion skills--how to advance one's opinion and share thoughts and ideas; traditional and modern Korean culture. Prerequisites: 039:150.

**Russian****041:001 First-Year Russian I**

4 s.h.

Basic language skills of listening, speaking, reading, and writing Russian; fundamentals of Russian grammar. GE: Foreign Language First Level Proficiency.

**041:002 First-Year Russian II**

4 s.h.

Continuation of 041:001. Prerequisites: 041:001. GE: Foreign Language Second Level Proficiency.

**041:003 Second-Year Russian I**

4 s.h.

Transition to upper-level study through oral practice, grammar exercises, tapes, videos, readings from the Russian press. Prerequisites: 041:002. GE: Foreign Language Second Level Proficiency.

**041:004 Second-Year Russian II**

4 s.h.

Continuation of 041:003. Prerequisites: 041:003. GE: Foreign Language Fourth Level Proficiency.

**041:005 Conversational Russian I**

3 s.h.

Basic elements of Russian for travel and business; for adult learners.

**041:006 Conversational Russian II**

3 s.h.

Continuation of 041:005; basic elements of Russian for travel or business; for adult learners.

**041:109 Beginning Composition and Conversation I**

4 s.h.

Russian oral and aural skills developed through idiomatic usage, stylistics, phonetics, intonation, grammar review; supplemented by short stories, newspaper texts. Taught in Russian. Prerequisites: 041:004.

**041:110 Beginning Composition and Conversation II**

4 s.h.

Russian oral and aural skills developed through idiomatic usage, stylistics, phonetics, intonation, grammar review; supplemented by short stories, conversation handbooks, current periodicals. Taught in Russian. Prerequisites: 041:004.

**041:111 Third-Year Russian I**

4 s.h.

Advanced Russian grammar, reading, conversation, and written skills through oral reports, compositions, conversation. Prerequisites: 041:004.

**041:112 Third-Year Russian II**

4 s.h.

Advanced Russian grammar, reading, conversation, and written skills through oral reports, compositions, conversation. Prerequisites: 041:111.

**041:113 Fourth-Year Russian I**

4 s.h.

Perfecting spoken Russian and aural comprehension of native speech. Taught in Russian. Requirements: 041:112 or three years of college-level Russian.

**041:114 Fourth-Year Russian II**

4 s.h.

Perfecting spoken Russian and aural comprehension of native speech. Taught in Russian. Requirements: 041:113 or three years of college-level Russian.

**041:119 Russian for Heritage Learners**

3 s.h.

Linguistic problems (grammar and vocabulary), communicative problems (understanding of written and oral advanced Russian speech), cultural problems (similarities and differences between cultures); for Russian heritage speakers.

**041:120 Russian for Heritage Learners II**

3 s.h.

Continuation of 041:119.

## Sanskrit

- 039:110 First-Year Sanskrit: First Semester** 4 s.h.  
Grammar, basic vocabulary; elementary readings. Offered fall semesters of even years. Requirements: undergraduate standing. GE: Foreign Language First Level Proficiency. Same as 20E:110.
- 039:111 First-Year Sanskrit: Second Semester** 4 s.h.  
Readings in epic and story literature. Offered spring semesters of odd years. Prerequisites: 039:110. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency. Same as 20E:111.
- 039:112 Second-Year Sanskrit: First Semester** 3 s.h.  
Readings in epic and puranic texts. Offered fall semesters of odd years. Prerequisites: 039:111. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency. Same as 20E:121.
- 039:113 Second-Year Sanskrit: Second Semester** 3 s.h.  
The *Bhagavadgita* and related religious/philosophical texts. Offered spring semesters of even years. Prerequisites: 039:112. Requirements: undergraduate standing. GE: Foreign Language Fourth Level Proficiency. Same as 20E:122.
- 039:186 Third-Year Sanskrit: First Semester** 3 s.h.  
Readings in philosophical and literary Sanskrit. Offered fall semesters. Prerequisites: 039:113.
- 039:187 Third-Year Sanskrit: Second Semester** 3 s.h.  
Continuation of 039:186. Offered spring semesters. Prerequisites: 039:186.

## Uzbek

- 041:171 First-Year Uzbek I** 3-4 s.h.  
Reading, listening, speaking, and writing Uzbek.
- 041:172 First-Year Uzbek II** 3-4 s.h.  
Continuation of 041:171. Prerequisites: 041:171.
- 041:173 Second-Year Uzbek I** 4 s.h.  
Continuation of 041:172. Prerequisites: 041:172.
- 041:174 Second-Year Uzbek II** 4 s.h.  
Continuation of 041:173. Prerequisites: 041:173.

## For Undergraduates

### Asian Culture and Civilization

- 039:006 Introduction to Buddhism** 3 s.h.  
Basic tenets, religious paradigms, historical phases important in the development of Buddhism; from the Buddha's life to evolution of Mahāyāna Buddhism; readings from India, Tibet, China, Japan, Korea, Southeast Asia. GE: Foreign Civilization & Culture, Humanities. Same as 032:006.
- 039:007 Chinese Religions** 3 s.h.  
Survey of Chinese religions; Chinese traditional religious beliefs and practices among the elite and the general population; recent developments in mainland China, Taiwan, and the West; religious ideas of Confucianism, Daoism, aspects of Buddhism, ancestor worship, cults of deities, practices such as spirit possession, faith healing, ghost marriages. Same as 032:010.

**039:015 Introduction to Chinese Culture**

3 s.h.

Key aspects of traditional and modern Chinese culture as insights into the Chinese experience and worldview; development of the Chinese language and writing system, calligraphy and brush painting, cultural geography, urban life, martial arts, mainstream popular culture, music, cuisine.

**039:016 Asian Art and Culture**

3 s.h.

Art from India, China, and Japan in many media and forms, in their cultural and historical contexts; cultural distinctions of these Asian civilizations as seen through the visual arts; chronology used to highlight historical processes and provide perspectives on continuity and change. GE: Fine Arts, Foreign Civilization & Culture, Historical Perspectives. Same as 01H:016.

**039:018 Asian Humanities: India**

3 s.h.

Introduction to four thousand years of South Asian civilization, through popular stories. GE: Foreign Civilization & Culture, Humanities. Same as 032:008.

**039:019 Asian Humanities: China**

3 s.h.

Literary and philosophical texts of China in English translation. GE: Foreign Civilization & Culture, Humanities. Same as 032:009.

**039:020 Asian Humanities: Japan**

3 s.h.

Introduction to premodern, modern, and contemporary Japanese images, myths, and literature in English translation. GE: Foreign Civilization & Culture, Humanities.

**039:028 Introduction to the Art of China**

3 s.h.

Visual arts of China and their history; emphasis on understanding in context of Chinese civilization, history. Same as 01H:031.

**039:029 First-Year Seminar**

1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**039:032 Chinese Popular Culture**

3 s.h.

Introduction to popular culture from the People's Republic of China, Taiwan, Hong Kong, and the Chinese diaspora; shifting relationships among cultural production, media and technology, and political thought; influences of Japan, Korea, and the West; materials drawn from film, television shows, music, new media, popular literature, comics, magazines, advertising, fashion, art, and material culture; no previous knowledge of Chinese is required.

**039:034 The Languages of Asia in Cultural and Historical Perspective**

3 s.h.

Chinese, Japanese, Korean, Sanskrit and Hindi; cultural and ethnic factors which have affected and are affected by each language; nontechnical introduction to the structure of the language, discussion of the script in which the language is written, and the history of the language, including a brief outline of the political and cultural history of each pertinent linguistic area and the ways linguistic history has been affected by these factors.

**039:036 Understanding Korean Culture Wave**

3 s.h.

Introduction to the Korean culture wave and characteristics of contemporary Korean popular culture; lectures with discussions of readings, various audio-visual references (i.e., films, television dramas, music videos, cartoon, Internet contents, etc.).

**039:055 Civilizations of Asia: China**

3 s.h.

GE: Foreign Civilization & Culture, Historical Perspectives. Same as 016:005.

**039:056 Civilizations of Asia: Japan**

3-4 s.h.

GE: Foreign Civilization & Culture, Historical Perspectives. Same as 016:006.

**039:057 Civilizations of Asia: South Asia**

3-4 s.h.

GE: Foreign Civilization & Culture, Historical Perspectives. Same as 016:007.

**039:064 Living Religions of the East**

3 s.h.

Religious beliefs, practices in India, China, Japan. GE: Foreign Civilization & Culture, Historical Perspectives. Same as 032:004.



**039:075 Asian Religious Classics**

3 s.h.

Works of South and East Asia; may include *Bhagavad Gita*, *Life of Milarepa*, *Mencius*, *Great Learning*, *Chuang-tzu*, *Lotus Sutra*, *Platform Sutra*, selected Korean and Japanese works. Same as 032:075.

**039:191 Honors Tutorial**

arr.

**039:195 Senior Honors Thesis**

arr.

**Japanese Culture and Civilization****39J:017 Japanese Religions**

3 s.h.

Religions of Japan from ancient times to the present day; elite and popular Japanese interpretations of Chinese Buddhist and Daoist traditions; the parallel development of an indigenous kami tradition; contemporary new religious movements; focus on the codification of a variety of religious (and sometimes quasi-religious) paths, including the way of tea, the way of the brush, and the way of the samurai. Same as 032:017.

**39J:033 Introduction to the Art of Japan**

3 s.h.

Chronological survey of Japan's visual arts in their historical and cultural contexts from Neolithic age to present; extensive use of slides, films, other visual materials. Same as 01H:033.

**Slavic Culture and Civilization****041:029 First-Year Seminar**

1 s.h.

Cultural, literary, architectural, and historical beauty of Prague, the capital of the Czech Republic. Requirements: first- or second-semester standing.

**041:058 Diversities of Eastern Europe: Culture, Art, and Politics**

3 s.h.

Exploration of major cultural and social changes in Central Europe since the 1950s; very similar, yet different experiences of four nations with a communist takeover, including crushed attempts to reform and humanize socialism and their final reach for freedom and democracy in 1989; current cultural and social situations of each country as they took advantage of newly available opportunities.

**041:082 Youth Subcultures After Socialism**

3 s.h.

Examination of youth subculture (i.e., distinct style and identity, beliefs, value system, fashion and favorite music) on the territory of post-communist Europe and its relations with the mainstream culture; how young people of Russia and the Czech Republic express their individuality after years of dullness and monotony.

**041:086 Russian Media Today**

3 s.h.

Contemporary conditions of the Russian mass media; tensions of the effective work of mass media under the pressure of state control and tendencies in the progress of independent media outlets; developments in Russian media since 1991, including the printed press, radio, television and new media (i.e., Internet and the like); the impact of the Putin presidency on the media and their role in securing his election victories in 2000 and 2004.

**041:093 Slavic Folklore**

3 s.h.

Introduction to culture, history, and art of eastern European peoples; pagan, dualistic, and animistic beliefs and their coexistence with Christian faith in eastern Europe. GE: Foreign Civilization & Culture, Humanities.

**041:094 Religion and Culture of Slavs**

3 s.h.

Early and medieval Slavic history, with focus on Russian and Czech art, literature, and religion from 10th through 17th century. GE: Foreign Civilization & Culture, Historical Perspectives.

**041:095 Istria in Istria, Past and Present**

3 s.h.

The Istrian laboratory as a locale for students of European history and development to reflect on the Europeanization of regional and border territories.

**041:096 Islamic Women in Russia**

3 s.h.

Lives of Islamic women in Dagestan, Russia, throughout late Soviet period and during post-1991 Islamic revolution; dramatic transitions and reversals of women's roles.

**041:097 Istria** 3 s.h.

Istria; focus on its historically mixed ethnic, linguistic, cultural, and political status.

**041:098 Introduction to Russian Culture** 3 s.h.

Development of cultural history in Russia from middle ages to present; painting, music architecture, literature viewed against their political, historical, and social settings. Taught in English. GE: Foreign Civilization & Culture.

**041:099 Russia Today** 3 s.h.

Contemporary Russia, with focus on prevailing social, political, economic, ethnic, environmental conditions; attention to historical evolution of problems, current factors; what these factors might portend for the future. Taught in English. GE: Foreign Civilization & Culture.

**041:199 Honors** arr.

## For Undergraduate and Graduate Students

### Asian Culture and Civilization

**039:119 Popular Culture in South Asia** 3 s.h.

Popular cultural forms (films, calendar art, music, comics, advertising) and their role in formation and expression of collective identities based on gender, ethnicity, caste, religion, and so forth in South Asia. Same as 113:120.

**039:120 Chinese Painting I** 3 s.h.

Early Chinese painting from fourth century B.C.E. through 14th century C.E.; figural style, religious art, emergence of landscape, other nonreligious subjects, interconnectedness of painting and calligraphy as fine arts. Prerequisites: 01H:016 or 01H:031. Same as 01H:120.

**039:122 Language/Politics of Culture in South Asia** 3 s.h.

Key moments in the sociolinguistic history of premodern, colonial, and postcolonial linguistic communities in South Asia; roles of language in mediation of cultural and political processes. Same as 113:129.

**039:131 Themes in Asian Art History** 3 s.h.

Prerequisites: 01H:016 or 039:016. Same as 01H:124.

**039:136 Indian Literature** 3 s.h.

Readings from medieval and modern periods in English translation. Same as 032:177.

**039:139 Chinese Historical Phonology** 3 s.h.

Phonology of Mandarin, other major Chinese dialect groups; reconstruction of the sound system of Middle and Old Chinese. Same as 103:139.

**039:140 The Literature of Daoism** 3 s.h.

Texts of philosophical, religious Daoism; Daoism in traditional Chinese political theory, literature, the arts, alchemy and medicine, sexual custom, combat. Taught in English. Same as 032:186.

**039:141 Chinese Literature: Poetry** 3 s.h.

Readings in classical and modern Chinese poetry in English translation. Same as 048:141.

**039:142 Chinese Literature: Prose** 3 s.h.

Readings in Chinese prose, primarily fiction, from third century B.C. to 1900 A.D., in English translation.

**039:144 Introduction to Chinese Linguistics** 3 s.h.

Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as 103:144, 164:181.

- 039:145 Topics in Asian Cinema** 3 s.h.  
Issues or topics in East or South Asian cinemas. English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:127, 048:106.
- 039:156 The Karma of Words** 3 s.h.  
Key issues in the relationship between Buddhism and the literary arts. Same as 032:156.
- 039:158 East-West Literary Relations** 3 s.h.  
Same as 048:158.
- 039:159 Chinese Art and Culture** 3 s.h.  
Archaeological discoveries, sculpture, painting, architecture, calligraphy, other arts of Greater China area in historical and cultural contexts of past 5,000 years. Prerequisites: 01H:006 or 01H:031. Same as 01H:119.
- 039:161 Insurgency and Globalization of Discontent** 3 s.h.  
Political theories of revolutionary African American and Japanese intellectuals, artists, and activists; how the theories have influenced social justice movements. Same as 129:161.
- 039:162 Turning East** 3 s.h.  
The global nature of pilgrimage, primarily religious travel in or to Asia; journeys to single sacred sites, travel circuits to multiple destinations, internal or metaphorical pilgrimages. Same as 032:163.
- 039:163 Indian Religious Texts** 3 s.h.  
Same as 032:171.
- 039:168 Topics in Asian Religions** 3 s.h.  
Same as 032:170.
- 039:170 Zen Buddhism** 3 s.h.  
Prerequisites: 032:004 or 032:006 or 032:010. Same as 032:188.
- 039:172 Comparative Ritual** 3 s.h.  
Practice and theory; rituals from religions, including Hinduism, Buddhism, Christianity, Indian religions; theories of interpretation. Same as 032:172.
- 039:173 Transnational Chinese Cinemas** 3 s.h.  
Films from Mainland China, Hong Kong, Taiwan, and Chinese diasporic communities, silent era to present; relationship of film to nation-state, cultural interflows, media technologies, ideologies. English subtitles. Same as 048:174.
- 039:175 Topics in Asian History** 3 s.h.  
Same as 16W:178.
- 039:177 Second Language Classroom Learning** 3 s.h.  
Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as 07S:183, 164:171.
- 039:178 Government and Politics of the Far East** 3 s.h.  
Functions, institutions of government in countries of Far East; focus on social, economic, historical environments. GE: Foreign Civilization & Culture. Same as 030:143.
- 039:180 Modern Chinese Writers** 3 s.h.  
Readings in modern and contemporary Chinese fiction; in English translation. Same as 048:183.
- 039:188 East Meets West: The Western Reception of Eastern Religion** 3 s.h.  
Introduction of religious ideas and forms from India, China, and Japan into Europe and America to late 20th century, from Greeks to New Age. Same as 032:178.
- 039:192 East Meets West: A Cross-Cultural Course** 3 s.h.

Perceptions in the modern period based on analyses of films, literary and philosophical texts from East and West. Same as 048:192.

**039:196 China Since 1927**

3 s.h.

Communist revolution from 1920s to founding of People's Republic of China in 1949; Mao Zedong's radical policies, Cultural Revolution; Deng Xiaoping's economic reforms; China today. GE: Foreign Civilization & Culture. Same as 16W:198.

**039:198 Topics in Asian Studies**

arr.

Topics vary.

**039:199 Asian Studies**

arr.

**Japanese Culture and Civilization**

**39J:103 Language in Japanese Society**

3 s.h.

Aspects of the Japanese language that reflect culture, social structures of Japan; communication styles and strategies, cross-cultural communication, language in media, metaphors.

**39J:109 Japanese Religion and Thought**

3 s.h.

Same as 032:116.

**39J:123 Japanese Painting**

3 s.h.

Japanese painting in its historical, cultural contexts; focus on developments of successive eras--religious art; narrative, other literary connections; Zen; decorative traditions; popular arts; Japan and the modern world. Same as 01H:123.

**39J:125 Japanese Society and Culture**

3 s.h.

Cultural anthropology of Japan, including historical tradition, religious ethos, social organization, human ecology, educational and political institutions; emphasis on how these aspects relate to and influence one another. GE: Foreign Civilization & Culture. Same as 113:125.

**39J:129 Japan: Culture and Communication**

3 s.h.

**39J:130 Workshop in Japanese Literary Translation**

3 s.h.

Workshop in translation from Japanese to English, with emphasis on literary translation; issues in theory and practice of translation; special features of Japanese as a source language for translation. Prerequisites: 39J:012.

**39J:135 Postmodern Aesthetics and Japanese Culture**

3 s.h.

Japanese postmodern trends (from Zen Buddhism to the habits of contemporary otaku consumers); examination of aesthetics including works of literature, film, visual art, and electronic media.

**39J:141 Traditional Japanese Literature in Translation**

3 s.h.

From seventh century to early modern times. Same as 048:143.

**39J:142 Modern Japanese Fiction in Translation**

3 s.h.

Nineteenth century to present. Same as 048:142.

**39J:143 Topics in Japanese Literature in Translation**

3 s.h.

Topics vary.

**39J:144 Major Authors in Modern Japanese Literature**

3 s.h.

Modern Japanese literary works in English translation.

**39J:145 The Tale of Genji**

3 s.h.

Close reading in English of Murasaki Shikibu's *Tale of Genji*; tale's literary and social contexts, and later reception. Same as 048:144.

**39J:146 Warriors Dreams**

3 s.h.

Images of the warrior in traditional Japanese literature, from poetry of the eighth century to romances of the 19th century; readings in English. Same as 048:147.

**39J:155 Contemporary Japanese Culture** 3 s.h.

Cultural texts and practices in contemporary Japan: literature, film, television, manga.

**39J:156 Japanese Art and Culture** 3 s.h.

Art of Japan in historical, religious, cultural contexts; what is specifically Japanese about Japanese arts and culture; non-Japanese influences, contributions. Prerequisites: 01H:006 or 01H:033. Same as 01H:122.

**39J:172 Japan--Age of the Samurai** 3 s.h.

Society, culture, and politics of feudal Japan; social class, gender, norms, and political and economic developments explored through cinema and literature. Same as 16W:172.

**39J:173 Modern Japan** 3 s.h.

Political, social, and cultural developments of Japanese feudalism; feature films, fiction. Same as 16W:173.

**39J:175 Japan--U.S. Relations** 3 s.h.

Political, social, economic, and cultural developments in Japan mid-19th to late-20th century. Same as 16W:175.

**Slavic Culture and Civilization**

**041:102 Russian Literature in Translation 1860-1917** 3 s.h.

Survey of major works, figures, and trends of 19th- and 20th-century Russian literature; age of the Russian novel; development of short fiction, drama, poetry of the Silver Age. Same as 048:107.

**041:104 Health Care and Health Reforms in Russia** 3 s.h.

Societal changes and their continuing effect on the Russian health care system since 1991; guest lectures from public health, nursing, medicine, cultural anthropology. Same as 152:170.

**041:108 Special Readings** arr.

Russian-language materials determined by student and instructor. Requirements: 16 s.h. of Russian language instruction.

**041:126 Cult Films of the Last Soviet Generation** 3 s.h.

Same as 048:126.

**041:134 Forbidden Masterpieces: Russian and Czech Authors Who Changed History** 3 s.h.

Examination of 20th-century literature written by authors fighting for the freedom of their nations, often suppressed, banned, imprisoned, or even stripped of their citizenship by the totalitarian communist governments; film screenings; works and films that made serious political statements, often at great risk to the artists involved, that influenced political changes. Taught in English.

**041:155 Tolstoy and Dostoevsky** 3-4 s.h.

Tolstoy's *War and Peace*, *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Brothers Karamazov*, and short stories. Taught in English. Same as 008:155.

**041:156 Invitation to Nabokov** 3 s.h.

Nabokov's works and his writings on Russian literature. Same as 008:156, 048:156.

**041:160 Women in Russian Society** 3 s.h.

Historical developments that have shaped women's roles in contemporary Russian society; readings in cultural history, political science, autobiographical and fictional literature, contemporary film. Taught in English.

**041:164 Topics in Russian, East European, and Eurasian Studies** arr.

Same as 048:164.

**041:165 West and East: Women in the Slavic World** 3 s.h.

Roles of women in two Slavic countries--Islamic Republic of Dagestan in Russia, and the Czech Republic--using approaches from the social sciences and humanities; Christian/Catholic traditions in the western Slavic country (i.e., Czechoslovakia/Czech Republic) and Islamic influences in eastern parts of Russia; analysis of women's egalitarian roles in socialist societies of 1980s, the impact of the major political, economic, and social transitions on women's lives in 1990s.

**041:168 Twentieth-Century Czech Authors** 3 s.h.

Twentieth-century prose literature of Czechoslovakia; philosophical works of Capek, Hrabal, Kundera, Klima, Havel. Taught in English. Same as 048:154.

**041:180 Literature and Translation** 3 s.h.

Translation in the broadest sense; originality, authority, authorship, accuracy, ownership, audience; issues problematizing differences between medium and message. Same as 048:180, 160:180.

**041:189 Russian Thinkers** 3 s.h.

Same as 026:184, 048:189.

**041:190 Readings in Russian Literature** 3 s.h.

Readings of poetry and prose by Russian authors. Requirements: third-year Russian.

**041:195 Russian Translation Workshop** 3 s.h.

Current training for professional work in translation and interpretation; concurrent activities, such as localization (adaptation of products or services to cultural, legal, linguistic, and technical requirements of specific locales), proofreading, editing, comparative analysis of English and Russian, rewriting, and so forth; consecutive, sight, simultaneous modes of interpretation; written proficiency in translation; contrastive grammar. Requirements: third-year standing in Russian language.

**041:196 Russian Translation Workshop II** 3 s.h.

Single presentation of source language material. Prerequisites: 041:195.

## Primarily for Graduate Students

### Asian Culture, Linguistics, Pedagogy, Individual Study

**039:200 Second Language Acquisition Research and Theory I** 3 s.h.

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as 009:237, 035:201, 164:201, 39J:201.

**039:201 Second Language Acquisition Research and Theory II** 3 s.h.

Continuation of 164:201. Prerequisites: 164:201. Same as 035:202, 164:202.

**039:202 Teaching Chinese as a Foreign Language I: Theories/Research** 3 s.h.

Research, theory on acquisition of Chinese as a non-native language. Same as 164:281.

**039:203 Teaching Chinese as a Foreign Language II** 3 s.h.

Multiple levels of major Chinese textbooks, curricular organizational schemes, language programs, communicative language instruction; development of supplementary materials for a University of Iowa Chinese course. Same as 164:282.

**039:204 Teaching Chinese as a Foreign Language III** 3 s.h.

Development, application of technological teaching/learning materials; emphasis on designing computer-based materials that increase learner interaction in contextualized cultural environments.

**039:205 Analysis of L1 and L2 Data** 3 s.h.

Issues in qualitative and quantitative analysis of first- and second-language data; data collection, analytical frameworks and approaches. Prerequisites: 164:201. Same as 164:205.

**039:207 Sociolinguistics** 3 s.h.

Topics such as discourse and conversation analyses, linguistic pragmatics, linguistic variations, issues of language and gender. Prerequisites: 103:100. Same as 164:207.

**039:208 Teaching Chinese as a Foreign Language IV** 3 s.h.

Overview of goals, concepts, principles, research, and issues in assessment and testing of Chinese as a foreign language. Same as 164:274.

**039:209 Teaching Chinese as a Foreign Language V** 3 s.h.

Seminar on research design; for M.A. students planning to write a thesis or project, or graduate students seeking knowledge in designing qualitative or quantitative studies. Prerequisites: 07P:143 and 039:202. Same as 164:275.

**039:210 Teaching Chinese as a Foreign Language VI: Pedagogical/Research Project** 3 s.h.

Participation in Chinese as a Foreign Language material development projects under instructor's guidance.

**039:214 Individual Korean for Advanced Students** arr.

Korea's modern/traditional culture, history, and current social issues; reading, translating authentic articles. Prerequisites: 039:151.

**039:215 Individual Chinese for Advanced Students** arr.

Research, translation projects. Repeatable. Prerequisites: 039:129.

**039:216 Individual Sanskrit for Advanced Students** arr.

Research, translation projects. Repeatable. Requirements: fourth-year proficiency.

**039:217 Individual Hindi for Advanced Students** arr.

Readings in medieval and modern Hindi. Repeatable.

**039:223 Topics in Second Language Acquisition: Listening** 3 s.h.

Theory, pedagogy, research, and assessment in second language listening. Same as 164:223.

**039:234 Principles of Teaching and Learning Foreign Languages** 3 s.h.

Same as 009:234, 013:221, 041:234.

**039:235 Seminar: South Asian Religion** 3 s.h.

Topics in South Asian religions. Same as 032:235.

**039:237 Seminar: East Asian Religion** 3 s.h.

Emphasis on China and/or Japan. Same as 032:237.

**039:239 Seminar in Chinese Linguistics: Historical Phonology** 3 s.h.

Topics in Chinese historical phonology. Repeatable. Prerequisites: 039:139.

**039:240 Seminar in Chinese Fiction** 3 s.h.

Novels, novelettes; 16th to 18th centuries (Ming and Qing periods). Requirements: ability to read original texts. Same as 048:233.

**039:241 Seminar in Chinese Literature** arr.

Requirements: two years of modern Chinese and one year of classical Chinese. Same as 048:441.

**039:250 South Asian Research Seminar** arr.

Faculty and student research. Repeatable.

**039:258 Readings in Chinese History** arr.

Same as 016:292.

**039:291 M.A. Thesis** arr.

Offered fall semesters.

**039:292 M.A. Thesis** arr.

Offered spring semesters.

**039:304 Special Topics in Asian Cinema**

3 s.h.

Key issues, movements, periods, or figures in East or South Asian cinema. Repeatable. Same as 048:304.

**Japanese Culture, Linguistics, Pedagogy, Individual Study****39J:200 Japanese Linguistics**

3 s.h.

Japanese language as linguistic system; basic linguistic terminology; sound systems, grammar, meanings, usages.

Prerequisites: 39J:122.

**39J:201 Second Language Acquisition Research and Theory I**

3 s.h.

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as 009:237, 035:201, 039:200, 164:201.

**39J:202 Japanese as a Foreign Language: Practical Applications**

3 s.h.

Instructional methodology, curriculum, and material design; hands-on experience. Prerequisites: 39J:122. Same as 164:276.

**39J:203 Advanced Japanese Pedagogy**

3 s.h.

Instructional methods and management issues relevant to teaching Japanese language at advanced levels.

Prerequisites: 39J:202. Same as 164:222.

**39J:204 Practicum in Teaching Japanese as a Foreign Language**

1-3 s.h.

Teaching apprenticeship guided and supervised by a faculty member skilled in University curriculum and instruction.

**39J:215 Individual Japanese for Advanced Students**

arr.

Repeatable.

**39J:239 Special Topics in Japanese Linguistics**

3 s.h.

Topics in applied linguistics and language pedagogy related to Japanese language. Same as 164:228.

**39J:245 Seminar in Japanese Literature**

3 s.h.

Repeatable. Requirements: three years of Japanese.

**39J:251 Readings in Modern Japanese**

3 s.h.

Readings in modern Japanese. Repeatable.

**39J:257 Readings: Japanese History**

arr.

Same as 016:294.

**Slavic Linguistics, Pedagogy, Individual Study****041:234 Principles of Teaching and Learning Foreign Languages**

3 s.h.

Same as 009:234, 013:221, 039:234.

**041:276 Seminar: Russian Linguistics**

3 s.h.

Topics may include Russian morphosyntax, colloquial Russian, Russian pragmatics, Slavic gender linguistics.

**041:279 Independent Research**

arr.

Directed study.



# Bachelor of Liberal Studies

**Coordinator:** Dian Gottlob

**Undergraduate degree:** B.L.S.

**Web site:** [http://www.continuetolearn.uiowa.edu/ccp/blsbas/bls\\_introduction.htm](http://www.continuetolearn.uiowa.edu/ccp/blsbas/bls_introduction.htm)

The Bachelor of Liberal Studies (B.L.S.) is designed for students who wish to complete a bachelor's degree by distance education. The B.L.S. is a general undergraduate degree without a traditional academic major. Students work with their academic advisors to structure programs that meet their individual objectives.

B.L.S. students may plan programs designed to help them advance in their chosen careers, begin new careers, or prepare for graduate or professional study. Students who have specific career goals or advanced degree programs in mind should learn what educational background they will need in order to achieve their goals, and they should include appropriate course work in their B.L.S. programs.

Students may earn credit toward the degree through several types of courses, including Saturday & Evening Classes, web-based Guided Independent Study courses, semester-based web courses, extension courses at sites throughout Iowa, and regular session courses. Courses from any of the three Board of Regents, State of Iowa, universities may be applied toward the degree, as may appropriate courses from other accredited institutions.

B.L.S. students may not earn minors.

For application information, see "Admission" below.

The B.L.S. is awarded by the College of Liberal Arts and Sciences and is administered by the Division of Continuing Education.

## Bachelor of Liberal Studies

The Bachelor of Liberal Studies requires a minimum of 120 s.h., and is intended to be completed entirely by distance education. Students must earn at least 30 s.h. of credit toward the degree in University of Iowa courses after admission to the B.L.S. program. They must earn at least 60 s.h. of the minimum 120 s.h. at four-year colleges, including 45 s.h. in course work defined as upper-level. For the B.L.S., University of Iowa courses are considered upper-level if they are numbered 100 and above. Some courses numbered below 100 may be considered upper-level for the B.L.S.; for a list of these courses, contact Distance Education.

B.L.S. students are required to complete the College of Liberal Arts and Sciences General Education Program.

Students complete at least 12 s.h. of credit in three of the following five distribution areas (total of at least 36 s.h.). In each distribution area, 6 of the required 12 s.h. must be earned in upper-level courses.

Humanities (e.g., literature, history, philosophy, religion)

Communication and arts (e.g., journalism, speech, drama, art, music, writing)

Natural sciences and mathematics (e.g., geology, biology, statistics, computer science)

Social sciences (e.g., geography, psychology, economics, political science, anthropology)

Professional fields (e.g., business, education, nursing, social work, library science)

Students must maintain a cumulative g.p.a. of 2.00 or higher in all course work applied toward the degree, all course work completed after admission to the program, and all upper-level course work.

All College of Liberal Arts and Sciences policies regarding pass/nonpass and satisfactory/fail grading, academic standards, and so forth apply to B.L.S. students. See the CLAS Student Academic Handbook.

## Admission

Individuals who wish to earn a B.L.S. must apply formally for admission to the program. Prospective students should contact the Distance Education office before applying.

The B.L.S. is designed for students who need to earn a bachelor's degree by distance education. Individuals who have access to the full range of the University's on-campus daytime classes should seek admission to the College of Liberal Arts and Sciences in order to earn a degree with a major.

B.L.S. application requirements vary depending on educational background.

New applicants to The University of Iowa must have 60 s.h. of approved transfer credit and a cumulative g.p.a. of at least 2.50. They also must have satisfied the following high school course requirements: four years of English/language arts, two years of a single foreign language, three years of science, three years of social studies, two

years of algebra, and one year of geometry.

Former University of Iowa students applying for reentry must have a total of 60 s.h. of University of Iowa and approved transfer credit and a g.p.a. of at least 2.00 on all University of Iowa course work or all college course work completed.

Applicants who hold an Associate of Arts (A.A.) degree from an Iowa community college or from Waldorf College must have a g.p.a. of at least 2.00 and are considered to have satisfied all General Education Program requirements except foreign language.

Applicants who hold an A.A. from Black Hawk College (Illinois) must have a g.p.a. of at least 2.25 and are considered to have satisfied all General Education Program requirements except foreign language.

Applicants who hold an A.A. from another institution must have 60 s.h. of approved transfer credit and a cumulative g.p.a. of at least 2.50. They also must have satisfied the following high school course requirements: four years of English/language arts, two years of a single foreign language, three years of science, three years of social studies, two years of algebra, and one year of geometry. Transfer credit is evaluated course by course.

Applicants who have a total of 24-60 s.h. of University of Iowa and approved transfer credit and a cumulative g.p.a. of at least 2.50 are admitted to the University on liberal-studies-interest status. When they complete 60 s.h. and have a g.p.a. of at least 2.00 on all college course work completed, they become eligible for admission to the B.L.S. program.

Contact Distance Education for more information about the Bachelor of Liberal Studies.

# Biochemistry

**Head:** Charles M. Brenner

**Professors:** Charles M. Brenner, John E. Donelson, Pamela Geyer, George Giudice, Bryce V. Plapp, David H. Price, Peter Rubenstein, Madeline A. Shea, Lori L. Wallrath, Daniel L. Weeks, Ronald Weigel, Marc S. Wold

**Professors emeriti:** Arthur Arnone, Thomas W. Conway, Alice B. Fulton, Rex Montgomery, Arthur A. Spector, Earle Stellwagen, Charles A. Swenson

**Adjunct professors:** Theresa Gioannini, Nancy C. Stellwagen, Ramaswamy Subramanian, Joseph Walder, Liping Yu

**Associate professors:** John Dagle, Adrian Elcock, M. Todd Washington

**Assistant professors:** Sheila A. Baker, Heather L. Bartlett, Kris DeMali, Ernesto Fuentes, Shahram Khademi

**Lecturer:** Elisabeth Swain

**Undergraduate degrees:** B.A., B.S. in Biochemistry

**Graduate degrees:** M.S., Ph.D. in Biochemistry

**Web site:** <http://www.biochem.uiowa.edu/>

Biochemistry is the study of the basic chemical processes that occur in all living systems. It is one of the most active sciences, and it provides a foundation for other biosciences.

Biochemists generally work in laboratories and/or classrooms. Those with a bachelor's degree are often employed as research assistants in industry, government, education, and health service, or in secondary school teaching, for which licensure is required.

Biochemists with advanced degrees—usually a doctorate—pursue teaching, research, and/or administrative careers in universities, medical schools, hospitals, private research agencies, government laboratories, biotechnology companies, and in food, drug, cosmetics, chemical, petroleum, and allied industries.

The Department of Biochemistry offers degree programs for undergraduates and for graduate students and administers the academic curriculum at both levels. The College of Liberal Arts and Sciences grants undergraduate degrees in biochemistry and oversees undergraduate academic policy relating to the student record. The Graduate College grants graduate degrees in biochemistry.

## Undergraduate Programs

The Department of Biochemistry offers a Bachelor of Science and a Bachelor of Arts in biochemistry.

Students choose advanced science electives to supplement biochemical studies or to satisfy requirements of a double major or a minor in another discipline. In order to count science electives numbered below 100 toward a degree in biochemistry, students must have their advisor's approval.

Transfer credit for biochemistry courses requires the approval of an undergraduate advisor in biochemistry.

Students, especially those in the B.A. program, may include courses from other disciplines, such as business, pre-law, psychology, or journalism. This prepares them for one of the many vocations on which biochemistry has an impact.

### Bachelor of Science

The Bachelor of Science in biochemistry requires a total of 120 s.h., including 73 s.h. of work for the major. The program prepares students to work in positions that require a mastery of general biochemistry. It is also excellent preparation for graduate study in biochemistry and related sciences or for study toward a professional degree in the health sciences.

The B.S. major in biochemistry requires the following course work. Biochemistry students also must complete the College of Liberal Arts and Sciences General Education Program.

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
22M:025-22M:026 Calculus I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.
099:101 Technical Communication in Biochemistry	1 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
099:140 Experimental Biochemistry	4 s.h.
099:155 Research, Independent Study (required of all honors students)	6 s.h.
Advanced science electives, chosen in consultation with advisor	9 s.h.

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
--	--------

004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred) 6 s.h.

Two of these:

004:131 Physical Chemistry I	3 s.h.
004:132 Physical Chemistry II	3 s.h.
099:241 Biophysical Chemistry I	3 s.h.
099:242 Biophysical Chemistry II	3 s.h.

One of these:

004:141 Organic Chemistry Laboratory	3 s.h.
004:142 Organic Chemistry Laboratory for Majors (preferred)	3 s.h.

Students may register for 099:155 Research, Independent Study only if they have earned an average grade of B or higher in 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, and 099:140 Experimental Biochemistry and a grade of B-minus or higher in each 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, and 099:140 Experimental Biochemistry; or have consent of advisor and instructor. Students may register for 099:115 Undergraduate Independent Study any time.

Students are encouraged to begin research by taking 099:115 Undergraduate Independent Study (may be taken for a total of 6 s.h.). There are no prerequisites. Students may arrange independently to take this course, or they may request assistance from an undergraduate advisor.

## Bachelor of Arts

The Bachelor of Arts in biochemistry requires a total of 120 s.h., including 57 s.h. of work for the major. The B.A. major requires the following course work. Biochemistry students also must complete the College of Liberal Arts and Sciences General Education Program.

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
22M:025-22M:026 Calculus I-II	8 s.h.
029:011-029:012 College Physics I-II	8 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
099:140 Experimental Biochemistry	4 s.h.
Advanced science electives, chosen in consultation with advisor	6 s.h.

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6 s.h.

One of these:

004:131 Physical Chemistry I	3 s.h.
004:132 Physical Chemistry II	3 s.h.
099:241 Biophysical Chemistry I	3 s.h.
099:242 Biophysical Chemistry II	3 s.h.

In addition, B.A. students intending to go on to advanced degrees in the biological or health sciences are advised to include 4 s.h. or more of 099:115 Undergraduate Independent Study or 099:155 Research, Independent Study (senior research) in their programs.

## B.A. or B.S. with Teacher Licensure

Biochemistry majors, especially those in the B.A. program, may qualify for teacher licensure by taking additional courses in teacher education. Consult the College of Education for details.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

### Bachelor of Science

**Before the third semester begins:** 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II, 22M:025 Calculus I and 22M:026 Calculus II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above, plus 002:010 Principles of Biology I and 002:011 Principles of Biology II; 004:121 Organic Chemistry I and 004:122 Organic Chemistry II, and 004:141 Organic Chemistry Laboratory; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, plus 029:081 Introductory Physics I and 029:082 Introductory Physics II, 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, 099:101 Technical Communication in Biochemistry, and 099:140 Experimental Biochemistry, two science electives, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, plus 004:131 Physical Chemistry I or 004:132 Physical Chemistry II or 099:241 Biophysical Chemistry I or 099:242 Biophysical Chemistry II, a science elective, and at least 3 s.h. of 099:155 Research, Independent Study

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Bachelor of Arts

**Before the third semester begins:** 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II; math through 22M:026 Calculus II or above; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above, plus 002:010 Principles of Biology I and 002:011 Principles of Biology II, 004:121 Organic Chemistry I and 004:122 Organic Chemistry II, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, plus 029:011 College Physics I and 029:012 College Physics II, 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, and 099:140 Experimental Biochemistry, two science electives, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, plus 004:131 Physical Chemistry I or 004:132 Physical Chemistry II or 099:241 Biophysical Chemistry I or 099:242 Biophysical Chemistry II, and a science elective

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Honors

Qualified students may earn an honors degree in biochemistry. They must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Honors students in biochemistry must complete 099:155 Research, Independent Study. They must present their research results in a report written in the form of a journal article and in an oral report presented at a special open departmental seminar.

## Graduate Program

The Department of Biochemistry offers a Master of Science and a Doctor of Philosophy in biochemistry. Students admitted to the graduate program usually pursue the Ph.D. Qualified students may pursue a combined program leading to the M.D./Ph.D. (Medical Scientist Training Program).

### Master of Science

The Master of Science in biochemistry requires a minimum of 30 s.h. of graduate credit, thesis research, and a thesis. See "Doctor of Philosophy" for information about the graduate curriculum.

### Doctor of Philosophy

The Doctor of Philosophy in biochemistry requires a minimum of 72 s.h. of graduate credit. The focus of the graduate program is on the individual student.

The 72 s.h. required for the degree includes 34 s.h. of course work and 38 s.h. of research credit. Students may take courses that enhance their educational goals. All Ph.D. students take the following 19 s.h. of course work; they choose an additional 13 s.h. from courses offered by the Department of Biochemistry and other University of Iowa departments.

099:261 Research Techniques (first-year laboratory rotation)	1-5 s.h.
650:270 Principles of Scholarly Integrity	0-1 s.h.
Biophysical chemistry (students typically earn 6 s.h.)	3 s.h.
Molecular or cellular biology (students typically earn 6-8 s.h.)	4 s.h.
Graduate seminar	3 s.h.

The following is a typical first-year curriculum.

First semester:

099:243 Biophysical Chemistry Module 1	1 s.h.
099:245 Biophysical Chemistry Module 2	1 s.h.
099:247 Biophysical Chemistry Module 3	1 s.h.
099:261 Research Techniques	1-5 s.h.
156:201 Fundamentals of Gene Expression	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.
156:204 Biostatistics for Biomedical Research	1 s.h.
156:265 Biosciences Critical Thinking and Communication	2 s.h.
650:270 Principles of Scholarly Integrity	0-1 s.h.

Second semester:

099:226 Enzyme Kinetics and Bioorganic Mechanisms	1-2 s.h.
099:246 Biophysical Chemistry Module 5	1 s.h.
099:248 Biophysical Chemistry Module 6	1 s.h.
099:261 Research Techniques	1-5 s.h.
142:215 Transcription and Multifunctional Regulation by RNA	1 s.h.
142:216 Chromatin Structure and Disease	1 s.h.
142:217 Cancer, Epigenetics, and Genetic Manipulations in Mice	1 s.h.
156:205 Practical Bioinformatics	1 s.h.
156:265 Biosciences Critical Thinking and Communication	2 s.h.

099:282 Seminar	0-1 s.h.
-----------------	----------

or

156:265 Biosciences Critical Thinking and Communication	2 s.h.
---	--------

Once students are promoted to the second year of study, they choose research laboratories for Ph.D. thesis research and begin their thesis projects. They take courses that supplement their interests and preparation, including the following.

099:282 Seminar	1 s.h.
099:292 Research Biochemistry	arr.
Graduate-level science electives	6 s.h.

Students take the comprehensive examination before the end of June in their second year, after which they are admitted formally to degree candidacy and begin to concentrate on thesis research. The program culminates in successful defense of completed thesis work before an examining committee.

In addition to meeting these requirements and those of the Graduate College, students are expected, as part of their training, to assist in teaching biochemistry for one semester.

Throughout the program, students are associated with faculty-directed research groups. They receive close personal attention from the biochemistry faculty members who serve as research advisors.

## Admission

The graduate program in biochemistry is flexible enough to accommodate students with bachelor's degrees in any of the biological, biochemical, or physical sciences. Appropriate preparation includes one-year, college-level courses in

organic and physical chemistry, biology, physics, and mathematics through calculus. Students are expected to have had one or more introductory courses in biochemistry.

Applicants must have an undergraduate g.p.a. of at least 3.00 and must submit acceptable verbal, quantitative, and analytical scores on the Graduate Record Examination (GRE) General Test. Applicants are encouraged to submit their scores on the GRE Subject Test in Chemistry; Biology; or Biochemistry, Cell, and Molecular Biology.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

Students admitted to the Ph.D. program in biochemistry routinely receive a stipend and tuition support.

## Research

The department's current research interests include protein structure and function, protein folding, DNA bending, complex carbohydrate structure and function, chromatin, regulation of gene expression, mechanisms of transcription and replication, enzyme reaction mechanisms, intracellular signaling, differentiation, and membrane determinants of cell shape and motility. Visit the Department of Biochemistry web site for details.

## Facilities

The Department of Biochemistry is located on the University of Iowa health sciences campus, where it has administrative, research, and teaching facilities in the Bowen Science Building. Departmental research groups also are located in the adjacent Medical Education and Research Facility and in other research facilities.

The University of Iowa maintains a number of central research support facilities and equipment that promote campuswide interactions between research groups. These include the facilities for electron and confocal microscopy, fermentation, image analysis, high field NMR, high resolution mass spectrometry, and academic computing (through Information Technology Services). Carver College of Medicine research facilities are available to biochemistry researchers for nuclear magnetic resonance spectroscopy, flow cytometry, DNA synthesis, tissue culture hybridoma, gene transfer, X-ray crystallography analysis, and transgenic and gene targeting.

Individual faculty research laboratories are well-equipped for modern research, and there are many common-use laboratories, including instrument rooms, a reading room, cold rooms, tissue culture areas, preparation rooms, and a stockroom. Research is supported by office staff, stockroom supervisors, and a purchasing agent.

Together, the department and the central support facilities provide virtually all of the equipment required for modern biochemical research. Examples of such equipment include analytical and preparative ultracentrifuges; fluorescence, optical rotatory dispersion, high-field NMR, and rapid kinetic instruments; tissue culture rooms, gas chromatographs, preparative high performance liquid chromatographs, liquid scintillation counters, electrophoresis equipment, instrumentation for protein X-ray crystallography and microcalorimetry, automated DNA sequencers, and facilities for microarray analysis.

The department maintains a reading room stocked with primary books and journals used by biochemists. The Hardin Library for the Health Sciences is a large, complete library located on the health sciences campus. Excellent resources also are provided by branches of the University of Iowa Libraries and by computer access to bibliographic retrieval services.

## Biochemistry Courses

### 099:001 Orientation and Introduction to the Field of Biochemistry

0 s.h.

Biochemistry and its application to other areas of basic sciences; biochemical studies, research, careers.

### 099:101 Technical Communication in Biochemistry

1 s.h.

Practical aspects of writing formal scientific papers and giving oral presentations on technical topics. Prerequisites: 099:120 or 099:130 or 099:140.

### 099:110 Biochemistry

3 s.h.

Basic concepts in modern biochemistry and molecular biology; understanding of life processes in molecular terms. Requirements: one year each of college-level biology and chemistry. Recommendations: one semester of organic chemistry.

**099:115 Undergraduate Independent Study**

arr.

Experience in an active biochemistry research lab, learning and performing experiments relevant to the current projects in that lab; exploration of scientific literature on topic of interest; arranged in advance by student and faculty member. Requirements: first-year, sophomore, or junior standing.

**099:120 Biochemistry and Molecular Biology I**

3 s.h.

Physical and chemical foundations of biochemistry, structure of biological molecules, catalysis, transport, and oxidative reactions in biology; first course of two-semester sequence that concludes with 099:130. Requirements: two semesters of general chemistry and one of organic chemistry. Recommendations: 002:010, 002:011, and an additional organic chemistry course.

**099:130 Biochemistry and Molecular Biology II**

3 s.h.

Carbohydrate biosynthesis, lipid metabolism, hormone regulation and integration of metabolism, signal transduction, genes and chromosomes, DNA replication and repair, transcription, RNA processing, protein translation and regulation of gene expression. Prerequisites: 099:120.

**099:140 Experimental Biochemistry**

2 s.h.

Use of modern instruments and techniques to fractionate, identify, and characterize constituents of biochemical systems. Prerequisites: 099:120. Requirements: two semesters of general chemistry and one semester of organic chemistry.

**099:155 Research, Independent Study**

2-6 s.h.

Independent study and research in areas of interest to the student; arranged in advance by student and biochemistry honors advisor. Requirements: grade of B- or higher in 099:120; and g.p.a. of B or higher in 099:120, 099:130, and 099:140.

**099:161 Biochemistry for Dental Students**

4 s.h.

Biochemical concepts and application to clinical problems. Prerequisites: 004:121. Requirements: D.D.S. enrollment. Recommendations: 004:122.

**099:162 Biochemistry for Pharmacy Students**

4 s.h.

Biochemical concepts and application to clinical problems. Prerequisites: 004:121. Requirements: Pharm.D. enrollment. Recommendations: 004:122.

**099:163 Medical Biochemistry**

4 s.h.

Biochemical concepts and application to clinical problems. Requirements: M.D. enrollment.

**099:164 Biochemistry for Physician Assistant Students**

3 s.h.

Aspects of general biochemistry necessary for understanding the biochemical basis of human disease; analysis of appropriate clinical cases. Prerequisites: 099:110.

**099:226 Enzyme Kinetics and Bioorganic Mechanisms**

1-2 s.h.

Principles and applications of steady-state and transient enzyme kinetics; mechanisms of catalysis of biochemical reactions. Prerequisites: 099:120.

**099:237 Topics in Biochemistry and Molecular Biology**

1-2 s.h.

Current topics in transcriptional regulation, chromatin structure and function, cell signaling pathways, regulation of development, molecular mechanisms of disease. Repeatable. Prerequisites: 156:201.

**099:238 Topics in Biophysical Chemistry**

1-2 s.h.

Current topics in structure and function of membranes or proteins; DNA-protein interactions; computational biochemistry; applications of NMR, X-ray diffraction, calorimetry, or spectroscopy. Repeatable. Prerequisites: 099:241 or 099:242.

**099:241 Biophysical Chemistry I**

3 s.h.

Experimental and theoretical techniques used to study structure and function of biological macromolecules; UV/Vis absorbance, circular dichroism, and fluorescence spectroscopies; X-ray crystallography of proteins, ultracentrifugation; application of thermodynamics to understand protein folding and protein-ligand binding. Requirements: one year of biochemistry. Recommendations: physical chemistry course.



- 099:242 Biophysical Chemistry II** 3 s.h.  
Enzyme kinetics and mechanisms, macromolecular interactions and dynamics, NMR spectroscopy.
- 099:243 Biophysical Chemistry Module 1** 1 s.h.  
Overview of basic principles and practices of biophysical chemistry; biophysical approaches to studying proteins and nucleic acids; critical evaluation of structural models derived from X-ray crystallography and NMR, quantification of molecular interactions; taken alone or as part of 099:241. Requirements: introductory course in biochemistry.
- 099:244 Biophysical Chemistry Module 4** 1 s.h.  
Principles and applications of steady-state and transient enzyme kinetics; mechanisms of catalysis of biochemical reactions.
- 099:245 Biophysical Chemistry Module 2** 1 s.h.  
In-depth examination of protein stability as well as thermodynamics and kinetics of protein folding; statistical thermodynamics, the physical chemistry of biomolecular interactions, experimental approaches to measuring protein stability, protein folding kinetics, molecular dynamics simulations, protein structural predictions; taken alone or as part of 099:241. Requirements: introductory course in biochemistry and one semester of calculus.
- 099:246 Biophysical Chemistry Module 5** 1 s.h.  
Overview of membrane proteins; basic principles of membrane proteins, including structure and lipid compositions of cell membranes, membrane protein folding and stability, methods of membrane proteins production, general techniques to study structure and function of membrane proteins; structure and function of biologically significant membrane transporters and receptors. Requirements: one year of biochemistry.
- 099:247 Biophysical Chemistry Module 3** 1 s.h.  
In-depth examination of principles and practices of studying ligand binding and macromolecular interactions; experimental approaches to study interactions with small molecules, proteins, and nucleic acids; approaches to analyze binding data; structural basis of protein/protein and protein/nucleic acid interactions; taken alone or as part of 099:241. Requirements: introductory course in biochemistry and one semester of calculus.
- 099:248 Biophysical Chemistry Module 6** 1 s.h.  
Basic principles of NMR and applications important for the understanding of structure and function of biological macromolecules; emphasis on methodology and experimental design, interpretation of data, and critical reading of literature; intended for advanced undergraduates and graduate students with an interest in applications of nuclear magnetic resonance (NMR) to problems of structural biology. Requirements: one year of biochemistry and one semester of calculus. Recommendations: a basic knowledge of biochemistry, spectroscopy, and some previous exposure to NMR from basic chemistry courses.
- 099:261 Research Techniques** 1-5 s.h.  
Laboratory rotation for first-year graduate students in biochemistry.
- 099:275 Perspectives in Biocatalysis** 1-3 s.h.  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 046:275, 052:275, 053:275, 061:275.
- 099:282 Seminar** 0-1 s.h.  
How to evaluate reports of scientific investigations critically; techniques for presenting scientific information.
- 099:283 Thesis Seminar** 1 s.h.  
Preparation and oral presentation of thesis proposal. Requirements: second-year graduate standing in biochemistry.
- 099:292 Research Biochemistry** arr.  
Thesis research.

## Biology

**Chair:** Bernd Fritzsche (Iowa Entrepreneurial Endowed Professor of Biology)

**Professors:** Jeffrey L. Denburg, Daniel Eberl (Biology/Otolaryngology--Head and Neck Surgery), Jan Fassler, Joseph Frankel, Bernd Fritzsche (Iowa Entrepreneurial Endowed Professor of Biology), Steven Green (Biology/Otolaryngology--Head and Neck Surgery), Stephen D. Hendrix, Alan Kay, Jim Jung-Ching Lin, Robert E. Malone, Sally Mason, Linda Maxson, John R. Menninger, Jeffrey C. Murray (Pediatrics/Biology), Diane C. Slusarski, David R. Soll (Carver/Emil Witschi Professor of the Biological Sciences), Chun-Fang Wu

**Professors emeriti:** George Cain, Wayne R. Carlson, Robert W. Cruden, Gary N. Gussin, Joseph P. Hegmann, Richard G. Kessel, Roger D. Milkman, Jonathan E. Poulton, Jeffry T. Schabillon, Richard D. Sjolund, Eugene Spaziani, Barbara A. Stay, Wei-yeh Wang, Norman E. Williams

**Associate professors:** Chi-Lien Cheng, Josep Comeron, Michael E. Dailey, Douglas Houston, Erin Irish, John Logsdon, Bryant F. McAllister, Christopher Stipp (Biology/Molecular Physiology and Biophysics)

**Associate professors emeriti:** Robert W. Embree, Diana G. Horton, Thomas E. Melchert

**Assistant professors:** Ana Llopart, John Manak, Maurine Neiman, Bryan T. Phillips, Sarit Smolikove, Joshua Weiner

**Undergraduate degrees:** B.A., B.S. in Biology

**Undergraduate nondegree program:** Minor in Biology

**Graduate degrees:** M.S., Ph.D. in Biology

**Web site:** <http://www.biology.uiowa.edu>

## Undergraduate Programs

The department offers a Bachelor of Arts, a Bachelor of Science, and a minor in biology.

Study in the Department of Biology prepares students for work in a wide variety of fields in educational institutions, government agencies, foundations, health care organizations, and businesses. Undergraduate programs prepare students for entry into research or service careers associated with private industry or government programs, and for primary and secondary teaching. They also prepare students for entry into advanced degree programs leading to careers in higher education and to independent research in a variety of biological fields, or for practice in health professions such as medicine, dentistry, pharmacy, nursing, veterinary medicine, medical technology, and physical therapy.

Bachelor of Science students choose one of six tracks. The Bachelor of Arts program and the comprehensive biology track in the Bachelor of Science provide highly diverse content. The remaining five B.S. tracks emphasize distinct areas: cell and developmental biology, evolutionary biology, genetics and biotechnology, neurobiology, and plant biology.

The B.A. and all six B.S. programs include a core curriculum consisting of the two-semester sequence 002:010 Principles of Biology I and 002:011 Principles of Biology II, 002:128 Fundamental Genetics, and 002:131 Evolution. Each program includes a total of 18-19 courses (63-70 s.h.) in biology, chemistry, physics, and mathematics. All course work prepares students for advanced graduate and professional training in biology and related subjects.

The department offers 002:196 Honors Investigations and 002:199 Introduction to Research to acquaint undergraduate students with the nature of practicing scientists' work. Students associate with one of the department's research groups in experiments, discussion of current research, study of specialized topics, and attendance at research seminars. Admission to the University of Iowa Honors Program is required for 002:196 Honors Investigations. All students who are accepted by a Department of Biology faculty sponsor may take 002:199 Introduction to Research.

Students interested in field biology, zoology, or botany may take varied courses in these subjects offered during the summer at Iowa Lakeside Laboratory, Lake Okoboji, Iowa.

Students who wish to count course work done at another institution toward requirements for a biology degree at Iowa should consult with their biology advisor.

### Bachelor of Science in Biology

The Bachelor of Science in biology requires a minimum of 120 s.h., including at least 63-70 s.h. (18 courses) of work for the major. It is divided into six tracks that emphasize the most dynamic and active areas in the biological sciences: cell and developmental biology, genetics and biotechnology, evolutionary biology, neurobiology, plant biology, and comprehensive biology. Students who pursue the B.S. must complete requirements in the chemistry/physics/mathematics foundation, the biology core, and one of the six tracks. Students must complete the College of Liberal Arts and Sciences General Education Program.

#### CHEMISTRY/PHYSICS/MATHEMATICS FOUNDATION

All of these:

004:011-004:012 Principles of Chemistry I-II

8 s.h.

004:121 Organic Chemistry I

3 s.h.

One of these sequences:

029:011-029:012 College Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.

One of these:

22M:016 Calculus for the Biological Sciences	4 s.h.
22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

One of these:

22S:030 Statistical Methods and Computing (preferred for evolution track)	3 s.h.
22S:101 Biostatistics	3 s.h.

#### **BIOLOGY CORE**

002:010-002:011 Principles of Biology I-II	8 s.h.
002:128 Fundamental Genetics	4 s.h.
002:131 Evolution	4 s.h.

#### **Tracks for the Bachelor of Science**

Students pursuing the B.S. must select a single track. Each track includes seven courses. Students who choose 002:196 Honors Investigations to fulfill a track requirement must complete a minimum of 6 s.h. in that course. Honors Investigations may be used to fulfill a requirement only in a single category in each track. If it is used to fulfill the investigative laboratory requirement, it cannot also be used to fulfill the elective requirement; if it is used to fulfill the elective requirement, it cannot also be used to fulfill the investigative laboratory requirement.

#### **CELL AND DEVELOPMENTAL BIOLOGY TRACK**

The cell and developmental biology track provides education in the structure and function of cells and in the principles of development as they apply to animals and plants. This track is appropriate for students who wish to pursue graduate study in cellular and developmental biology, to prepare for professional study in medicine and other health-related fields, or to take positions in laboratories and companies engaged in cancer research and related fields.

##### **Group 1 (Cell/Developmental Biology Core)**

All of these:

002:104 Introduction to Developmental Biology	3 s.h.
002:114 Cell Biology	3 s.h.
002:117 Plant Developmental Biology	3 s.h.

##### **Group 2 (Biochemistry)**

One of these:

002:123 Plant Biochemistry	3 s.h.
099:110 Biochemistry	3 s.h.
099:120 & 099:130 Biochemistry and Molecular Biology I-II	6 s.h.

##### **Group 3 (Investigative Laboratory)**

One of these:

002:133 Cell Biology Laboratory	3 s.h.
002:135 Developmental Biology Lab	3 s.h.

002:196 Honors Investigations (in cell/developmental biology)

6 s.h.

**Group 4 (Electives)**

At least two courses, which may include any combination of courses not taken for Group 3 and/or courses from the following list:

002:138 Genetics and Biotechnology Lab	3 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:150 Endocrinology	3 s.h.
002:168 Genes and Development	3 s.h.
002:171 Molecular Genetics	4 s.h.
002:180 Fundamental Neurobiology	4 s.h.
002:184 Developmental Neurobiology	3 s.h.
061:147 Survey of Immunology	4 s.h.
061:157 General Microbiology	5 s.h.

**EVOLUTIONARY BIOLOGY TRACK**

The evolutionary biology track provides education in the principles of evolution as they apply to understanding diversity within and among species, from genomic, ecological, and historical perspectives. This track is appropriate for students who wish to pursue graduate study in evolutionary biology and related fields or to take positions in laboratories utilizing population genetics or phylogenetic approaches such as forensics, fisheries, and human disease mapping.

**Group 1 (Evolution Core)**

002:134 Ecology	4 s.h.
-----------------	--------

One of these:

002:169 Introduction to Bioinformatics	4 s.h.
002:170 Bioinformatics	3 s.h.
002:178 Genomics	3 s.h.

One of these:

002:160 Molecular Phylogenetics	3 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.

**Group 2 (Biochemistry)**

One of these:

002:123 Plant Biochemistry	3 s.h.
099:110 Biochemistry	3 s.h.
099:120 & 099:130 Biochemistry and Molecular Biology I-II	6 s.h.

**Group 3 (Investigative Laboratory)**

One of these:

002:132 Evolution Lab	3 s.h.
002:138 Genetics and Biotechnology Lab	3 s.h.
002:196 Honors Investigations (in evolution)	6 s.h.

**Group 4 (Electives)**

At least two courses, which may include any combination of courses not taken for Groups 1 and/or 3 and/or courses from the following list:

002:103 Biogeography	3 s.h.
002:108 Vertebrate Zoology	4 s.h.
002:143 Animal Behavior	4 s.h.
012:122 Evolution of the Vertebrates	3 s.h.
012:170 Evolution of Ecosystems	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
22S:120 Probability and Statistics	4 s.h.
213:170 Primate Evolutionary Biology	3 s.h.
213:116 Modern Human Origins	3 s.h.
213:151 Anthropological Genetics	3 s.h.

**GENETICS AND BIOTECHNOLOGY TRACK**

The genetics and biotechnology track provides education in the key principles of transmission, maintenance, regulation, and manipulation of genes. This track is appropriate for students who wish to pursue graduate study in fields related to genetics or to enter the modern biotechnology industry. It also provides excellent preparation for professional study in medicine and other health-related fields.

**Group 1 (Genetics Core)**

Both of these:

002:171 Molecular Genetics	4 s.h.
061:170 Microbial Genetics	3 s.h.

One of these:

002:169 Introduction to Bioinformatics	4 s.h.
002:170 Bioinformatics	3 s.h.
002:178 Genomics	3 s.h.

**Group 2 (Biochemistry)**

One of these:

002:123 Plant Biochemistry	3 s.h.
099:110 Biochemistry	3 s.h.
099:120 & 099:130 Biochemistry and Molecular Biology I-II	6 s.h.

**Group 3 (Investigative Laboratory)**

One of these:

002:138 Genetics and Biotechnology Lab	3 s.h.
002:196 Honors Investigations (in genetics/biotechnology)	6 s.h.

**Group 4 (Electives)**

At least two courses; may include any combination of courses not taken for Group 1; 099:130 Biochemistry and Molecular Biology II if 099:120 Biochemistry and Molecular Biology I and 099:130 Biochemistry and Molecular Biology II are chosen from Group 2, and/or the course that has not been taken for Group 3, and/or courses from the following list:

002:104 Introduction to Developmental Biology	3 s.h.
or	
002:117 Plant Developmental Biology	3 s.h.
002:114 Cell Biology	3 s.h.
002:132 Evolution Lab	3 s.h.
002:133 Cell Biology Laboratory	3 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.
002:168 Genes and Development	3 s.h.
061:147 Survey of Immunology	4 s.h.

**NEUROBIOLOGY TRACK**

The neurobiology track provides education in nervous system function at all levels, from molecular to systems biology. This track is appropriate for students who wish to pursue graduate study in neurobiology and related areas, including psychology and the social sciences; to enter laboratories than study the therapeutic basis of neurological disorders; or to work in pharmaceutical companies. It also provides good preparation for professional study in medicine and other health-related fields.

**Group 1 (Neurobiology Core)**

All of these:

002:143 Animal Behavior	4 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:180 Fundamental Neurobiology	4 s.h.

**Group 2 (Biochemistry)**

One of these:

099:110 Biochemistry	3 s.h.
099:120 & 099:130 Biochemistry and Molecular Biology I-II	6 s.h.

**Group 3 (Investigative Laboratory)**

One of these:

002:133 Cell Biology Laboratory	3 s.h.
002:135 Developmental Biology Lab	3 s.h.
002:186 Neurobiology Laboratory	3 s.h.
002:196 Honors Investigations (in neurobiology)	6 s.h.

**Group 4 (Electives)**

At least two courses, which may include any combination of a course not taken for Group 3 and/or courses from the following list:

002:104 Introduction to Developmental Biology	3 s.h.
002:114 Cell Biology	3 s.h.
002:124 Animal Physiology	3 s.h.
002:150 Endocrinology	3 s.h.
002:181 Neurophysiology	3-4 s.h.
002:184 Developmental Neurobiology	3 s.h.

## PLANT BIOLOGY TRACK

The plant biology track provides education in how plants grow, how they have evolved, and how they interact with other organisms. This track is appropriate for students who wish to pursue graduate study in biology specializing in plants. It also is good preparation for positions in plant biotechnology companies that work in biofuels development, crop improvement, or CO<sub>2</sub> sequestration, or in agencies dedicated to the conservation of natural lands.

### Group 1 (Plant Biology Core)

002:117 Plant Developmental Biology	3 s.h.
-------------------------------------	--------

One of these:

002:103 Biogeography	3 s.h.
012:171 Evolution of Plants	3 s.h.

One of these:

002:134 Ecology	4 s.h.
012:170 Evolution of Ecosystems	3 s.h.

### Group 2 (Biochemistry)

One of these:

002:123 Plant Biochemistry	3 s.h.
099:110 Biochemistry	3 s.h.
099:120 & 099:130 Biochemistry and Molecular Biology I-II	6 s.h.

### Group 3 (Investigative Laboratory)

One of these:

002:138 Genetics and Biotechnology Lab	3 s.h.
002:196 Honors Investigations (in plant biology)	6 s.h.

### Group 4 (Electives)

Students must take at least two courses, which may include 099:130 if 099:120 and 099:130 are chosen from group 2; and/or courses from the following list; and/or approved plant biology courses offered at Iowa Lakeside Laboratory (students should consult their advisors).

002:104 Introduction to Developmental Biology	3 s.h.
002:114 Cell Biology	3 s.h.
002:171 Molecular Genetics	4 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.

## COMPREHENSIVE BIOLOGY TRACK

The comprehensive biology track is designed for students who wish a diverse, well-balanced introduction to the major fields of biology. This track provides suitable educational background for graduate study in the biological sciences and

science education and for work in laboratories that engage in research and applications in many fields of biology. It also provides broadly based preparation for professional study in medicine and other health-related fields.

**Group 1 (Biochemistry)**

One of these:

002:123 Plant Biochemistry	3 s.h.
099:110 Biochemistry	3 s.h.
099:120 & 099:130 Biochemistry and Molecular Biology I-II	6 s.h.

**Group 2 (Molecular Biology)**

Students must take at least one course, either 099:130 Biochemistry and Molecular Biology II if 099:120 Biochemistry and Molecular Biology I and 099:130 Biochemistry and Molecular Biology II is chosen in group 1 or a course from the following list.

002:171 Molecular Genetics	4 s.h.
002:178 Genomics	3 s.h.

**Group 3 (Cellular Biology)**

At least one of these:

002:114 Cell Biology	3 s.h.
002:180 Fundamental Neurobiology	4 s.h.

**Group 4 (Developmental Biology)**

At least one of these:

002:104 Introduction to Developmental Biology	3 s.h.
002:117 Plant Developmental Biology	3 s.h.

**Group 5 (Organismal Physiology)**

At least one of these:

002:124 Animal Physiology	3 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:150 Endocrinology	3 s.h.

**Group 6 (Population Biology)**

At least one of these:

002:103 Biogeography	3 s.h.
002:134 Ecology	4 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.



**Group 7 (Investigative Laboratory)**

At least one of these:

002:132 Evolution Lab	3 s.h.
002:133 Cell Biology Laboratory	3 s.h.
002:135 Developmental Biology Lab	3 s.h.
002:138 Genetics and Biotechnology Lab	3 s.h.
002:186 Neurobiology Laboratory	3 s.h.
002:196 Honors Investigations	6 s.h.
Iowa Lakeside Laboratory courses (students consult their advisors)	4-5 s.h.

**Suggested First-Year Schedule**

The following first-year schedule of science courses is recommended for students seeking either the B.S. or B.A. in biology.

**First-Semester Science Courses**

004:011 Principles of Chemistry I	4 s.h.
Calculus or mathematics leading to calculus	3-4 s.h.

**Second-Semester Science Courses**

002:010 Principles of Biology I	4 s.h.
004:012 Principles of Chemistry II	4 s.h.
Calculus (if not taken during the first semester)	4 s.h.

**Bachelor of Arts in Biology**

The Bachelor of Arts in biology requires a minimum of 120 s.h., including at least 66-70 s.h. (19 courses) of work for the major. The B.A. is broadly based. It introduces students to key concepts in important areas of biology and, compared to the B.S., gives them more flexibility in choosing elective courses.

B.A. students must complete a chemistry/physics/math foundation; a biology core identical to that required for the B.S.; one course in each of three breadth menus; one course with a laboratory; and three elective courses, which may include one course in the history or philosophy of science. Students must complete the College of Liberal Arts and Sciences General Education Program.

The B.A. prepares students for graduate study in the biological sciences and is especially appropriate for those interested in careers in biological science education at all levels. It also provides suitable preparation for professional positions in laboratory or field research or for professional study in medicine and other health-related fields.

**CHEMISTRY/PHYSICS/MATHEMATICS FOUNDATION**

All of these:

004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:121 Organic Chemistry I	3 s.h.

One of these:

002:123 Plant Biochemistry	3 s.h.
004:122 Organic Chemistry II	3 s.h.
099:110 Biochemistry	3 s.h.

One of these sequences:

029:011-029:012 College Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.

One of these:

22M:016 Calculus for the Biological Sciences	4 s.h.
22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

One of these:

22S:030 Statistical Methods and Computing	3 s.h.
22S:101 Biostatistics	3 s.h.

#### **BIOLOGY CORE**

002:010-002:011 Principles of Biology I-II	8 s.h.
002:128 Fundamental Genetics	4 s.h.
002:131 Evolution	4 s.h.

#### **BREADTH MENUS**

At least one course from each of the following three breadth menus:

##### **Molecular and Cellular Biology**

002:114 Cell Biology	3 s.h.
002:171 Molecular Genetics	4 s.h.

##### **Developmental Biology and Physiology**

002:104 Introduction to Developmental Biology	3 s.h.
002:117 Plant Developmental Biology	3 s.h.
002:124 Animal Physiology	3 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:150 Endocrinology	3 s.h.

##### **Ecology and Evolutionary Biology**

002:103 Biogeography	3 s.h.
002:134 Ecology	3 s.h.

#### **COURSE WITH A LABORATORY**

One of these (must not have been used as a breadth menu course):

002:108 Vertebrate Zoology	4 s.h.
002:132 Evolution Lab	3 s.h.
002:133 Cell Biology Laboratory	3 s.h.
002:135 Developmental Biology Lab	3 s.h.

002:138 Genetics and Biotechnology Lab	3 s.h.
002:186 Neurobiology Laboratory	3 s.h.
002:196 Honors Investigations	6 s.h.
012:121 Principles of Paleontology	3 s.h.
061:157 General Microbiology	5 s.h.
099:140 Experimental Biochemistry	4 s.h.
Iowa Lakeside Laboratory courses (students consult their advisors)	4-5 s.h.

## ELECTIVES

At least three courses, which may include any course chosen from a breadth menu or from the list of courses with a laboratory that has not been used to satisfy those requirements, any other 2-4 s.h. course numbered 100 or above offered by the Department of Biology, any approved advanced biology course taught at the Iowa Lakeside Laboratory (students consult their advisors), and/or any course(s) chosen from the following list:

012:107 Marine Ecosystems and Conservation	3 s.h.
012:122 Evolution of the Vertebrates	3 s.h.
012:170 Evolution of Ecosystems	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.
061:147 Survey of Immunology	4 s.h.
153:160 Biology of Aging	3 s.h.
213:116 Modern Human Origins	3 s.h.
213:151 Anthropological Genetics	3 s.h.
213:152 Primate Conservation Biology	3 s.h.
213:170 Primate Evolutionary Biology	3 s.h.
213:188 Primate Behavior and Ecology	3 s.h.

One of the electives may be chosen from these:

16E:139 Ancient and Medieval Science	3 s.h.
16W:137/152:137 History of Public Health	3 s.h.
16W:138/152:138 History of Global Health	3 s.h.
026:104 Introduction to Philosophy of Science	3 s.h.
044:131/152:131 Geography of Health	3 s.h.

In addition, students who have passed 004:121 Organic Chemistry I, 004:122 Organic Chemistry II, and 099:110 Biochemistry or 002:123 Plant Biochemistry may use 099:110 Biochemistry or 002:123 Plant Biochemistry as a biology elective.

Introduction to Research (002:199) for 3 s.h. may be counted only once toward the elective requirement for the B.A.

## Suggested First-Year Schedule

The following first-year schedule of science courses is recommended for students seeking either the B.S. or B.A. in biology.

### First-Semester Science Courses

004:011 Principles of Chemistry I	4 s.h.
Calculus or mathematics leading to calculus	3-4 s.h.

### Second-Semester Science Courses

004:012 Principles of Chemistry II	4 s.h.
002:010 Principles of Biology I	4 s.h.
Calculus (if not taken during the first semester)	4 s.h.

## B.A. or B.S. with Teacher Licensure

The major in biology (Bachelor of Arts or Bachelor of Science) provides a foundation for students who are interested in teaching secondary school science. The University's Science Education Program offers a Bachelor of Science program that also provides a foundation for teaching, allowing students to choose an emphasis in biology, chemistry, earth science, or physics; see Science Education in the Catalog.

Students who wish to teach must complete a bachelor's degree program and must complete the Teacher Education Program (TEP). See Teaching and Learning (College of Education) in the Catalog for more information about the TEP. Interested students must apply to the College of Education for admission to the TEP.

Students interested in pursuing a graduate degree in teaching may apply to the joint Bachelor of Arts/Master of Arts in Teaching program offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates in biology, chemistry, and physics, the joint program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "B.A. in Science/M.A.T. in Science Education" in the Teaching and Learning (College of Education) section of the Catalog. Interested students should consult an advisor.

## B.A. in Biology/M.A.T.

Students interested in pursuing a graduate degree in teaching may apply to the joint Bachelor of Arts/Master of Arts in Teaching program offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates in biology, chemistry, and physics, the joint program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "B.A. in Science/M.A.T. in Science Education" in the Teaching and Learning (College of Education) section of the Catalog. Interested students should consult an advisor.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major, exclusive of courses in the chemistry/physics/mathematics foundation.)

### Bachelor of Science

**Before the third semester begins:** math through calculus I, 004:011 Principles of Chemistry I, 004:012 Principles of Chemistry II, 002:010 Principles of Biology I, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above, plus 002:011 Principles of Biology II, 004:121 Organic Chemistry I, 22S:030 Statistical Methods and Computing or 22S:101 Biostatistics, two other courses in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, 029:011 College Physics I and 029:012 College Physics II or equivalents, plus five or six more courses in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, plus two or three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Bachelor of Arts

**Before the third semester begins:** math through calculus I, 004:011 Principles of Chemistry I, 004:012 Principles of Chemistry II, 002:010 Principles of Biology I, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above, 002:011 Principles of Biology II, 004:121 Organic Chemistry I, 22S:030 Statistical Methods and Computing or 22S:101 Biostatistics, three other courses in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, 029:011 College Physics I and 029:012 College Physics II or equivalents, plus five or six more courses in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, plus two or three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

Biology majors who are members of the University of Iowa Honors Program may enroll in the Honors Program in Biology, which gives talented students membership in a small, active group of undergraduates with common interests. Honors students gain an introduction to the pursuits of practicing scientists by associating with one of the department's research groups and participating in an independent research project guided by a faculty member (the research supervisor). Honors students write a thesis that should be based on an interesting biological problem, which is usually identified by the research supervisor. The thesis should clearly document that the student has acquired the necessary experimental skills to address specific questions and test specific hypotheses related to the research problem. Honors Seminar in Biology (002:198), or equivalent seminar, provides students with an ideal opportunity to improve their skills in seminar presentation and in writing scientific English. Throughout undergraduate residence, biology honors students may also take advantage of enrollment in honors sections of courses within the department and the college.

Membership in the University of Iowa Honors Program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33. To graduate with honors in biology, students must complete the requirements for a B.S. or B.A. in biology with a g.p.a. of at least 3.33 in all course work in the biology major taken at The University of Iowa (including all biology courses and cognates in chemistry, physics, biochemistry, mathematics, and statistics). In addition, students must fulfill the following requirements: complete 2 s.h. in either 002:198 Honors Seminar in Biology or an advanced-level biology seminar course; complete a minimum of 6 s.h. (taken over two or more semesters) of 002:196 Honors Investigations; write a brief research proposal summarizing the background and goals of their proposed honors research; upon completion of their research, submit an acceptable honors thesis; and give a brief oral presentation of their research findings to other biology honors students.

Students pursuing a B.S. in biology may apply 6 s.h. of 002:196 Honors Investigations toward the investigative laboratory requirement in an appropriate track. Students pursuing a B.A. in biology may apply 6 s.h. of 002:196 Honors Investigations toward the elective laboratory course requirement and count the 2 s.h. earned in 002:198 Honors Seminar in Biology toward the elective requirement.

Biology majors interested in pursuing an honors degree should contact the biology honors advisor as early as possible, preferably in their sophomore or junior year, so that they may be matched with an appropriate lab.

## Minor

The minor in biology requires a minimum of 15 s.h. in biology courses, including 12 s.h. in 100-level courses offered by the Department of Biology at The University of Iowa or in approved Iowa Lakeside Laboratory courses. Students must maintain a g.p.a. of at least 2.00 in the minor and in the 100-level courses. Course work in the minor may not be taken pass/nonpass. Students may not use transfer courses to satisfy the 100-level course requirement.

## Graduate Programs

The Department of Biology offers a Master of Science, with and without thesis, and a Doctor of Philosophy in biology. The department emphasizes the Ph.D.

The department's graduate programs emphasize original research and the skills essential for publishing and communicating research findings to the biology community. They prepare students for careers in the academic research community, education, industry, and government.

Research programs in the department cover most areas of the biological sciences: cell biology, developmental biology, ecology, evolution, genetics, neurobiology, and plant biology. Doctoral students who wish to specialize in one of four subtracks choose from cell and developmental biology, evolution, genetics, or neurobiology. For each track's requirements, see Graduate Programs on the Department of Biology web site.

When a new graduate student is admitted, he or she is assigned a temporary advisor. The student and advisor meet before registration to discuss the student's educational background and to formulate a study plan for the first year. Students may be advised to take specific course work to enhance their background in certain areas.

During the first year, students whose preparation in chemistry, genetics, mathematics, and physics does not meet the department's graduate entry requirements must remedy deficiencies by taking appropriate course work.

Minimum entry requirements are:

two semesters of organic chemistry or one semester of organic chemistry and one semester of biochemistry;  
one semester of calculus;

two semesters of college physics; and

20 s.h. of course work in biology.

A student with a bachelor's degree outside the biological sciences may request modification of certain area requirements; the Graduate Affairs Committee decides whether portions of the requirements may be waived. Students also take 002:128 Fundamental Genetics during the first year, unless they are excused from this requirement by the Graduate Affairs Committee. After the first year, students are advised by their research sponsor and dissertation committee.

## **Master of Science**

The Master of Science in biology requires 30 s.h. of graduate credit with thesis, and 34 s.h. of graduate credit without thesis. All M.S. students take a seminar (2 s.h.) with a substantial writing and oral presentation requirement and two advanced lecture-based courses in biology. Students receive academic credit for courses required for an M.S. or Ph.D. but not for courses taken to remedy undergraduate deficiencies.

Thesis students may count a maximum of 9 s.h. of research credit toward the degree. Remaining course work is tailored to the student's background and career goals and is selected in consultation with the student's advisory committee. The thesis is based on original research. After the thesis is accepted by the student's supervisor and advisory committee, the student must pass an oral examination based on the thesis research and on related subjects.

Nonthesis students must write a library research report for a maximum of 4 s.h. of credit. They may apply up to 8 s.h. of research credit toward the degree. The nonthesis program may include credit earned in biology or cognate sciences; course work is tailored to the student's background and career goals and is selected in consultation with the student's advisory committee.

On completion of the 34 s.h. and acceptance of the research report by the faculty sponsor, the student must pass a written examination covering the graduate program in biology, including the area of the research report.

## **Doctor of Philosophy**

The Doctor of Philosophy in biology requires a minimum of 72 s.h. of graduate credit.

The department expects new Ph.D. students to do research in three laboratories on a rotating basis during their first academic year (August-May). Students consult with their temporary advisors and with prospective faculty research sponsors before identifying their preferences for research rotations. They choose a permanent laboratory affiliation based on their rotations.

During the first academic year, students are required to enroll in the department's colloquium, which is based on a weekly Friday seminar series. In the second semester, the colloquium includes a discussion component based on the weekly seminar series. During the first two years, students must enroll in at least two advanced lecture courses, one seminar course (2 s.h.) that has a significant writing component, and a course on scientific writing designed for graduate students.

Additional formal course work and proficiency requirements for each Ph.D. student are determined by the dissertation committee on the basis of the student's background and current and prospective research interests. The dissertation committee also determines what portion of the formal course or proficiency requirements the student must complete before the comprehensive examination. In this examination, students must demonstrate knowledge of biology fundamentals and the analytic and synthetic skills necessary to become creative, independent scientists. Once they complete the course work and proficiency requirements and pass the comprehensive examination, students may be admitted to full candidacy for the Ph.D.

Students also must demonstrate teaching skills by assisting in instruction as teaching assistants for at least two semesters.

The program culminates in students' preparation of a dissertation based on original, independent research. Students must pass a final examination that covers the thesis and its specialized field before the Ph.D. is awarded.

## **Admission**

Application materials for the graduate program must be sent both to the University's Office of Admissions and to the Department of Biology graduate admissions committee. Complete instructions are listed on the application form; contact the Department of Biology or visit its web site. Applicants should have official transcripts from each undergraduate and graduate institution they have attended sent to both the Office of Admissions and the Department of Biology. They also should arrange to have official scores from the Graduate Record Examination (GRE) General Test (verbal, quantitative, and analytical writing) sent to both offices. A valid B.S. or B.A. from an accredited institution is required.

Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL), and have their score sent to the Office of Admissions. International applicants who received their degrees (either bachelor's or master's) from a U.S. institution are exempt from this requirement. All international students whose first language is not English are required to take an English proficiency exam when they first enroll for classes.

Successful applicants for graduate admission usually have a g.p.a. of at least 3.00 and score above 1200 on the Graduate Record Examination (GRE) General Test (combined verbal and quantitative). These criteria are general guidelines for the admissions committee, which also considers letters of recommendation, research experience, and other appropriate criteria.

The department recommends that applicants also take the Graduate Record Examination advanced biology test and submit their scores. Although most applicants have completed undergraduate programs in biology, the department also considers applicants with backgrounds in biophysics, botany, biochemistry, molecular biology, microbiology, and other related areas.

Applications should be submitted by January 15 and must include the GRE test scores. In order to meet the deadline, applicants must take the GRE in October or earlier. Late applications are considered as placement and funding permit.

Students applying for admission to the M.S. with thesis program in biology should have a bachelor's degree in one of the biological sciences. Students with bachelor's degrees in other areas may need to register as nondegree students (A9 or G9) and make up the equivalent of the department's bachelor's degree program prior to consideration for admission. Nondegree students must complete chemistry, physics, and calculus requirements in addition to the biology courses listed in the undergraduate program. Nondegree students should consult the department's graduate program administrator before applying for admission.

The M.S. degree without thesis is an exit degree. Students are not permitted to enter as graduate students with this degree objective.

For more information, visit the Department of Biology web site.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

All graduate students making satisfactory progress toward the Ph.D. receive stipend and full tuition support from non-University of Iowa fellowships, teaching assistantships, or research assistantships available through individual research grants administered by faculty members or by the University. First-year Ph.D. students are supported by department fellowships during the research rotation period.

## Facilities

The department is housed in three contiguous buildings, with modern facilities and equipment for state-of-the-art research.

Facilities include the Keck Dynamic Image Analysis Facility, which couples sophisticated state-of-the-art microscopy and computerized motion analysis to permit three-dimensional real-time analysis of cell movement *in vitro* and *in situ*. The Roy J. Carver Center for Genomics houses the department's DNA sequencing, oligo synthesis, quantitative PCR, functional genomics/microarray facilities, and informatics facilities. The Carver Center for Imaging is a well-staffed microscopy and imaging facility; its newly established confocal microscope is available for teaching and research.

Two large greenhouses are used in plant research and education.

The department also houses animal-care facilities suitable for mice, rats, rabbits, *Xenopus laevis*, and zebra fish. These facilities are managed by the University's animal care unit, which is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care. A central University facility provides assistance in the preparation of transgenic mice.

The department is also the home of the Developmental Studies Hybridoma Bank, which is affiliated with the National Institutes of Health. The hybridoma bank collects and distributes monoclonal antibodies that originate in laboratories all over the world. Its collection now contains more than 700 monoclonal antibodies that are distributed to users internationally for a modest fee.

In addition to department facilities, the University offers a genomic sequencing service, a DNA oligonucleotide synthesis and enzyme lab, oligopeptide synthesis and sequencing equipment, and mass- and NMR spectroscopy facilities. The Center for Biocatalysis and Bioprocessing is available for growing large amounts of microorganisms (e.g., 100 liters) for use in protein isolation.

## Iowa Lakeside Laboratory

The Iowa Lakeside Laboratory is a field station run cooperatively by The University of Iowa, Iowa State University, and the University of Northern Iowa. Located on West Lake Okoboji, in northwestern Iowa, the laboratory affords excellent conditions for summer study in field biology, limnology, phycology, aquatic ecology, pollination biology, and plant taxonomy. It offers a wide variety of summer courses at the undergraduate and graduate levels. Students should check with their advisors to determine whether specific courses may be counted toward requirements for graduation. Also see Iowa Lakeside Laboratory (University College) in the Catalog or visit the Iowa Lakeside Laboratory web site.

## Biology Courses

Many courses include field and/or laboratory components.

### For Precollege Students

#### 002:004 Secondary Student Training Program

3-4 s.h.

Special projects. Requirements: secondary school enrollment.

### Primarily for Undergraduates

#### 002:001 Introduction to Botany

4 s.h.

Biology of plant life; emphasis on structure, function, reproduction, inheritance, diversity, evolution. Requirements: one year of high school chemistry. GE: Natural Sciences.

#### 002:002 Introductory Animal Biology

4 s.h.

Fundamental principles: cells and macromolecules, energy metabolism, organismic physiology, genetics, development, ecology, and evolution. Requirements: one year of high school chemistry. Recommendations: 004:007. GE: Natural Sciences.

#### 002:010 Principles of Biology I

4 s.h.

Structure and function of cells; structure, function, reproduction of higher plants and vertebrate animals; first of two-semester course sequence. Prerequisites: 004:011. GE: Natural Sciences.

#### 002:011 Principles of Biology II

4 s.h.

Continuation of 002:010; genetics, development, immunology, ecology, evolution. Prerequisites: 002:010 and 004:011. GE: Natural Sciences.

### Elementary Topics of General Interest

These courses are not open to graduate students and do not provide credit toward a biology major.

#### 002:021 Human Biology

4 s.h.

Molecular and cellular basis of human life; integration of humans and the biosphere through photosynthesis, respiration; structure, function of human tissues, organs, organ systems; reproduction, genetics, impact of molecular biology and genetic engineering; lecture, laboratory. GE: Natural Sciences.

#### 002:022 Ecology and Evolution

3 s.h.

Evolution and diversity of living things, their patterns on Earth, their organization in ecological systems; dynamics of evolutionary processes. GE: Natural Sciences.

#### 002:029 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

#### 002:040 Biology of the Brain

3 s.h.

Experimental studies of brain structure and function; consciousness; self; nature of mental illness; genetic and environmental determinants of behavior. Recommendations: nonscience major. GE: Natural Sciences.



- 002:081 Human Genetics in the Twenty-First Century** 3 s.h.  
Heredity in human families, populations; genetic basis of normal, abnormal traits; chromosome behavior; molecular basis of genetics; sex determination. GE: Natural Sciences. Same as 113:081.
- 002:087 Spring Flora** 3 s.h.  
Recognition and identification of spring-flowering herbaceous plants, native woodland trees and shrubs, woody landscape plants; family characteristics, use of taxonomic key.
- 002:095 Plants and Human Affairs** 2-3 s.h.  
How plants are useful to people: food, clothing, shelter, medicines, psychoactive agents; plants' social, economic, ecological significance. GE: Natural Sciences.

## For Undergraduate and Graduate Students

- 002:101 Teaching Internship in Biology** 2 s.h.  
Training in teaching the laboratory component of a large General Education biology course; weekly session with instructor, shadowing and assisting a graduate teaching assistant in a lab section, leading laboratory exercises. Requirements: grades of B or higher in 002:010 and 002:011, and junior or senior standing.
- 002:103 Biogeography** 3 s.h.  
Patterns of plant and animal distribution and their interpretation; historical geography, including glaciation, plate tectonics; ecological geography, including physical factors such as climate, geology. Prerequisites: 002:001, or 002:010 and 002:011, or 044:003. Same as 044:103.
- 002:104 Introduction to Developmental Biology** 3 s.h.  
Fundamental mechanisms in differentiation, organogenesis, morphogenesis; and pattern formation; mechanistic approach at molecular, cellular, tissue levels of organizations. Prerequisites: 004:012. Requirements: grades of C- or higher in 002:011 and 002:128.
- 002:108 Vertebrate Zoology** 4 s.h.  
Vertebrate diversity, success in relation to evolutionary history, and adaptive radiation of fish, amphibians, reptiles, birds, mammals; physiological, morphological, behavioral, life history adaptations; vertebrate zoogeography, systematics, patterns of reproduction, social systems. Prerequisites: 002:010 and 002:011.
- 002:114 Cell Biology** 3 s.h.  
Structures of cells and organelles in relation to their functions at molecular, cellular levels; emphasis on higher eukaryotic cells. Prerequisites: 002:010, 002:011, and 004:012.
- 002:117 Plant Developmental Biology** 3 s.h.  
Developmental processes throughout life cycle of vascular plants; current knowledge of mechanisms, control; emphasis on molecular, genetic approaches to development, including transposon tagging, transformation. Prerequisites: 002:128.
- 002:123 Plant Biochemistry** 3 s.h.  
Fundamental concepts in biochemistry: compartmentalization, cell reproduction, energy flow, and metabolism; emphasis on plant hormone biosynthesis and signal transduction; unique capabilities of plants including photosynthesis and nitrogen fixation; application of modern biochemical and molecular biological principles and techniques to the solution of contemporary problems. Prerequisites: 002:010, 002:011, and 004:121.
- 002:124 Animal Physiology** 3 s.h.  
Principles of cellular and systems physiology; emphasis on experimental and quantitative aspects. Prerequisites: 002:010, 002:011, and 029:011 or 029:081. Corequisites: 029:012 or 029:082, if not taken as a prerequisite.
- 002:128 Fundamental Genetics** 3-4 s.h.  
Nature, function of genetic material: classical, molecular, developmental aspects. Prerequisites: 002:010 and 004:012. Corequisites: 004:121, if not taken as a prerequisite. Requirements: grade of C- or higher in 002:011.

**002:131 Evolution**

4 s.h.

Nature, evidence, analysis, implications, molecular/genetic basis; historical record, phylogeny, speciation, adaptation, investigative methods. Prerequisites: 002:010, 002:011, 002:128, and 22M:016 or 22M:025 or 22M:031 or 22S:030 or 22S:101. Requirements: grade of C- or higher in 002:128.

**002:132 Evolution Lab**

3 s.h.

Methods of sampling and describing variation in natural populations; application of molecular genetic, bioinformatic, and computational techniques to describe genetic variation through sequence analysis; use of controlled laboratory experiments and computer simulations to illustrate evolutionary principles. Prerequisites: 002:128. Corequisites: 002:131.

**002:133 Cell Biology Laboratory**

3 s.h.

Conceptual understanding and technical skills in fluorescence microscopy and digital imaging, mammalian cell culture, tissue fractionation, centrifugation, electrophoresis, and expression of recombinant proteins. Prerequisites: 002:010 and 002:011. Requirements: a 100-level course in biology, biochemistry, or microbiology.

**002:134 Ecology**

3-4 s.h.

Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems. Prerequisites: 002:010, 002:011, and 22M:016 or 22M:025 or 22M:031. Recommendations: a basic statistics course. Same as 159:134.

**002:135 Developmental Biology Lab**

3 s.h.

Experimental manipulation of embryos to examine mechanisms of early development, including gametogenesis and fertilization, cleavage, gastrulation, pattern formation and organogenesis; in vivo imaging of development, methods to visualize gene expression and independent research; model organisms including sea urchin, fish, frog, chick, mouse. Prerequisites: 002:104 and 002:128.

**002:138 Genetics and Biotechnology Lab**

3 s.h.

Expansion of genetic concepts introduced in 002:128; introduction to genetic/molecular techniques currently used in genetic analysis and biotechnology. Prerequisites: 002:128.

**002:143 Animal Behavior**

4 s.h.

Genetics, sensory physiology, migration, development of behavior, circadian rhythms, foraging strategies, aggression, sexual and parental behavior, group selection, social behavior. Prerequisites: 002:010 and 002:011.

**002:145 Introduction to Neurobiology**

3 s.h.

Techniques of molecular biology, genomics, neuropharmacology, and functional brain imaging applied to understanding how the brain works. Prerequisites: 002:010 and 002:011.

**002:150 Endocrinology**

3 s.h.

Glands of internal secretion; emphasis on vertebrate systems; actions of hormones in regulating growth and metabolism, organ to molecular levels. Prerequisites: 002:010 and 002:011. Recommendations: 004:121.

**002:160 Molecular Phylogenetics**

3 s.h.

Theory underlying phylogenetic analysis with application of these methods to molecular data sets; analysis of multigene data, organellar, and nuclear genome sequences to reconstruct the history of cells. Requirements: grade of C- or higher in 002:131 or graduate standing.

**002:162 Population Genetics and Molecular Evolution**

3 s.h.

Nucleotide sequences, genes, and mutation; rates and patterns of nucleotide substitution; selection at the molecular level and the neutral theory; population genetics theory; genome evolution. Requirements: grade of C- or higher in 002:131 or graduate standing.

**002:168 Genes and Development**

3 s.h.

Mechanisms by which genes control development of multicellular animals; methodology of scientific research applied to developmental genetics. Requirements: grade of B or higher in 002:128. Recommendations: 002:104.

**002:169 Introduction to Bioinformatics**

4 s.h.

Basics of genetics and molecular biology; overview of bioinformatics and genome science, including genome projects, functional genomics, phylogenetics, proteomics, microarrays, DNA polymorphisms, data-mining algorithms; experimental methods, analytical approaches. Requirements: 002:128 or 099:120 or graduate standing. Same as 051:121, 055:121.

**002:170 Bioinformatics**

3 s.h.

Overview of bioinformatics and genomics; requires working knowledge of basic concepts in genetics and molecular biology. Requirements: (for 002:170) grade of B+ or higher in 002:128; (for 127:170) grade of B+ or higher in 002:128 and working knowledge of basic genetics and molecular biology concepts. Same as 127:170.

**002:171 Molecular Genetics**

4 s.h.

Mechanism, regulation of RNA, DNA, protein biosynthesis, with emphasis on methods of genetic analysis; application of modern recombinant DNA techniques to basic problems. Requirements: 002:128 or 099:120 or first-year graduate standing.

**002:174 Computational Genomics**

3 s.h.

Same as 051:122, 055:122, 127:173.

**002:176 Microarray Data Analysis**

3 s.h.

Basic statistical principles and techniques used in bioinformatics, including analyzing microarray gene expression data. Offered spring semesters. Prerequisites: 22S:030 or 22S:101 or 171:161. Same as 127:176, 171:185.

**002:178 Genomics**

3 s.h.

Major areas of genomics, including DNA and protein sequence analysis, structural diversity of whole genomes, microarray applications, proteomics; computer workshop experience in applying bioinformatics tools. Prerequisites: 002:128 or 099:120.

**002:180 Fundamental Neurobiology**

4 s.h.

Neuronal function, plasticity, and development at the molecular and cellular levels. Prerequisites: 002:145. Recommendations: 002:114 and 099:110. Same as 132:180.

**002:181 Neurophysiology**

3-4 s.h.

Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: 002:180, 22M:025, and 029:012 or 029:082. Same as 132:181.

**002:184 Developmental Neurobiology**

3 s.h.

Neural induction and nervous system patterning; neurogenesis, axon and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Requirements: grade of B- or higher in 002:180 or graduate standing. Same as 072:184, 132:184.

**002:186 Neurobiology Laboratory**

3 s.h.

Principles and practice of neurobiology research, including microscopy and imaging, cellular and molecular neurobiology, and electrophysiology. Prerequisites: 002:180.

**002:190 Topics in Evolution and Ecology**

1-2 s.h.

Requirements: grade of B- or higher in 002:131 or graduate standing.

**002:191 Topics in Molecular Genetics**

1-2 s.h.

Requirements: grade of C+ or higher in 002:128 or graduate standing.

**002:192 Basic Biology of Human Disease**

2 s.h.

Basic problems of infectious disease; selected viral, bacterial, and fungal pathogens, with emphasis on fungal pathogenesis; DNA fingerprinting; epidemiological study of disease dynamics. Prerequisites: 002:128.

**002:193 Cell Motility and Cytoskeleton**

1-3 s.h.

**002:194 Topics in Cell and Development**

1-2 s.h.

<b>002:195 Topics in Neurobiology</b> Topics vary. Prerequisites: 002:180.	1-2 s.h.
<b>002:196 Honors Investigations</b> Experimental and theoretical research, readings in biological sciences. Requirements: honors standing.	arr.
<b>002:198 Honors Seminar in Biology</b> Requirements: honors standing.	2 s.h.
<b>002:199 Introduction to Research</b>	3 s.h.

### Primarily for Graduate Students

<b>002:200 Biology Colloquium</b> Repeatable. Requirements: first-year biology graduate standing.	0-2 s.h.
<b>002:207 Research Method and Theory</b> Materials and methods of scientific investigation; lab techniques; library resources usage, NCBI data base training; lab safety; research ethics; reading, writing, presenting scientific papers. Requirements: new graduate standing in biology.	2 s.h.
<b>002:215 Critical Readings in Biology</b>	arr.
<b>002:220 Advanced Microscopy Biomedical Research</b> Technically advanced microscopy methods for research; individualized laboratory experience with opportunity to explore application of microscopy methods. Requirements: (for 060:220) an introductory microscopy course; (for 002:220) 002:218 or 060:218 or 061:218 or 012:156 or 052:156 or 060:156; (for 061:220) an introductory EM course. Same as 060:220, 061:220.	arr.
<b>002:228 Fundamental Genetics--Graduate</b> Critical evaluation of classic genetics papers. Corequisites: 002:128. Requirements: biology graduate standing.	1 s.h.
<b>002:234 Seminar: Writing in Natural Sciences</b> Writing and critiquing skills in the natural sciences.	2 s.h.
<b>002:265 Neuroscience Seminar</b> Research presentations. Offered fall and spring semesters. Same as 031:265, 060:265, 072:265, 132:265.	0-1 s.h.
<b>002:270 Biosciences Critical Thinking and Communication</b> Selected papers and oral and written presentations tied to students' research rotations; introductory seminar. Repeatable. Same as 072:342, 156:265.	2 s.h.
<b>002:280 Fundamental Neurobiology--Graduate</b> Overview of neuroscience; emphasis on cellular level.	4 s.h.
<b>002:301 Research: Biology</b> Repeatable.	arr.
<b>002:303 Independent Study in Biology</b> Repeatable.	arr.

# Chemistry

**Chair:** Mark A. Arnold (Edwin B. Green Chair in Laser-Chemistry)

**Professors:** Mark A. Arnold (Edwin B. Green Chair in Laser-Chemistry), Lei Geng, James B. Gloer (Ralph L. Shriner-Roy J. Carver Professor), Vicki H. Grassian (F. Wendell Miller Professor/Chemistry/Chemical and Biochemical Engineering), Amnon Kohen, Sarah C. Larsen, Leonard R. MacGillivray, Norbert J. Pienta, Daniel M. Quinn, Gary W. Small, David F. Wiemer (Chemistry/Pharmacology)

**Professors emeriti:** Norman C. Baenziger, Donald J. Burton, E. David Cater, Robert E. Coffman, Leodis Davis, John R. Doyle, H. Bruce Friedrich, Harold M. Goff, Vasu Nair, Donald J. Pietrzyk, Dwight C. Tardy

**Associate professors:** Ned Bowden, Darrell P. Eyman, Gregory K. Friestad, Edward G. Gillan, Johna Leddy, Claudio Margulis, Louis Messerle (Chemistry/Radiology), F. Christopher Pigge, Mark A. Young

**Assistant professors:** Chris Cheatum, Tori Z. Forbes, Amanda J. Haes, Sarah E. Mason, Hien M. Nguyen, Jan-Uwe Rohde, Elizabeth A. Stone, Alexei V. Tivanski

**Lecturers:** Russell G. Larson, Mona A. Maalouf, Amy E. Strathman

**Undergraduate degrees:** B.A., B.S. in Chemistry

**Undergraduate nondegree program:** Minor in Chemistry

**Graduate degrees:** M.S., Ph.D. in Chemistry

**Web site:** <http://www.chem.uiowa.edu/>

## Undergraduate Programs

The Department of Chemistry offers a Bachelor of Arts, a Bachelor of Science, and a minor in chemistry. An undergraduate degree in chemistry provides a strong foundation for success in graduate and professional study and for positions in academic or industrial chemistry.

### Bachelor of Science

The Bachelor of Science in chemistry requires a minimum of 120 s.h., including 68 s.h. of work for the major, with 46 s.h. in chemistry courses. Students earn 17 s.h. in five foundation chemistry courses and 29 s.h. in advanced chemistry courses. They must earn at least 20 s.h. in advanced chemistry courses at The University of Iowa.

The five foundation courses are principles of chemistry I-II, organic chemistry I-II, and organic chemistry lab. All subsequent chemistry courses are built on the foundation courses.

Other requirements include integral calculus, introductory physics, science electives, and research. Students also must complete the College of Liberal Arts and Sciences General Education Program.

The B.S. program is certified by the American Chemical Society. Current and projected demand for Bachelor of Science graduates in chemistry is excellent in research and in control and process-development work. The program also provides all the prerequisites for graduate work in chemistry or biochemistry and in other biomedical areas with a molecular focus.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses are taught only once a year. Students should plan carefully, in consultation with their academic advisors. They should take 004:021 Basic Measurement during the first semester of the second year.

The B.S. requires the following course work.

#### CHEMISTRY: FOUNDATION COURSES

One of these sequences:

004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:018-004:019-004:020 Chemical Science I-II - Chemical Science Laboratory	8 s.h.

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6 s.h.

#### CHEMISTRY: ADVANCED COURSES

One of these:

004:141 Organic Chemistry Laboratory	3 s.h.
004:142 Organic Chemistry Laboratory for Majors (preferred)	3 s.h.

All of these:

004:021 Basic Measurement (first semester of second year)	3 s.h.
---	--------

004:111-004:112 Analytical Chemistry I-II	6 s.h.
004:125 Inorganic Chemistry	2 s.h.
004:131-004:132 Physical Chemistry I-II	6 s.h.
004:143 Analytical Measurements	3 s.h.
004:144 Physical Measurements	3 s.h.
004:153 Inorganic Chemistry Laboratory	3 s.h.
004:170 Advanced Inorganic Chemistry	3 s.h.

#### **INTEGRAL CALCULUS**

One of these sequences:

22M:025-22M:026 Calculus I-II (preferred)	8 s.h.
22M:031-22M:032 Engineering Mathematics I: Single Variable Calculus - Engineering Mathematics II: Multivariable Calculus	8 s.h.

#### **INTRODUCTORY PHYSICS**

One of these sequences:

029:011-029:012 College Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II (preferred)	8 s.h.

#### **SCIENCE ELECTIVES AND RESEARCH**

Total of 6 s.h. chosen from these:

004:162 Undergraduate Research	1-4 s.h.
Advanced science elective courses	

Students must earn a total of at least 6 s.h. chosen from advanced science elective courses and/or 004:162 Undergraduate Research (004:162 may be repeated for additional credit). A partial list of courses that satisfy the chemistry elective requirement is available on the department's web site (see Undergraduate Program/Degrees). Generally, advanced courses in related science disciplines beyond the introductory level and math-related courses with a prerequisite of calculus II or equivalent are accepted. Students should consult their advisors to gain approval for a course that is not on the list.

### **Bachelor of Arts**

The Bachelor of Arts in chemistry requires a minimum of 120 s.h., including 53 s.h. of work for the major, with 37 s.h. in chemistry courses. Students earn 17 s.h. in five foundation chemistry courses and 20 s.h. in advanced chemistry courses. They must earn at least 11 s.h. in advanced chemistry courses at The University of Iowa.

The five foundation courses are principles of chemistry I-II, organic chemistry I-II, and organic chemistry lab. All subsequent chemistry courses are built on the foundation courses.

Other requirements include integral calculus and introductory physics. Students also must complete the College of Liberal Arts and Sciences General Education Program.

The B.A. program in chemistry provides a more general education, with a concentration in fundamental chemistry and a wider choice of electives than the B.S. program includes. Advanced courses in chemistry, biology, mathematics, physics, or other scientific areas are recommended.

Bachelor of Arts graduates in chemistry may qualify to be high school teachers, provided they meet teacher licensure requirements. By choosing appropriate electives, students can meet entrance requirements for chemistry, biochemistry, medicine, dentistry, or other graduate or professional programs while satisfying the B.A. requirements in chemistry. Graduates also may pursue careers and education in business, law, and other areas.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses are taught only once a year. Students should plan carefully, in consultation with their academic advisors. Students should take 004:021 Basic Measurement during the first semester of the second year.

The B.A. requires the following course work.

**CHEMISTRY: FOUNDATION COURSES**

One of these sequences:

004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:018-004:019-004:020 Chemical Science I-II - Chemical Science Laboratory	8 s.h.

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6 s.h.

One of these:

004:141 Organic Chemistry Laboratory	3 s.h.
004:142 Organic Chemistry Laboratory for Majors (preferred)	3 s.h.

**CHEMISTRY: ADVANCED COURSES**

One of these:

004:143 Analytical Measurements	3 s.h.
004:144 Physical Measurements	3 s.h.
004:153 Inorganic Chemistry Laboratory	3 s.h.

All of these:

004:021 Basic Measurement (first semester of second year)	3 s.h.
004:111-004:112 Analytical Chemistry I-II	6 s.h.
004:125 Inorganic Chemistry	2 s.h.
004:131-004:132 Physical Chemistry I-II	6 s.h.

**INTEGRAL CALCULUS**

One of these sequences:

22M:025-22M:026 Calculus I-II (preferred)	8 s.h.
22M:031-22M:032 Engineering Mathematics I: Single Variable Calculus - Engineering Mathematics II: Multivariable Calculus	8 s.h.

**INTRODUCTORY PHYSICS**

One of these sequences:

029:011-029:012 College Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II (preferred)	8 s.h.

**B.A. or B.S. with Teacher Licensure**

Chemistry courses required for the B.S. or B.A. satisfy the major requirements for teaching in secondary schools. A minor in chemistry satisfies the requirements for a teaching emphasis in chemistry (see Science Education in the Catalog).

Students who wish to teach must complete the Teacher Education Program (TEP). See Teaching and Learning (College of Education) in the Catalog for more information about the TEP. Interested students must apply to the College of Education for admission to the TEP.

**Joint B.A. in Chemistry/M.A.T.**

B.A. students majoring in chemistry who are interested in pursuing a graduate degree in teaching may apply to the

joint Bachelor of Arts/Master of Arts in Teaching program offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates in biology, chemistry, and physics, the joint program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "B.A. in Science/M.A.T. in Science Education" in the Teaching and Learning (College of Education) section of the Catalog. Interested students should consult an advisor.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Note: Courses in the chemistry major have prerequisites. Students must take required courses in the correct sequence in order to satisfy prerequisites and avoid regression; a typical chemistry course schedule and a regression list are available on the department's web site (see Undergraduate Program/Degrees). Most advanced courses are taught only once a year. Students should plan carefully, in consultation with their academic advisors. They should take 004:021 Basic Measurement during the first semester of the second year.

### Bachelor of Arts

**Before the third semester begins:** math through calculus I, 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II or 004:018 Chemical Science I, 004:019 Chemical Science II, and 004:020 Chemical Science Laboratory or equivalent course work, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above; calculus II; organic chemistry I, II, and lab; physics I and II; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, four more courses in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, and one or two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Bachelor of Science

**Before the third semester begins:** math through calculus I, 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II or 004:018 Chemical Science I, 004:019 Chemical Science II, and 004:020 Chemical Science Laboratory or equivalent course work, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above; calculus II; physics I and II; organic chemistry I, II, and lab; three other courses in the major; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, six more courses in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, and three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Honors

To graduate with honors in chemistry, a student must be a member of the University Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Honors students in chemistry must take 004:162 Undergraduate Research, complete a research project acceptable to their research advisors, and write an honors thesis based on that research. Students are encouraged, but not required, to present their research at local and regional meetings and to publish their results in professional journals. Students who complete 6 s.h. of 004:162 Undergraduate Research may earn additional honors research credit through an honors practicum.

### Minor

The minor in chemistry requires a minimum of 15 s.h. in courses offered by the Department of Chemistry at The University of Iowa, including 12 s.h. in advanced courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

Advanced courses are numbered above 100 and below 280, except 004:162 Undergraduate Research and 004:191



Graduate Chemistry Orientation. Students normally complete the minor by taking the introductory sequence 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II (or 004:018 Chemical Science I, 004:019 Chemical Science II, and 004:020 Chemical Science Laboratory) followed by the 12 s.h. of advanced course work, which most commonly consists of the organic chemistry sequence 004:121 Organic Chemistry I, 004:122 Organic Chemistry II, and 004:141 Organic Chemistry Laboratory (or 004:123 Organic Chemistry I for Majors, 004:124 Organic Chemistry II for Majors, and 004:142 Organic Chemistry Laboratory for Majors) plus one more 3 s.h. chemistry course, such as 004:111 Analytical Chemistry I, 004:131 Physical Chemistry I, 004:132 Physical Chemistry II, 004:170 Advanced Inorganic Chemistry, or 004:172 Advanced Organic Chemistry.

## **Resources, Activities**

The department offers undergraduate students majoring in chemistry and other students interested in chemistry a number of opportunities to enrich their classroom studies.

### **Undergraduate Chemistry Center**

The Chemistry Center serves all students who take chemistry courses as well as the department's professors and teaching assistants. The center maintains waiting lists and offers other assistance with registration; returns examinations and homework assignments and maintains a file of lecture hand-outs; provides a lending library of chemistry textbooks that can be checked out; and maintains bulletin boards with information on all lower-level chemistry courses. Information about student organizations and departmental scholarships and awards also is available at the Chemistry Center.

### **Student Organizations**

Students may join the Undergraduate Chemical Society, a student affiliate of the American Chemical Society (ACS). Chapter activities include dinner meetings with guest speakers; a chemistry tutoring service for other students; participation in local and national meetings of the ACS; and participation in chemistry outreach programs. Students in UCS develop leadership, organization, and speaking skills valuable throughout their college experience and in their subsequent careers.

The department has a chapter of Alpha Chi Sigma, a co-ed chemistry fraternity. The Alpha Theta Chapter is open to students in chemistry, biochemistry, chemical engineering, and related fields. Alpha Chi Sigma sponsors many social and professional events throughout the year.

The department also supports the activities of Women in Science and Engineering (WISE), whose aim is to increase women's participation and advancement as students, faculty members, and professional staff; promote a supportive study and work environment for women; integrate women's ideas, strengths, and approaches into research, teaching, and service; and inform the public of educational and career opportunities for women in scientific and technical fields. WISE sponsors a living-learning community in Stanley Hall (a University residence hall) for first-year female students majoring in science or engineering, the Student-to-Student Support in Science mentoring program, a service learning program, and the WISE Discourse and Dining series.

## **Scholarships and Awards**

A number of awards and scholarships are available to chemistry majors, including the American Institute of Chemists Award, the Undergraduate Award in Analytical Chemistry, the Chemistry Alumni Awards (one each for a sophomore, a junior, and a senior), the Merck Index Award, and the Viksnins, Harris & Padys PLLP Award.

Chemistry majors also may apply for the Donald J. and Margaret Burton Scholarship, Ken Sando Scholarship, Shoemaker-Strickler Scholarship, and Russell K. Simms Scholarship.

## **Graduate Programs**

The department offers a Master of Science, with and without thesis, and a Doctor of Philosophy in chemistry.

### **Master of Science**

The Master of Science in chemistry requires a minimum of 30 s.h. of graduate credit. The degree is offered with or without thesis, in analytical, inorganic, organic, and physical chemistry. M.S. students must demonstrate minimal proficiency in analytical, inorganic, organic, and physical chemistry by passing specific examinations or by enrolling in suitable core courses. This requirement must be completed by the end of the second year of enrollment. A g.p.a. of at least 3.00 is required for admission to the master's examination.

### **Doctor of Philosophy**

The Doctor of Philosophy in chemistry requires a minimum of 72 s.h. of graduate credit. Ph.D. study in analytical,

inorganic, organic, and physical chemistry includes minimal proficiency examinations, core courses as necessary, a minimum of 11 s.h. of advanced course work, and research.

Students who meet the course requirements with a cumulative g.p.a. of 3.00 or higher are admitted to the oral comprehensive examination upon presentation and preliminary approval of their written research proposal and research progress report; they must take the oral comprehensive examination no later than the end of their second year of enrollment.

Upon completing Ph.D. research, candidates prepare the dissertation. The final examination consists of an oral defense of the thesis, at which time the candidate presents at least one manuscript of the publishable portion of his or her thesis.

## Admission

Applicants for graduate admission should have a bachelor's degree in chemistry, preferably with a g.p.a. of 3.00 or higher. Most admitted graduate students receive financial support. For application information, contact the Department of Chemistry or visit its web site.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Facilities

The Department of Chemistry office, support facilities, and faculty offices are located in the Chemistry Building, as is laboratory and classroom space dedicated to teaching and research activities. Several faculty members have offices and laboratories in the Iowa Advanced Technology Laboratories, across the street from the Chemistry Building. See the Department of Chemistry web site for information about facilities and advanced instrumentation available for instruction and research.

## Chemistry Courses

### Primarily for Undergraduates

Students planning to take more than one year of chemistry should take 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II. Students who require only one year of chemistry with no laboratory component may take 004:007 General Chemistry I and 004:008 General Chemistry II. Students who have not had high school chemistry or do not have strong math and/or chemistry preparation should consider taking 004:007 General Chemistry I before 004:011 Principles of Chemistry I; academic advisors and the Chemistry Diagnostic Test can help students determine whether to take 004:007 General Chemistry I before 004:011 Principles of Chemistry I.

#### **004:005 Technology and Society** 3 s.h.

Nonmathematical exploration of selected areas of technology; basic science background, current technological applications, implications for society; for nonscience majors. Requirements: closed to students who have taken college chemistry courses. GE: Natural Sciences.

#### **004:006 Technology and Society Laboratory** 1 s.h.

Laboratory for 004:005; demonstrations, student experiments. Corequisites: 004:005, if not taken as a prerequisite. Requirements: closed to students who have earned more than 3 s.h. in chemistry courses. GE: Natural Sciences.

#### **004:007 General Chemistry I** 3 s.h.

Atomic structure, chemical bonds, mole relations, stoichiometry, states of matter, acids and bases, reaction rates, electrochemistry, nuclear chemistry. Requirements: elementary algebra. GE: Natural Sciences.

#### **004:008 General Chemistry II** 3 s.h.

Organic chemistry and biochemistry. Requirements: 004:007 or high school chemistry. GE: Natural Sciences.

#### **004:009 Supplemental Chemistry Lab** 1 s.h.

Lab techniques, elementary synthesis, measurement, analysis, case-study lectures and experiments; safety glasses, appropriate dress, compliance with laboratory safety protocols required. Requirements: grade of C or higher in 004:018 or 004:019.

#### **004:011 Principles of Chemistry I** 4 s.h.

Chemical bonding and chemical reactions; atomic and molecular structure, chemical equations, stoichiometry, gases, liquids, thermodynamics of phase changes, solutions, equilibrium, acids, bases, pH, elementary organic chemistry; the solid state, including modern materials; lecture, discussion, laboratory. Requirements: 22M:008, or ACT math subscore of 24 and MPT II score of 20, or ACT math subscore of 24 and MPT III score of 10. Recommendations: Chemistry Diagnostic Test score of 15. GE: Natural Sciences.

**004:012 Principles of Chemistry II** 4 s.h.

Continuation of 004:011; colligative properties of solutions, chemical thermodynamics, electrochemistry, chemical kinetics, chemical bonding, aspects of industrial chemistry, nuclear chemistry; lecture, discussion, laboratory. Prerequisites: 004:011. GE: Natural Sciences.

**004:016 Principles of Chemistry Lab** 2 s.h.

Laboratory techniques. Requirements: grades of C or higher in 004:018 and 004:019. GE: Natural Sciences.

**004:018 Chemical Science I** 3 s.h.

GE: Natural Sciences.

**004:019 Chemical Science II** 3 s.h.

GE: Natural Sciences.

**004:020 Chemical Science Laboratory** 2 s.h.

GE: Natural Sciences.

**004:021 Basic Measurement** 3 s.h.

Continuation of 004:012; techniques of data collection and processing, including titrimetric and instrumental techniques for data collection and computer techniques for data processing. Prerequisites: 004:012 or 004:020. Requirements: chemistry major.

**004:029 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**004:111 Analytical Chemistry I** 3 s.h.

Modern theory and practice; emphasis on chemical equilibria (acid-base chemistry, solubility, complexation) and electroanalytical chemistry (potentiometry, voltammetry, coulometry). Corequisites: 004:131 or 004:132, if not taken as a prerequisite.

**004:112 Analytical Chemistry II** 3 s.h.

Continuation of 004:111; emphasis on instrumental methods, including atomic and molecular spectroscopy, mass spectrometry, chemical separations. Prerequisites: 004:111.

**004:121 Organic Chemistry I** 3 s.h.

Carbon-containing compounds; structure, stereochemistry, physical properties, reactivity, reaction mechanisms, synthesis; emphasis on alkanes, alkenes, alkynes, alcohols, alkyl halides, aromatics. Prerequisites: 004:012 or 004:019.

**004:122 Organic Chemistry II** 3 s.h.

Continuation of 004:121; use of spectroscopic techniques to determine chemical structures; chemistry of carbonyl compounds, amines, ethers, amino acids, carbohydrates, nucleosides. Prerequisites: 004:121.

**004:123 Organic Chemistry I for Majors** 3 s.h.

Carbon-containing compounds; structure, stereochemistry, physical properties, reactivity, reaction mechanisms, synthesis; emphasis on alkanes, alkenes, alkynes, alcohols, alkyl halides, aromatics. Prerequisites: 004:012 or 004:019. Requirements: chemistry, biochemistry, or chemical engineering major.

**004:124 Organic Chemistry II for Majors** 3 s.h.

Continuation of 004:123; use of spectroscopic techniques to determine chemical structures; chemistry of carbonyl compounds, amines, ethers, amino acids, carbohydrates, and nucleosides. Prerequisites: 004:121 or 004:123. Requirements: chemistry, biochemistry, or chemical engineering major.

**004:125 Inorganic Chemistry**

2-3 s.h.

Modern principles; emphasis on descriptive chemistry of the main group and transition elements, ionic and covalent chemical bonding theories, symmetry, inorganic stereochemistry. Prerequisites: 004:012 or 004:019. Corequisites: 004:122 or 004:124.

**004:131 Physical Chemistry I**

3 s.h.

Chemical thermodynamics and its application to chemical equilibrium, phase changes and chemical equilibria; ideal and real gases; kinetic theory; surface absorption and electrochemistry; thermodynamics. Prerequisites: 004:012 or 004:019, 029:012 or 029:082, and 22M:026 or 22M:032.

**004:132 Physical Chemistry II**

3 s.h.

Quantum mechanics and its application to atomic and molecular structure; determination of structure and bonding by various spectroscopic methods; chemical kinetics. Prerequisites: 004:012 or 004:019, 029:012 or 029:082, and 22M:026 or 22M:032.

**004:141 Organic Chemistry Laboratory**

3 s.h.

Preparation, purification, identification, analysis of chemical compounds, principally organic compounds. Prerequisites: 004:011 and 004:012, or 004:016 or 004:020; and 004:121 or 004:123. Corequisites: 004:122 or 004:124.

**004:142 Organic Chemistry Laboratory for Majors**

3 s.h.

Preparation, purification, identification, analysis of chemical compounds, principally organic compounds. Prerequisites: 004:011 and 004:012, or 004:016 or 004:020; and 004:121 or 004:123. Corequisites: 004:124. Requirements: chemistry, biochemistry, or chemical engineering major.

**004:143 Analytical Measurements**

3 s.h.

Modern theory and practice of laboratory methods; emphasis on experimental techniques and data analysis in spectroscopy, chromatography, electrochemistry. Prerequisites: 004:111. Corequisites: 004:112.

**004:144 Physical Measurements**

3 s.h.

Laboratory experience using advanced instrumental and computational methods to generate and analyze data relevant to modern physical chemistry. Prerequisites: 004:021. Corequisites: 004:131 or 004:132, if not taken as a prerequisite. Requirements: chemistry major.

**004:153 Inorganic Chemistry Laboratory**

3 s.h.

Preparation and characterization of a variety of inorganic, organometallic, and coordination compounds of the main group and transition elements; emphasis on synthetic techniques, methods for characterization of inorganic species. Prerequisites: 004:125, and 004:141 or 004:142.

**004:162 Undergraduate Research**

1-4 s.h.

**004:170 Advanced Inorganic Chemistry**

3 s.h.

Modern principles, including crystal field/ligand field/molecular orbital theory, inorganic reaction mechanisms, coordination chemistry, bioinorganic chemistry, main group and transition metal organometallic chemistry, solid-state inorganic chemistry. Prerequisites: 004:125 and 004:132. Corequisites: 004:153, if not taken as a prerequisite.

**004:171 Advanced Analytical Chemistry**

3 s.h.

Emphasis on fundamental aspects of electrochemistry, atomic and molecular spectroscopy, chemical separations. Prerequisites: 004:112, 004:131, and 004:132.

**004:172 Advanced Organic Chemistry**

3 s.h.

Basic concepts from perspectives of structure, mechanism, synthesis, stereochemistry. Prerequisites: 004:122 or 004:124.

**004:173 Atmospheric and Environmental Chemistry**

3 s.h.

Fundamental chemical processes of importance in the atmosphere, soil, and water, with emphasis on kinetics and photochemistry of homogeneous and heterogeneous reactions, atmospheric structure and dynamics, global geochemical cycling, chemistry-climate relationships, environmental remediation strategies; experimental methods in field and laboratory studies. Corequisites: 004:131 or 004:132, if not taken as a prerequisite.

**004:175 Introduction to Polymer Chemistry**

1-3 s.h.

Synthesis, structures, characterization, properties, and applications of polymers. Prerequisites: 004:122 and 004:125.

**004:191 Graduate Chemistry Orientation**

2 s.h.

Pedagogy, safety and research issues relevant to advanced chemistry careers. Requirements: senior standing.

**Primarily for Graduate Students****004:201 Special Topics in Inorganic Chemistry**

1-3 s.h.

Repeatable. Prerequisites: 004:170.

**004:202 Coordination Chemistry and Spectroscopy**

1-3 s.h.

Structure and bonding of d-block metal complexes, theory and application of relevant spectroscopic methods, inorganic reaction mechanisms, transition metals in catalysis. Prerequisites: 004:170.

**004:203 Organometallic Chemistry**

2-3 s.h.

Emphasis on organometallic compounds of transition metal elements. Prerequisites: 004:170.

**004:204 Physical Methods in Inorganic Chemistry**

3 s.h.

Application of physical methods to problems; recent developments; emphasis on magnetic resonance spectroscopy. Prerequisites: 004:170.

**004:205 Bioinorganic Chemistry**

2-3 s.h.

The role of metal ions in biology from an inorganic chemical perspective; emphasis on structure and mechanism for transition metal-containing metallo-enzymes. Prerequisites: 004:170.

**004:206 Solid-State and Materials Chemistry**

3 s.h.

Introduction to the chemical concepts of solid-state chemistry; focus on synthesis and characterization of various inorganic materials; structure/property relationships, real-world examples. Prerequisites: 004:170.

**004:207 Electrochemistry**

2-3 s.h.

Fundamental aspects, including mass transport and electron transfer, electrochemical methodology (e.g., voltammetry and potentiometry), determination of homogeneous and heterogeneous reaction mechanisms. Prerequisites: 004:111, 004:112, and 004:171.

**004:208 Spectroscopy**

3 s.h.

Principles of atomic and molecular absorption and emission spectroscopy in ultraviolet, visible, and infrared regions of the spectrum, including fluorescence, phosphorescence, Raman spectroscopy; applications to analytical problems, with emphasis on modern instrumentation and methodology. Prerequisites: 004:111, 004:112, and 004:171.

**004:209 Separations**

3 s.h.

Separation science; emphasis on gas and liquid chromatography, including mobile and stationary phases, instrumentation, detection, applications and sheet method, supercritical fluid chromatography, capillary electrophoresis, solid phase extraction techniques. Prerequisites: 004:111, 004:112, and 004:171.

**004:210 Chemical Sensors**

2 s.h.

Theory, practical limitations, analytical utility based on immobilized reagents with electrochemical, thermal, optical transduction mechanisms. Prerequisites: 004:111 and 004:112, or 004:171.

**004:213 Special Topics in Analytical Chemistry**

arr.

Content varies. Repeatable.

**004:214 Chemical Systems Modeling**

2 s.h.

Basic processes and techniques; these methods applied to systems relevant to students' own research. Prerequisites: 004:111 or 004:112 or 004:171.

**004:215 Biophotonics**

3 s.h.

Structure, dynamics of biomolecules and their optical spectroscopy; ultrasensitive fluorescence spectroscopy, vibrational spectroscopy, optical activity and circular dichroism, time-resolved spectroscopy. Prerequisites: 004:111, 004:112, and 004:171.

**004:218 Nanomaterials** 3 s.h.

Basic principles associated with nanoscience and nanotechnology; fabrication and synthesis, size dependent properties, characterization, applications of materials at nanometer length scales, recent technological breakthroughs in the field. Requirements: graduate standing or advanced undergraduate standing in engineering and science. Recommendations: knowledge of basic chemistry.

**004:220 Electrochemistry of Polymer Films** 1 s.h.

Use of electrochemical methods to characterize polymer and thin films; transport through polymer films and composites, electrochemistry of polymer films. Requirements: physical chemistry course.

**004:221 Spectroscopic Methods in Organic Chemistry** 3-4 s.h.

Methods and techniques of structure determination for organic compounds. Prerequisites: 004:172.

**004:225 Organic Chemistry Special Topics** 1-3 s.h.

Prerequisites: 004:172.

**004:228 Mechanisms of Organic Reactions** 3 s.h.

Application of basic mechanistic concepts.

**004:229 Advanced Organic Synthesis** 3 s.h.

Preparation of complex organic compounds. Prerequisites: 004:172.

**004:231 Statistical Thermodynamics I** 3 s.h.

Fundamentals of classical thermodynamics and equilibria; ensembles; noninteracting systems; theory of phase transitions; Monte-Carlo methods; classical fluids; nonequilibrium systems. Prerequisites: 004:131.

**004:233 Quantum and Computational Chemistry** 3 s.h.

Fundamental principles of quantum chemistry; angular momentum; approximation methods; theory of atomic and molecular electronic structure; applications of computational quantum mechanics to chemical systems. Corequisites: 004:132, if not taken as a prerequisite. Recommendations: 004:180.

**004:234 Molecular Spectroscopy** 3 s.h.

Quantum mechanical theory of molecular spectroscopy; time-dependent perturbation theory, selection rules, lineshapes; selected applications in microwave, vibrational (infrared and Raman), electronic, optical, and magnetic resonance spectroscopy. Prerequisites: 004:233.

**004:235 Chemical Kinetics** 3 s.h.

Potential energy surfaces, transition state theory, diffusion limited rates, linear free energy relationships, isotope effects, solvent effects, RRKM theory; connection between experiment and various theories in the gas and solution phases; emphasis on assignment of experimental error to derived quantities. Prerequisites: 004:132.

**004:238 Surface Chemistry and Heterogeneous Processes** 3 s.h.

Fundamental and applied aspects of surface chemical processes; theories of molecular adsorption/desorption and surface complexation; kinetics; surface analysis and instrumentation; applications of surface chemistry in heterogeneous catalysis, heterogeneous environmental/atmospheric processes, and materials chemistry. Repeatable. Prerequisites: 004:131.

**004:242 Physical Chemistry Topics** 1-3 s.h.

Advanced topics relevant to modern physical chemistry. Repeatable. Prerequisites: 004:132 and 22M:026.

**004:250 Chemometrics** 3 s.h.

Mathematical, statistical, and signal processing methods for analytical chemistry; hypothesis testing, experimental design, model building, optimization, digital filtering. Prerequisites: 004:171.

**004:275 Perspectives in Biocatalysis** 1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 046:275, 052:275, 053:275, 061:275, 099:275.

**004:281 Seminar: Analytical Chemistry** 0-1 s.h.  
Repeatable.

**004:283 Seminar: Inorganic Chemistry** 0-1 s.h.  
Repeatable.

**004:285 Seminar: Organic Chemistry** 0-1 s.h.  
Repeatable.

**004:286 Seminar: Physical and Environmental Chemistry** 0-1 s.h.  
Repeatable.

**004:287 Research Frontiers in Chemistry** 1 s.h.  
Repeatable.

**004:290 Research in Chemistry** arr.  
Thesis work for advanced degrees. Repeatable.

**004:291 Research Seminar** 0-1 s.h.  
Presentation and discussion of thesis research for advanced degrees. Repeatable.

## Cinema and Comparative Literature

**Chair:** Russell Valentino

**Professors:** Rick Altman, Cinzia Blum (French and Italian/Cinema and Comparative Literature), Cheryl Herr (English/Cinema and Comparative Literature), Robert Ketterer (Classics/Cinema and Comparative Literature), Christopher Merrill (English/Cinema and Comparative Literature), Leighton Pierce, Lauren Rabinovitz (American Studies/Cinema and Comparative Literature), Cole Swenson (Creative Writing/English/Cinema and Comparative Literature), Steven Ungar (French and Italian/Cinema and Comparative Literature), Russell Valentino (Asian and Slavic Languages and Literatures/Cinema and Comparative Literature)

**Professors emeriti:** Rudolf Kuenzli (English/Cinema and Comparative Literature), Franklin Miller

**Visiting professor:** Aron Aji

**Associate professors:** Paula Amad, Corey Creekmur (English/Cinema and Comparative Literature), Brian Gollnick (Spanish and Portuguese/Cinema and Comparative Literature), Sabine Gölz, Kathleen Newman (Spanish and Portuguese/Cinema and Comparative Literature), Astrid Oesmann (German/Cinema and Comparative Literature), Maureen Robertson (Asian and Slavic Languages and Literatures/Cinema and Comparative Literature), Rosemarie Scullion (French and Italian/Women's Studies/Cinema and Comparative Literature), Sasha Waters Freyer, David Wittenberg (English/Cinema and Comparative Literature)

**Assistant professors:** Steve Choe, Andrew Hulse

**Adjunct assistant professors:** Anna Barker, Natasa Durovicova, Kathleen Edwards, John Merchant

**Adjunct assistant professor emerita:** Sandra Barkan

**Undergraduate degrees:** B.A. in Cinema, B.A. in Comparative Literature

**Undergraduate nondegree programs:** Minor in Cinema, Minor in Comparative Literature

**Graduate degrees:** M.A., Ph.D. in Comparative Literature; M.F.A. in Translation; M.F.A. in Film and Video Production; M.A., Ph.D. in Film Studies

**Web site:** <http://www.uiowa.edu/ccl>

The Department of Cinema and Comparative Literature presents film, literature, translation, and relations with the other arts as subjects of international and interdisciplinary study. It provides a basis for intensive work in literature, literary theory, critical methods, film studies, and the production of literary translations and film, video, and digital arts.

The department encourages study in comparative arts, with particular emphasis on cinema, where the program's resources are especially strong. Students and faculty members have easy access to the resources of the International Writing Program and the Institute for Cinema and Culture.

The cinema and comparative literature faculty offers expertise in the languages and cultural study of the Americas, China, Croatia, England, France, Germany, India, Ireland, Italy, Japan, Russia, Spain, and Sub-Saharan Africa. Specific expertise and direction are available in translation and in film and audiovisual history, production, and theory.

In addition to its own faculty, the department calls on faculty members in other disciplines, including American studies, Asian and Slavic languages and literatures, classics, communication studies, English, French and Italian, German, history, Spanish and Portuguese, theatre arts, and women's studies.

## Undergraduate Programs

The Department of Cinema and Comparative Literature offers a Bachelor of Arts in cinema and a Bachelor of Arts in comparative literature. It also offers a minor in cinema and a minor in comparative literature.

The majors in cinema and in comparative literature provide individualized programs in the interdisciplinary study of literature and the study and production of film and audiovisual arts. The program is designed to promote cultural awareness, to increase speaking and writing skills, and to develop capacities for systematic reasoning.

### Bachelor of Arts in Cinema

The Bachelor of Arts in cinema requires a minimum of 120 s.h., including 34 s.h. of work for the major. Students must complete 21 s.h. in University of Iowa course work and may count a maximum of 6 s.h. of course work from another major, minor, or certificate toward the B.A. in cinema. Students with a double major in cinema and in comparative literature may count a maximum of 12 s.h. toward both majors. All students must complete the College of Liberal Arts and Sciences General Education Program.

The major in cinema is an individualized, interdisciplinary study of film and the production of creative work in film, video, and interactive multimedia. It is designed to promote cultural and artistic awareness, to increase speaking and writing skills, and to develop capacities for systematic reasoning and effective production in cinema arts.

All students are expected to gain a perspective on both the study and the production of film, video, or digital media while becoming acquainted with the historical, critical, and theoretical issues of the area. In conjunction with an appropriate overall curriculum, the major in cinema can offer effective preparation for continuing study or creative work in the humanities, arts, and cinema; provide a solid foundation for careers in film, video, television, and digital production; and lead to careers in arts administration, advertising, and business.

The B.A. in cinema requires the following course work.

048:001 Introduction to Film Analysis	4 s.h.
048:025 Introduction to Critical Reading and Viewing	3 s.h.
048:034 Modes of Film and Video Production	4 s.h.
048:095 Undergraduate Seminar	3 s.h.



One of these:

048:030 Introduction to Film Theory	3 s.h.
048:100 Introduction to Criticism and Theory	3 s.h.
048:120 Issues in Film Theory	3 s.h.

At least one film studies or film production course at the 100 level	3 s.h.
Additional cinema and comparative literature course work, including at least 9 s.h. of advanced film studies or film and video production courses numbered 048:051 or above	14 s.h.

## **Bachelor of Arts in Comparative Literature**

The Bachelor of Arts in comparative literature requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must complete 21 s.h. in University of Iowa course work and may count a maximum of 6 s.h. of course work from another major, minor, or certificate toward the B.A. in comparative literature. Students with a double major in cinema and in comparative literature may count a maximum of 12 s.h. toward both majors. All students must complete the College of Liberal Arts and Sciences General Education Program.

The major offers two tracks: language and literature, and literature and arts. Students work with faculty advisors close to their track to develop coherent, individualized programs of study that reflect their interests and developing skills.

Students share a common set of basic courses in the literatures of widely divergent cultures and historical periods, in translation, and in interaction among the arts. All students are expected to gain an international perspective on literature and the arts, and to become acquainted with interdisciplinary approaches to cultural study.

The successful pursuit of comparative literature requires study of at least one foreign cultural tradition, with appropriate emphasis on language, literature, and the arts in historical context. Familiarity with the literatures and cultures of other nations goes hand-in-hand with theoretical inquiry and reflection on basic issues, such as the nature and value of storytelling in literature and other arts—for instance, film, song, and painting. Translation between languages and among different arts represents another basic center of theory and practice. Individual courses of study may extend into other disciplines, including history, philosophy, linguistics, anthropology, law, and psychology.

In conjunction with an appropriate overall curriculum, the major in comparative literature can offer effective preparation for professional studies in fields such as law and business, or for employment in fields that value critical thinking and international understanding. It also offers excellent preparation for graduate work in the humanities.

The B.A. in comparative literature requires the following course work.

### **COMMON COURSES**

All students take these, for a total of 18 s.h.

048:025 Introduction to Critical Reading and Viewing	3 s.h.
048:040-048:041 Major Texts in World Literature I - Major Texts of World Literature II	6 s.h.
048:095 Undergraduate Seminar	3 s.h.
048:100 Introduction to Criticism and Theory	3 s.h.
Comparative literature elective(s) numbered above 048:050	3 s.h.

### **Tracks**

Students take a total of 15 s.h. of work in one track.

#### **FOREIGN LANGUAGE AND LITERATURE TRACK**

To complete this track, students take 9 s.h. of courses in one foreign literature, read in the original language. One course in composition and conversation may count toward the major. (Language courses taken to complete the General Education Program may not be included.)

Students take an additional 6 s.h. of course work in cinema and comparative literature or a related area (e.g., English and American literature, film, linguistics, anthropology, philosophy, history) or in a second foreign literature.

#### **LITERATURE AND ARTS TRACK**

To complete this track, students take 12 s.h. of advanced work (100-level or above) in a single fine arts area. They

may count one course in advanced performance, practice, or production toward the major, with consent of the director of undergraduate studies.

One additional 3 s.h. course must focus explicitly on arts and literature in comparative perspective.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

### B.A. in Cinema

Note: The major in cinema requires only one course in film, video, and digital production: 048:034 Modes of Film and Video Production. This is the only production course included in the assurances of the Four-Year Graduation Plan. More advanced courses in production may be used to complete the major, but admission to these courses is limited and depends on student achievement in prerequisite production courses.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least two courses in the major (including 048:001 Introduction to Film Analysis, and 048:025 Introduction to Critical Reading and Viewing or 048:034 Modes of Film and Video Production) and at least half of the semester hours required for graduation

**Before the seventh semester begins:** at least six courses in the major (including 048:001 Introduction to Film Analysis, 048:025 Introduction to Critical Reading and Viewing, and 048:034 Modes of Film and Video Production), and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least nine courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### B.A. in Comparative Literature

Note: Because the major in comparative literature may require competency in a language in which the student will take advanced work, the student may need to acquire this language competency through course work early in the plan. Such course work is not reflected in these checkpoints.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least nine courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

To graduate with honors in cinema or comparative literature, students must complete an honors thesis. They also must be members of the University of Iowa Honors Program, which requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Once an honors student has completed 75 s.h., he or she submits a written proposal for the honors thesis. The proposal must be approved by the supervising faculty member who heads the student's honors thesis committee, which must be composed of at least two faculty members from the Department of Cinema and Comparative Literature. The student must complete the honors thesis over the next two consecutive semesters. For specific honors thesis requirements in film and video production, film studies, or comparative literature, contact the Department of Cinema and Comparative Literature.

## Minor in Cinema

The minor in cinema requires 15 s.h. of University of Iowa cinema courses, including at least 12 s.h. in courses numbered 048:051 and above. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students must choose courses with a primary emphasis in cinema. Contact the Department of Cinema and Comparative Literature for a list of approved courses.

## **Minor in Comparative Literature**

The minor in comparative literature requires 15 s.h. of University of Iowa comparative literature courses, including at least 12 s.h. in courses numbered 048:040 and above. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students must choose courses with a primary emphasis in comparative literature. Contact the Department of Cinema and Comparative Literature for a list of approved courses.

## **Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in film studies; a Master of Arts and a Doctor of Philosophy in comparative literature; a Master of Fine Arts in film and video production; and a Master of Fine Arts in translation.

### **Master of Arts in Film Studies**

The Master of Arts in film studies requires 36 s.h. of graduate credit. The focus is on film in an international context, with required distributions of course work in U.S. cinema, European cinema, world cinemas, and film production, documentary film, animation, or experimental film.

Students meet formal degree requirements with course work and a written examination on two areas, which the student selects from one list focusing on film theory and another list focusing on film history. Exams are offered annually in January.

### **Master of Arts in Comparative Literature**

The Master of Arts in comparative literature requires 36 s.h. of graduate credit. The focus is on literature in an international context, with concentration on two or more national literatures and on the theory and study of literature in general. In consultation with faculty advisors, students combine courses in comparative literature and allied departments to design a coherent program of study.

Students satisfy formal degree requirements with a written examination on reading lists that they and their advisors agree upon, or with a written thesis and an oral examination on the thesis and its relation to problems and issues in comparative literature. The M.A. also may be awarded upon successful completion of the comprehensive examination for the Ph.D.

### **Master of Fine Arts in Film and Video Production**

The Master of Fine Arts in film and video production requires 54 s.h. of graduate credit earned in creative and scholarly course work aimed at producing a body of artistic work in film and/or video. A comprehensive exam on an aspect of film and/or video theory in January of the second year, an oral portfolio review, a thesis paper, and a creative thesis project complete the formal degree requirements.

### **Master of Fine Arts in Translation**

The Master of Fine Arts in translation requires 48 s.h. of graduate credit, of which 24 s.h. must be earned at The University of Iowa. The program promotes a specialized form of writing, the study of languages and cultures, and the dissemination of international literatures through a curriculum that combines the creative, linguistic, and critical aspects of translation.

Students develop their skills, knowledge, and critical ability with courses in original-language literary texts, critical theory, and creative writing. Required participation in the Iowa Translation Workshop provides hands-on practice in translation every semester. Students also have opportunities to work closely on translation projects with visiting writers in the International Writing Program.

Course work includes study of foreign literature(s), creative writing, translation studies, and criticism. M.F.A. students may expect to take courses offered by foreign language departments and the creative writing programs as well as comparative literature courses.

M.F.A. students must complete a thesis--usually a book-length collection of poems, literary essays, or stories, or a short novel--translated from the original language into English and accompanied by a critical introduction.

Admission to the program is granted on the basis of a submitted portfolio, including translations into English and original writing in English, or a paper on a literary topic, as well as supporting evidence of competence.

### **Doctor of Philosophy in Film Studies**

The Doctor of Philosophy in film studies requires a minimum of 72 s.h. of graduate credit earned in course work concentrated in film history and film theory. With the consultation and guidance of a faculty committee, students prepare for a qualifying examination in the first or second year, formulate and pursue a plan of study proposing areas to be mastered before the dissertation, present a predissertation exam on these areas, and write a dissertation in the area of advanced research.

### **Doctor of Philosophy in Comparative Literature**

The Doctor of Philosophy in comparative literature requires a minimum of 72 s.h. of graduate credit. Students study at least three literatures, one in historical depth and two others in limited areas of specialization. Students are encouraged to include an interdisciplinary area of concentration. All students devote a portion of their programs to comparative study, bringing the several areas into focus. Specific areas and interrelations of areas are determined by the student in consultation with appropriate faculty members.

The Ph.D. dissertation should demonstrate the candidate's ability to write a substantial piece of scholarship or criticism. Translation of a work of sufficient significance and linguistic complexity, preceded by a critical introduction, may serve as an acceptable dissertation. The final oral exam centers on the dissertation and its background.

### **Admission**

The study of literature across linguistic and geographical borders calls for training in languages. A thorough knowledge of at least one foreign language is required for admission to the M.A. program; knowledge of at least two foreign languages is a prerequisite for Ph.D. study.

For more information, see the procedural guide for graduate students in comparative literature, available from the department.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## **Resources**

### **Institute for Cinema and Culture**

The Institute for Cinema and Culture promotes international film culture on the University of Iowa campus by supplementing the curriculum of the Department of Cinema and Comparative Literature with regular film screenings and public events, often in collaboration with other departments and programs. The institute helps departments, faculty members, and student groups present films and relevant speakers to an interdisciplinary audience. It is especially dedicated to providing Iowa students and faculty members the opportunity to view and study important films from nations and cultures otherwise underrepresented in course offerings and at local theaters.

Each semester the institute offers 048:112 Proseminar in Cinema and Culture, a course with public screenings devoted to a single national cinema or a focused topic in world film. It also regularly sponsors a range of campus film festivals and hosts the Cinematheque series, which showcases rare and unusual films each semester.

### **Iowa Translation Workshop**

The Iowa Translation Workshop (048:260) is offered every semester as a required course for M.F.A. students in translation. The workshop is closely coordinated with the International Writing Program, which brings 30 or more writers from other countries to Iowa City each fall semester for 10 weeks of activities on the University of Iowa campus. Students in the fall Iowa Translation Workshop may work closely with one or more writers in translating their works into English. Translators from outside the M.F.A. in translation program also may join the workshop, with the instructor's consent.

## **Cinema and Comparative Literature Courses**

### **048:001 Introduction to Film Analysis**

4 s.h.

Formal analysis of film; narrative cinema and approaches to narrative structure; authorship and genre issues, other major topics.

### **048:002 Survey of Film**

3 s.h.

Film history, theory, criticism; issues of form, technologies, and cultural functions of cinema; screenings of narrative, documentary, experimental films from varied periods and nations. GE: Humanities.

**048:005 Introduction to World Literature**

3 s.h.

Ways of reading world literature; varied emphases (i.e., thematic, geographical; may include poetry, short fiction, drama, novels, and critical works on importance of translation. Requirements: completion of rhetoric General Education requirement.

**048:010 Contemporary Cinema**

3 s.h.

Current cinema; key genres, movements, filmmakers, technological changes; recent cultural contexts, industrial and economic factors, changes in the film viewing experience. GE: Humanities.

**048:011 Films and Screenplays**

3 s.h.

Films and their origins in original screenplays or adaptations; the screenplay as a distinct form of creative writing. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:011.

**048:012 Film and Society**

3 s.h.

Relationships between cinema and society in historical and contemporary contexts; censorship, social issues, cinematic treatment of minorities and social groups.

**048:017 Workshop in Literary Magazine Publishing**

1 s.h.

Hands-on introduction to literary magazine publishing; major differences between print and digital publishing, the processes of design, layout, soliciting work, editing copy, proofing, promotion, and distribution; University of Iowa and Iowa City community resources; editors and writers share their expertise through a series of informal question-and-answer sessions and task-based assignments.

**048:018 Workshop in Literary Review Writing**

1 s.h.

Hands-on introduction to literary review; process of selecting books (poetry, fiction, creative nonfiction) for review; writing, revising, and submission of work; University of Iowa and Iowa City community resources; editors and writers share their expertise through a series of informal question-and-answer sessions and task-based assignments.

**048:019 Media Matters**

3 s.h.

Development of basic creative and critical skills in the arts and humanities by examining transformations across literature, poetry, photography, and video; media of expression; telling a story in words or images; the difference between looking at a painting, watching a movie, or reading a book; how the soundtrack of a film affects the story; how looking at a musical score differs from performing it; key to producing exciting creative work; full engagement with any given medium.

**048:020 U.S. Film**

3 s.h.

American film industry; social and artistic perspectives.

**048:021 Introduction to European Film**

3 s.h.

Major works, movements, and recent developments in European cinema; German Expressionism, Soviet montage, Italian Neorealism, French New Wave; social, cultural, political contexts. GE: Humanities.

**048:022 World Film**

3 s.h.

Filmmaking and film culture outside the United States; key works from Asia, Africa, the Middle East, Latin America; social, cultural, political contexts.

**048:023 Documentary Film**

3 s.h.

Key works and movements in international nonfiction film, from early cinema to present; formal, historical, philosophical issues in documentary practices.

**048:024 Introduction to Latin American Film**

3 s.h.

Introduction to filmmaking and films in Latin America through an overview, emphasis on one or more Latin American countries, or a specific theme in Latin American cinema.

**048:025 Introduction to Critical Reading and Viewing**

3 s.h.

Critical approaches to literature and audiovisual media (film, video, interactive multimedia); selected texts, scholarly and critical responses to them. Requirements: completion of rhetoric requirement.

**048:026 Introduction to Asian Film**

3 s.h.

Introduction to filmmaking and films in Asia through an overview, emphasis on one or more Asian countries, or a specific theme in Asian cinema.

**048:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**048:030 Introduction to Film Theory**

3 s.h.

Classical film theory--formalist and realist theories, authorship, genre; contemporary film theory--semiotics, feminism, psychoanalysis, ideological criticism, postmodernism, queer theory.

**048:034 Modes of Film and Video Production**

4 s.h.

Introduction to nonfiction, fiction, and experimental modes of film and video production; video exercises and nonlinear editing.

**048:040 Major Texts in World Literature I**

3 s.h.

Reading, analysis of major literary texts from writing's origins to 1600 in the Mediterranean, Asia, Africa; interrelationship of literature and history. GE: Humanities.

**048:041 Major Texts of World Literature II**

3 s.h.

Reading and analysis of major literary texts from the 17th century to the present, in chronological sequence; emphasis on interrelationship of literature and history. Requirements: completion of rhetoric requirement. GE: Humanities.

**048:050 Introduction: East European and Central Asian Cultures**

3 s.h.

Introduction to study of major East European, Russian, and Eurasian cultures. Same as 187:050.

**048:051 Film Criticism**

3 s.h.

Evaluation and analysis of film, from journalistic reviews to academic scholarship; principles and theoretical positions.

**048:052 Gender and Film**

3 s.h.

Representations of femininity, masculinity, sexual identity, how they relate to society, culture; examples from feminist, psychoanalytic, queer theory.

**048:053 Introduction to Film Sound**

3 s.h.

Sound as an acoustic, technological, aesthetic, and historical issue; functions of voice, music, sound effects.

**048:063 Film/Video Production: Microcinemas and DIY Distribution**

3 s.h.

Nature and practice of film festivals; microcinemas and small-scale distribution in historical context of cinema culture and as audience-building and outreach for independently produced films, video, and new media; management and orchestration of the annual Iowa City International Documentary Festival.

**048:064 Film/Video Production: Alternative Forms**

3 s.h.

Hands-on workshops in alternative or innovative video/film practices and technologies; varied topics. Prerequisites: 048:034.

**048:065 Film Production: Material of 16mm Film**

3 s.h.

Basic 16mm motion picture camera, editing, and sound techniques; individual and group exercises. Prerequisites: 048:034.

**048:066 Video Production: Nonfiction**

3 s.h.

Single-camera shooting on location, with emphasis on editing; group exercises oriented to nonfiction forms. Prerequisites: 048:034.

**048:067 Screenwriting: Long Form**

3 s.h.

Visualization, sequencing, dialog; preparation of treatment, screenplay for fiction film; script problems. Prerequisites: 048:034.

**048:068 Video Production: Fiction**

3 s.h.

Development of fiction video making technique through group projects in the studio and on location, and nonlinear editing. Prerequisites: 048:034.

**048:070 Styles and Genres** 3 s.h.

Major film types (musicals, science fiction, westerns, film noir) and their cultural significance.

**048:071 Film Authors** 3 s.h.

A major director or comparison of directors; director's role in industrial and collaborative contexts, relations between biography and criticism, function of individual styles.

**048:078 Undergraduate Translation Seminar** 3 s.h.

Translation studies for undergraduates; topics related to practice of literary translation.

**048:079 Undergraduate Translation Workshop** 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Requirements: working knowledge of a language other than English. Same as 08W:079.

**048:081 Film and Literature** 3 s.h.

Relationships among films, novels, plays, adaptations; shared and distinct formal elements of cinematic and literary texts, their cultural functions. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:081.

**048:091 Internship** arr.

Opportunity to apply skills; faculty supervision, on or off campus. Requirements: cinema and comparative literature major.

**048:095 Undergraduate Seminar** 3 s.h.

Focus on a significant text or critical problem. Requirements: junior or senior standing and cinema and comparative literature major.

**048:098 Honors Tutorial** arr.

**048:099 Individual Study** arr.

**048:100 Introduction to Criticism and Theory** 3 s.h.

Critical approaches to the phenomenon of literature. Requirements: junior standing.

**048:101 First-Year Modern Hebrew I** 4 s.h.

Elementary Hebrew language instruction; reading, writing, listening, speaking.

**048:102 First-Year Modern Hebrew II** 4 s.h.

Elementary Hebrew language instruction; reading, writing, listening, speaking.

**048:103 Topics in Contemporary Film** 3 s.h.

Specific issues or periods in contemporary film.

**048:104 Topics in European Film** 3 s.h.

Specific issues or periods in European film.

**048:105 French Cinema** 3-4 s.h.

Taught in English. Prerequisites: 009:012. GE: Foreign Civilization & Culture. Same as 009:147.

**048:106 Topics in Asian Cinema** 3 s.h.

Issues or topics in East or South Asian cinemas. English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:127, 039:145.

**048:107 Russian Literature in Translation 1860-1917** 3 s.h.

Survey of major works, figures, and trends of 19th- and 20th-century Russian literature; age of the Russian novel; development of short fiction, drama, poetry of the Silver Age. Same as 041:102.

**048:108 History of Documentary Film** 3 s.h.

A period, type, or concern of nonfiction filmmaking. Prerequisites: 048:001.

**048:109 European Literature of the Nineteenth Century** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature. Same as 008:131.

**048:110 Comparative Arts** 3 s.h.

Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Same as 033:110, 181:110.

**048:111 Second-Year Modern Hebrew I** 4 s.h.

Development of functional ability to understand, speak, and write modern Hebrew; vocabulary building, culture, grammatical accuracy. Prerequisites: 048:102.

**048:112 Proseminar in Cinema and Culture** 1-2 s.h.

A national cinema or topic in international film.

**048:113 Film and Video Production: Drama** 3 s.h.

Individual and group dramatic video projects; location and studio shooting, nonlinear editing. Prerequisites: 048:065 or 048:066 or 048:068.

**048:116 Reading European Poetry** 3 s.h.

Development of literary reading skills and critical imagination; increase awareness of the complexity of poetry translation, introduction to works of major canonical poets from several European traditions and languages.

**048:117 Topics in National Cinema** 3 s.h.

Cinema's intersection with the nation; questions of representation, culture, and identity in the national, subnational, and/or transnational context. Prerequisites: 048:001 or 048:002.

**048:118 Topics in World Cinemas** 3 s.h.

Issues in international film history and film theory.

**048:119 Topics in Film Sound** 3 s.h.

Issues in history and theory of film sound.

**048:120 Issues in Film Theory** 3 s.h.

Key theorists, approaches, topics in film theory.

**048:121 Film and Video Production: Selected Topics** 3 s.h.

Student productions focusing on a particular genre, issue, or process; 16mm, video, or audio, such as experimental film or video, collaborative projects, nonfiction, narrative, and so forth. Prerequisites: 048:065 or 048:066 or 048:068.

**048:123 Film and Video Production: Image Design** 3 s.h.

Strategies, techniques, and technologies used in moving image production; emphasis on generic lighting practices, composition; short projects using film, videotape. Prerequisites: 048:065 or 048:066 or 048:068.

**048:124 Film Production: Advanced 16mm Film** 4 s.h.

Processes and approaches to the short film; students produce a seven-minute, sync-sound project, including film shooting and digital editing. Prerequisites: 048:065 or 048:121 or 048:123 or 048:134.

**048:125 Screenwriting: Short Form** 3 s.h.

Exercises and projects in writing, developing, and workshopping screenplays for short film or video; budgeting, location scouting, other preproduction activities. Prerequisites: 048:065 or 048:066 or 048:067 or 048:068.

**048:126 Cult Films of the Last Soviet Generation** 3 s.h.

Same as 041:126.



- 048:127 Advanced Screenwriting** 3 s.h.  
Write a feature screenplay (105-115 pages) within the industry standard contract guidelines for independent and studio projects; completion of outline, beat sheet, treatment, first draft, one rewrite. Prerequisites: 048:127.
- 048:128 Racial Narrative and American Performance** 3 s.h.  
Same as 010:128, 129:128.
- 048:129 African American Cinema and Culture** 3 s.h.  
African American contribution to U.S. cinema in context of African American and American culture. Same as 045:129.
- 048:130 Digital Production: Animation** 3 s.h.  
Intermediate 3-D modeling, motion graphics; student projects culminating in CDR or video presentation. Prerequisites: 048:034.
- 048:131 Film/Video/Audio Production: Sound Design** 3 s.h.  
Concepts and techniques in sound design for film and video; exercises, projects in sound/image relationships using location recording equipment and digital audio workstation for editing, mixing. Prerequisites: 048:065 or 048:066 or 048:068.
- 048:132 Video Production: Advanced Video** 3 s.h.  
Exploration of boundaries between documentary and fictional forms, including 'mockumentary' and hybrid films; independent and small group video projects. Prerequisites: 048:066 or 048:068.
- 048:133 Film and Video Production: Editing** 3 s.h.  
Editing digital video for impact, mood, and story; hands-on exercises, screenings, readings, and workshops using Avid editing software. Prerequisites: 048:065 or 048:066 or 048:068.
- 048:134 Theory and Practice of Film/Video Production** 1-3 s.h.  
Focus on a type of film (documentary, animation, experimental) or an issue in film theory (sound, narrative structure, point of view); application of theoretical issues; individual productions.
- 048:135 Issues in Film and Video Production** 3 s.h.  
Proposal and grant writing, conceptualization, budgeting, and research on varied distribution models for independent films. Prerequisites: 048:065 or 048:066 or 048:067 or 048:068.
- 048:141 Chinese Literature: Poetry** 3 s.h.  
Readings in classical and modern Chinese poetry in English translation. Same as 039:141.
- 048:142 Modern Japanese Fiction in Translation** 3 s.h.  
Nineteenth century to present. Same as 39J:142.
- 048:143 Traditional Japanese Literature in Translation** 3 s.h.  
From seventh century to early modern times. Same as 39J:141.
- 048:144 The Tale of Genji** 3 s.h.  
Close reading in English of Murasaki Shikibu's *Tale of Genji*; tale's literary and social contexts, and later reception. Same as 39J:145.
- 048:145 Latin America Cinema** 3 s.h.  
Political, historical, aesthetic, and cultural issues in key films from Latin American national cinemas. Taught in English. Requirements: one Spanish course numbered above 035:100 for Spanish majors; or one course numbered above 048:050. Recommendations: knowledge of Spanish. Same as 035:145.
- 048:147 Warriors Dreams** 3 s.h.  
Images of the warrior in traditional Japanese literature, from poetry of the eighth century to romances of the 19th century; readings in English. Same as 39J:146.
- 048:148 The Third Reich and Literature** 3 s.h.

Nazi literature, literature of the Holocaust and the Opposition, exile literature, in English translation. Taught in English. GE: Foreign Civilization & Culture, Humanities. Same as 13E:118.

**048:150 Media Production Workshop** 1-4 s.h.  
Individual film, video, interactive, or screenwriting project; common problems, screenings of work in progress, criticism. Prerequisites: 048:124 or 048:132.

**048:151 Literature and Anthropology** 3 s.h.  
Topics vary. Same as 008:151, 113:109.

**048:152 America in Other Words** 1-3 s.h.  
Current idea of America in its imaginary form: post-1989 world fiction, poetry, and film in original language, in translation, and via online translation resources. Same as 181:152.

**048:153 Latin American Studies Seminar** 3 s.h.  
Interdisciplinary approach. Taught in English. Recommendations: Spanish or Portuguese sufficient for background readings. Same as 035:176, 038:176, 113:132, 130:176, 16W:109.

**048:154 Twentieth-Century Czech Authors** 3 s.h.  
Twentieth-century prose literature of Czechoslovakia; philosophical works of Capek, Hrabal, Kundera, Klima, Havel. Taught in English. Same as 041:168.

**048:155 Narratives Modes** 3 s.h.  
History or theory of narration modes in media.

**048:156 Invitation to Nabokov** 3 s.h.  
Nabokov's works and his writings on Russian literature. Same as 008:156, 041:156.

**048:157 Twentieth-Century Europe in Literature and Film** 3 s.h.  
Introduction to 20th-century Europe through representative literature and film that reflect and critically engage the period's defining moments in social, cultural, and political history; modernity and emergence of modernist aesthetics, World War I, the Great Depression, the Spanish Civil War, struggles between fascism and communism, World War II, existentialism, the Holocaust, rise of postwar consumer society and technocracy, wars of decolonization, political dissidence in Cold War Eastern Europe, student revolts of the 1960s, fall of the Berlin Wall, collapse of the Soviet Union, postcolonial condition that binds Europe to its colonial history. Taught in English. Same as 009:157.

**048:158 East-West Literary Relations** 3 s.h.  
Same as 039:158.

**048:159 African Literature Today** 3 s.h.  
Contemporary written and oral African literary texts, literary theories relevant to study of African literatures. Same as 008:159, 187:159.

**048:160 Issues in Rhetoric and Culture** 3 s.h.  
Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:146) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:160, 036:146, 160:160.

**048:161 Transnational and Postcolonial Writing by Women** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:161.

**048:162 Pan-Caribbean Literary Currents** 3 s.h.  
Twentieth-century fiction, film, and cultural practices in the Hispanic, Francophone, and Anglophone Caribbean; cultural essays to complement literary readings; pan-Caribbean cultural practices--music and carnival celebrations. Taught in English. Requirements: (for 048:162) junior or senior standing; (for 035:171) two literature courses. Same as 035:171.

**048:163 Studies in 20th-Century European Literature**

arr.

Evolving practices explored through genre, period, movement, or topic, in conjunction with relevant models of analysis; readings in English. Requirements: rhetoric.

**048:164 Topics in Russian, East European, and Eurasian Studies**

arr.

Same as 041:164.

**048:165 Topics in Polish Literature and Culture**

3 s.h.

Major developments in Polish literature and culture; questions of Polish history, politics, and identity, and their expression in literature, the arts, and cinema; Poland's place in Europe, in national and comparative contexts.

**048:166 Topics in Literature and Theory**

3 s.h.

**048:167 Gender and Sexuality in French Cinema**

3 s.h.

Cultural, historical, semiotic approach to studying construction of gender identity and sexual codes in French cinema from 1920s to present. Taught in English. Prerequisites: 009:111 or 048:001 or 048:002 or 131:010. Same as 009:148, 131:167.

**048:168 Post-Colonial Literature in France**

3 s.h.

Literatures and cultures of Arabo-French (Beur) and Afro-French immigrations. Prerequisites: 009:111 and 009:112. Same as 009:168.

**048:169 Issues in Gender and Sexuality**

3 s.h.

Significance of gender and/or sexuality to cinema, in general or in a period, genre, film type, or national cinema; theoretical approaches, including feminist and queer theory.

**048:170 Topics in Cinema and Culture**

3 s.h.

One or more national cinemas in relation to social, historical, and cultural contexts. Prerequisites: 048:001.

**048:171 Film Authors**

3 s.h.

A major director or comparison of directors; theoretical approaches to study of film authorship.

**048:172 Narrative and the Cinema**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:172.

**048:173 Styles and Genres**

3 s.h.

Film types, their cultural significance.

**048:174 Transnational Chinese Cinemas**

3 s.h.

Films from Mainland China, Hong Kong, Taiwan, and Chinese diasporic communities, silent era to present; relationship of film to nation-state, cultural interflows, media technologies, ideologies. English subtitles. Same as 039:173.

**048:175 Topics in Film and Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:175.

**048:177 Literature and Art**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:177.

**048:178 Topics in Latin American Cinema**

3 s.h.

Taught in English. Requirements: one Spanish literature or culture course numbered above 035:130 or one film studies course. Same as 035:191.

**048:179 Literature and Society**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:179.

- 048:180 Literature and Translation** 3 s.h.  
Translation in the broadest sense; originality, authority, authorship, accuracy, ownership, audience; issues problematizing differences between medium and message. Same as 041:180, 160:180.
- 048:181 Introduction to Computer-Assisted Translation** 1 s.h.  
Translation memory, terminology management, multimodal translation, and project management to increase proficiency in a range of technological skills; evolving translation technologies emphasize learning skills required to employ tools of today and effectively learn to use those of tomorrow; use of translation technology in freelance and agency settings from document receipt through delivery. Requirements: completion of General Education Program rhetoric and interpretation of literature requirements.
- 048:183 Modern Chinese Writers** 3 s.h.  
Readings in modern and contemporary Chinese fiction; in English translation. Same as 039:180.
- 048:184 Topics in REEES** 3 s.h.  
Varied topics; interdisciplinary focus on Russian, East European, and Eurasian studies. Same as 187:185.
- 048:185 Global Women's Cinema** 3 s.h.  
Introduction to contemporary women's cinema and feminist filmmaking from around the world; emphasis on the post-1968 period and on cinema produced outside the United States. Prerequisites: 048:001 or 048:002 or 131:010. Same as 131:185.
- 048:186 Special Topics in Literature and History** 3 s.h.  
Topics at the intersection of literature, society, history, and ethics; readings vary.
- 048:189 Russian Thinkers** 3 s.h.  
Same as 026:184, 041:189.
- 048:190 Chicano Cinema** 3 s.h.  
History of Chicano independent and industry film and television production since the Chicano political and cultural movement began in the 1960s. Taught in English. Requirements: one Spanish literature or culture course numbered 035:130 or above, or one film studies course numbered above 048:050. Same as 035:190.
- 048:191 Early Modern Culture** 3 s.h.  
Requirements: (for 009:191) 009:111 and 009:112. Same as 009:191.
- 048:192 East Meets West: A Cross-Cultural Course** 3 s.h.  
Perceptions in the modern period based on analyses of films, literary and philosophical texts from East and West. Same as 039:192.
- 048:195 Selected Authors** 3 s.h.  
Writings by one or more authors; close readings, literary theory.
- 048:196 Cuban American Literature and Culture** 3 s.h.  
Experiences of Cuban exiles in the United States; emergence of a literature and culture based on sense of dispossession, marginality, and memory of island past. Taught in English. Prerequisites: 08G:001. GE: Cultural Diversity. Same as 035:143.
- 048:197 Techniques of Translation** 3 s.h.  
Prerequisites: 009:112. Same as 009:197.
- 048:199 Individual Study** arr.  
Requirements: advanced B.A. enrollment with international and comparative literary projects, or M.A. enrollment in comparative literature.
- 048:200 Advanced Film/Video Production Workshop** 1-4 s.h.

Individual film, video, interactive, or screenwriting project; common problems, screenings of work in progress, criticism.  
Prerequisites: 048:124 or 048:132.

- 048:205 International Translation Workshop** 1-3 s.h.  
International writers pair with University of Iowa translators to write new works of poetry and fiction in English; second-language fluency not required for international writers. Same as 181:205.
- 048:211 Comparative Stylistics** 3 s.h.  
Translation from English to French, including literary texts. Same as 009:210.
- 048:217 Introduction to Contemporary Literary Theory** 3 s.h.  
How major theories construct literary text; structuralist, semiotic, psychoanalytic, Marxist, reader response, Derridian criticism. Taught in English. Same as 035:281.
- 048:223 Romantic Literature** 3 s.h.  
Same as 008:223.
- 048:233 Seminar in Chinese Fiction** 3 s.h.  
Novels, novelettes; 16th to 18th centuries (Ming and Qing periods). Requirements: ability to read original texts. Same as 039:240.
- 048:239 Queer Theory** 3 s.h.  
Same as 008:239.
- 048:244 Crossing Borders Proseminar** 1 s.h.  
Same as 013:260, 016:244, 01H:330, 030:243, 035:271, 044:287, 113:248.
- 048:247 Crossing Borders Seminar** 2-3 s.h.  
Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 035:273, 044:286, 113:247, 129:231, 160:247, 181:247.
- 048:259 Issues in Translation** 3 s.h.  
Contemporary and historical theories.
- 048:260 Translation Workshop** 3 s.h.  
Requirements: at least one foreign language. Same as 08W:260, 181:260.
- 048:270 Seminar Issues in the History of Translation** 3 s.h.  
Selected readings, current debate on translation's history and theory. Same as 08W:265.
- 048:273 Advanced Film Theory** 3 s.h.  
A major figure, issue, or approach in film theory.
- 048:275 Advanced Film History** 3 s.h.  
A major period or topic in film history; issues in film historiography, research.
- 048:276 Narrative Modes** 3 s.h.  
History or theory of narration modes in varied media.
- 048:277 Studies in Sound and Image** 3 s.h.  
Theoretical and historical approaches to film sound, technology, style.
- 048:291 Translation Internship** arr.
- 048:298 Special Topics in German Literature** arr.  
Repeatable. Requirements: German graduate standing. Same as 013:298.
- 048:300 American Film and American Culture** 3 s.h.  
Relationships between film and culture as developed in a particular approach, period, subject. Same as 045:300.

<b>048:303 Special Topics in Cinema</b> A topic in analytical, theoretical, or historical cinema. Repeatable.	1-3 s.h.
<b>048:304 Special Topics in Asian Cinema</b> Key issues, movements, periods, or figures in East or South Asian cinema. Repeatable. Same as 039:304.	3 s.h.
<b>048:305 Special Topics in European Film</b> Key issues, movements, periods, or figures in European film. Repeatable.	3 s.h.
<b>048:355 Seminar: Comparative Topics</b> Comparative topics in literature, theory, media, cultural studies. Same as 009:350.	arr.
<b>048:402 Seminar: Medieval Literature and Culture</b> Same as 008:402.	arr.
<b>048:407 Seminar: Renaissance Literature</b> Same as 008:407.	arr.
<b>048:409 Special Projects</b> Requirements: doctoral candidate.	arr.
<b>048:410 Thesis</b>	arr.
<b>048:441 Seminar in Chinese Literature</b> Requirements: two years of modern Chinese and one year of classical Chinese. Same as 039:241.	arr.
<b>048:454 Seminar: Postcolonial Studies</b> Same as 008:450.	3 s.h.
<b>048:460 Seminar: Problems in Aesthetics and Literary Theory</b> Same as 008:460.	arr.
<b>048:461 Seminar: Problems in Critical Theory</b>	arr.
<b>048:462 Seminar in Comparative Literature</b> In-depth study of a comparative topic or a current theoretical debate in the discipline.	3 s.h.
<b>048:615 Seminar: Film Theory</b> A major figure, issue, or approach in film theory. Repeatable.	3 s.h.
<b>048:616 Seminar: Film History</b> A major period or topic in film history; issues in film historiography, research. Repeatable.	3 s.h.
<b>048:640 Colloquium in Film and Video Production</b> Production and theory, with focus on varied theoretical issues; readings, projects.	1-3 s.h.

## Classics

**Chair:** Carin M. Green

**Professors:** Helena Dettmer, John F. Finamore, Carin M. Green, Robert C. Ketterer

**Professors emeriti:** Erling B. Holtmark, Donald F. Jackson

**Adjunct professor:** Peter Green

**Associate professors:** Mary J. Depew, Craig Gibson, Glenn R. Storey

**Lecturers:** Marcia Lindgren, Rosemary Moore

**Undergraduate degrees:** B.A. in Ancient Civilization, Classical Languages

**Undergraduate nondegree programs:** Minors in Ancient Civilization, Classical Languages, Greek, Latin; Postbaccalaureate Certificate in Classics

**Graduate degrees:** M.A. in Classics, Greek, Latin; Ph.D. in Classics

**Web site:** <http://www.uiowa.edu/~classics>

Classics is the study of ancient languages, literatures, and cultures of the Mediterranean basin from approximately 2000 B.C.E. to 600 C.E. It embraces three civilizations--the Minoan-Mycenaean, Greek, and Roman; two languages--Greek and Latin; and a geographical area including Europe, North Africa, Egypt, and the Near East. The Department of Classics provides a basis for understanding and interpreting the contribution of the ancient world to life in the present and the future.

## Undergraduate Programs

The department offers a Bachelor of Arts in ancient civilization and in classical languages (Greek and/or Latin). Both majors provide a solid foundation for graduate study in classics, European literature, law, history, art, philosophy, and religion. Graduates have become secondary school and university teachers, lawyers, doctors, librarians, museum curators, and bankers.

The department also offers minors in ancient civilization, classical languages, Greek, and Latin.

### Bachelor of Arts in Classical Languages

The Bachelor of Arts in classical languages requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. The program trains students to read the ancient Greek and/or Latin languages and acquaints them with the major works of Greek and/or Roman literature.

Students learn about the history of ancient Greece of the eighth through the fourth centuries B.C.E., where most of the modern Western notions of political, artistic, and social life are rooted. They also develop an understanding of the Roman Republic and Empire, when Rome established its hegemony over the Mediterranean basin, laid the foundation of law for the Western World, and spread Greece's culture to the West.

The major requires the following course work. Transfer credit is evaluated on an individual basis. Students must complete the College of Liberal Arts and Sciences General Education Program.

Intermediate or advanced Greek and/or Latin courses (20G:011 through 20G:199, 20L:011 through 20L:199)	18 s.h.
Greek or Latin prose composition (20G:176 or 20L:171)	3 s.h.
Additional Department of Classics courses at any level, with no more than 9 s.h. in 20E courses	15 s.h.

The advanced undergraduate Greek courses 20G:120 Archaic and Classical Periods I and 20G:121 Archaic and Classical Periods II, and 20G:122 Classical and Hellenistic Periods I and 20G:123 Classical and Hellenistic Periods II are offered every other year and may be repeated or taken in any sequence. They cover a broad range of prose and poetry in historical context.

The advanced undergraduate Latin courses 20L:120 Latin Literature of the Republic I and 20L:121 Latin Literature of the Republic II, and 20L:122 Latin Literature of the Empire I and 20L:123 Latin Literature of the Empire II are offered every other year and may be repeated or taken in any sequence. They cover a range of Latin prose and poetry in historical context from the mid-Republic to the third century C.E.

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of B.A. students completing one of the department's majors. Every student maintains a portfolio that details his or her progress in attaining the objectives of the major. The student submits the portfolio to the undergraduate advisor by midterm of the semester in which the student intends to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

### B.A. with Teacher Licensure in Latin

For information about Teacher Education Programs and licensure, contact the Office of Teacher Education and Student Services in the College of Education; see Education in the Catalog.

## Bachelor of Arts in Ancient Civilization

The Bachelor of Arts in ancient civilization requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. The program is sponsored by the Departments of Classics, History, and Religious Studies and the School of Art and Art History. It concentrates on the ancient civilization of the Mediterranean world, draws on courses offered by various University departments, and allows students to create individual programs.

Although the major is not preparation for graduate study in classics, it provides a sound basis for preparing teachers at the secondary school and junior college levels. It also provides a sound liberal arts and sciences basis for preprofessional training in law, medicine, and other professions.

The major requires the following course work. At least 15 of the required 30 s.h. must be earned in advanced work (20E courses at the 100 level, and Latin and Greek language courses numbered 20G:011 and 20G:012, or 20L:011 and 20L:012, or above). Transfer credit is evaluated on an individual basis. Students must complete the College of Liberal Arts and Sciences General Education Program.

Ancient art	6 s.h.
Ancient history	6 s.h.
Ancient philosophy or religion	6 s.h.
Classics, may be 20E courses or Latin or Greek language courses	9 s.h.
Appropriate courses in art, history, philosophy, religion, or linguistics	3 s.h.

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of B.A. students completing one of the department's majors. Every student maintains a portfolio that details his or her progress in attaining the objectives of the major. The student submits the portfolio to the undergraduate advisor by midterm of the semester in which the student intends to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

### B.A. in Ancient Civilization

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least eight courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### B.A. in Classical Languages: Greek and Latin

**Before the third semester begins:** 20L:001 Elementary Latin I and 20L:002 Elementary Latin II, or 20G:001 Classical and New Testament Greek I and 20G:002 Classical and New Testament Greek II; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 20L:011 World of Cicero, 20L:012 Golden Age of Roman Poetry, 20G:001 Classical and New Testament Greek I, and 20G:002 Classical and New Testament Greek II; or 20G:011 Second-Year Greek I, 20G:012 Second-Year Greek II, 20L:001 Elementary Latin I, and 20L:002 Elementary Latin II; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** sixth semester of Latin and fourth semester of Greek, or sixth semester of Greek and fourth semester of Latin, two more courses in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** enrollment in at least two or three additional courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate



**B.A. in Classical Languages: Greek Only**

**Before the third semester begins:** 20G:001 Classical and New Testament Greek I, 20G:002 Classical and New Testament Greek II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 20G:011 Second-Year Greek I, 20G:012 Second-Year Greek II, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** three or four more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two or three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**B.A. in Classical Languages: Latin Only**

**Before the third semester begins:** 20L:001 Elementary Latin I, 20L:002 Elementary Latin II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 20L:011 World of Cicero, 20L:012 Golden Age of Roman Poetry, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** three or four more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two or three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**Honors**

Membership in the University of Iowa Honors Program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Classics seniors who are members of the Honors Program and who have attained a g.p.a. of at least 3.50 in their first three years of classics courses may graduate with honors in classical languages or ancient civilization by completing two courses in honors reading, one each semester of the senior year, for 3 s.h. of credit each. The readings and discussions are on an ancient author or a field in ancient history or literature chosen by students and the instructor. At the end of the second semester, students present a long paper, which is read and judged for honors by two members of the department. Students who write an honors thesis in classical languages must be enrolled at the same time in the appropriate advanced language courses.

**Minor in Ancient Civilization**

The minor in ancient civilization requires a minimum of 15 s.h., including at least 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

Department of Classics courses in Greek numbered 20G:011 Second-Year Greek I or above and in Latin numbered 20L:011 World of Cicero or above are considered advanced for the minor in ancient civilization. Appropriate courses in art, religion, history, and philosophy may be counted toward the minor in ancient civilization, if approved by the undergraduate advisor. Students who have taken high school Greek or Latin should consult the advisor.

**Minor in Classical Languages**

The minor in classical languages requires a minimum of 18 s.h., including 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count one relevant classics department course taught in English (prefix 20E) toward the minor. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

The sequences 20G:011 Second-Year Greek I and 20G:012 Second-Year Greek II, 20L:011 World of Cicero and 20L:012 Golden Age of Roman Poetry, and Department of Classics courses numbered 100 and above are considered advanced for the minor in classical languages. Students may satisfy the requirements for the minor by completing 20G:011 Second-Year Greek I and 20G:012 Second-Year Greek II, 20L:011 World of Cicero and 20L:012 Golden Age of Roman Poetry, plus two 100-level courses, one of which may be a relevant 20E course in Greek or Roman history,

culture, or literature. For a list of relevant courses, contact the undergraduate advisor. Students who have taken high school Greek or Latin should consult the advisor.

### Minor in Greek

The minor in Greek requires a minimum of 15 s.h., including at least 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count one relevant classics department course taught in English (prefix 20E) toward the minor. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

The sequence 20G:011 Second-Year Greek I and 20G:012 Second-Year Greek II, and Department of Classics courses numbered 100 and above are considered advanced for the minor in Greek. Students may satisfy the advanced courses requirement for the minor by completing 20G:011 Second-Year Greek I and 20G:012 Second-Year Greek II plus two 100-level courses, one of which may be a relevant 20E course in Greek history, culture, or literature. For a list of relevant courses, contact the undergraduate advisor. Students who have taken high school Greek should consult the advisor.

### Minor in Latin

The minor in Latin requires a minimum of 15 s.h., including at least 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count one relevant classics department course taught in English (prefix 20E) toward the minor. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

The sequence 20L:011 World of Cicero and 20L:012 Golden Age of Roman Poetry, and Department of Classics courses numbered 100 and above are considered advanced for the minor in Latin. Students may satisfy the advanced courses requirement for the minor by completing 20L:011 World of Cicero and 20L:012 Golden Age of Roman Poetry plus two 100-level courses, one of which may be a relevant 20E course in Roman history, culture, or literature. For a list of relevant courses, contact the undergraduate advisor. Students who have taken high school Latin should consult the advisor.

### Language for Nonmajors

Nonmajors who wish to study Greek or Latin and who have background in either language should take either the Greek Foreign Language Placement Test or the Latin Foreign Language Placement Test, offered during summer orientation programs and monthly by Evaluation and Examination Service. The tests help determine the level at which a student should begin Greek or Latin language study at The University of Iowa.

Students may fulfill the Foreign Language requirement of the College of Liberal Arts and Sciences General Education Program with either Greek or Latin, as follows.

#### GREEK

Students with no previous knowledge of Greek may fulfill the Foreign Language requirement of the General Education Program with the following sequence.

20G:001 Classical and New Testament Greek I	3-5 s.h.
20G:002 Classical and New Testament Greek II	3-5 s.h.
20G:011 Second-Year Greek I	3 s.h.
20G:012 Second-Year Greek II	3 s.h.

#### LATIN

Students with no previous knowledge of Latin may fulfill the Foreign Language requirement of the General Education Program with the following sequence.

20L:001 Elementary Latin I	3-5 s.h.
20L:002 Elementary Latin II	3-5 s.h.
20L:011 World of Cicero	3 s.h.
20L:012 Golden Age of Roman Poetry	3 s.h.

Some students may be able to substitute 20L:005 Accelerated Latin for 20L:001 and 20L:002 in the sequence above. Students who have taken 20L:001 and 20L:002 should not enroll in 20L:005.

## Postbaccalaureate Certificate in Classics

The Postbaccalaureate Certificate in Classics requires 18 s.h. in Department of Classics courses numbered 100 and above (upper-level and graduate courses). The program is designed for students who have a baccalaureate and wish further study in Greek and Latin in order to be competitive for admission to a graduate program in classics. Entry to most graduate programs requires study of both Latin and Greek, normally a minimum of three years in one language and two years in the other.

The certificate is designed to be completed in two semesters by students who enter with two years of Latin and one to two years of Greek, or vice versa. It requires 18 s.h. in Department of Classics courses numbered 100 or above (upper-level and graduate courses), including at least 12 of the required 18 s.h. must be earned in Greek and Latin language courses. The remaining 6 s.h. may be earned in approved advanced 20E courses. Transfer credit is not accepted toward the certificate. Students must maintain a g.p.a. of at least 3.00 to remain in good standing and complete the program.

A suggested plan of study for a student who enters the program with two years of Latin and one year of Greek is as follows.

Fall semester:

20E:198 Postbaccalaureate Seminar	0 s.h.
20G:011 Second-Year Greek I	3 s.h.
20L:120 Latin Literature of the Republic I	3 s.h.
20L:171 Elementary Latin Composition	3 s.h.

Spring semester:

20G:012 Second-Year Greek II	3 s.h.
20L:121 Latin Literature of the Republic II	3 s.h.
One elective with prefix 20E, 20G, or 20L numbered 100 or above	3 s.h.

A suggested plan of study for a student who enters the program with two years of Latin and two years of Greek is as follows.

Fall semester:

20E:198 Postbaccalaureate Seminar	0 s.h.
20G:120 Archaic and Classical Periods I	3 s.h.
20L:120 Latin Literature of the Republic I	3 s.h.
20L:171 Elementary Latin Composition	3 s.h.

Spring semester:

20G:121 Archaic and Classical Periods II	3 s.h.
20L:121 Latin Literature of the Republic II	3 s.h.
One elective with prefix 20E, 20G, or 20L numbered 100 or above	3 s.h.

Students who complete the program successfully receive a certificate from the College of Liberal Arts and Sciences and a letter from the Department of Classics.

## Admission

Applicants must have a baccalaureate degree from an accredited college or university and a minimum of two years of language study (two years of Latin or two years of Greek, or one year of each). In unusual circumstances, students with less language preparation may be admitted.

Applicants who are not enrolled in a graduate or professional program may apply to The University of Iowa as undergraduate transfer students; they must state on their application that they are applying to the College of Liberal Arts and Sciences for admission to the classics postbaccalaureate certificate program. They must submit transcripts confirming preparation for certificate language study, a statement of purpose, scores on the Graduate Record Examination (GRE) General Test, a writing sample, and three letters of recommendation from faculty members at their

baccalaureate institution.

## Graduate Programs

The department offers a Master of Arts in classics, Greek, and Latin; and a Doctor of Philosophy in classics.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### Master of Arts

The Master of Arts in classics, Greek, or Latin requires a minimum of 30 s.h. in courses numbered 101 and above. Students may count a maximum of 12 s.h. earned in courses numbered 101-199 toward the degree. Courses taken to compete the Postbaccalaureate Certificate in Classics do not count toward the degree.

Students must pass a sight examination in the language(s) studied and an examination on literature and history.

### Doctor of Philosophy

The Doctor of Philosophy in classics requires a minimum of 72 s.h. of graduate credit, including the courses listed below (27 s.h.). Students may count no more than 12 s.h. earned in courses numbered 101-199 toward the degree. Courses taken to complete the Postbaccalaureate Certificate in Classics may not be counted toward the degree.

Students also must take precomprehensive and comprehensive examinations and write a dissertation.

#### REQUIRED COURSES

20G:176 Greek Composition (or equivalent)	3 s.h.
20G:204 Archaic Greek Literature	3 s.h.
20G:205 Classical and Hellenistic Literature	3 s.h.
20L:204 Republican Literature	3 s.h.
20L:205 Imperial Literature	3 s.h.
20L:272 Advanced Latin Composition (or equivalent)	3 s.h.
Two graduate-level courses in cognate subjects such as anthropology, art history, linguistics, philosophy, or rhetoric	6 s.h.
Other interdisciplinary courses (with approval of the graduate advisor)	

The remaining course work is made up of Department of Classics and other courses.

#### PH.D. EXAMINATIONS

Ph.D. students must take precomprehensive exams in Latin sight reading and Greek sight reading and must attempt one sight reading exam by the end of their first year of graduate study. Competence in reading both German and French must be demonstrated by the end of the second year of study.

Students must take the second-year exam at the end of their second year. The remaining exams may be taken in any sequence. Students must file a request for the fourth-year comprehensive exam at least three weeks before the date of the exam.

#### Sight-Reading Exam

Latin: four hours, written

Greek: four hours, written

#### Second-Year Exam

Literature and history: four hours, written

#### Fourth-Year Comprehensive Exam

Greek and Roman history/material culture based on reading list: three hours, written

Latin literature, based on reading list: three hours, written

Greek literature, based on reading list: three hours, written

If a student performs unsatisfactorily on either or both of the Latin and Greek reading list exams, the director of graduate studies sets up an oral exam in order to review questions on which the student did not exhibit sufficient knowledge.

Special field or author (Greek): four hours, written

Special field or author (Latin): four hours, written

## Facilities

The University of Iowa Main Library and the Art Library house extensive collections of classical texts and uninterrupted runs of classical periodicals from 1850 that facilitate research in the major areas of Greek and Roman civilization. The Department of Classics has a varied collection of slides on classical subjects and a small library of reference works, texts, and issues of classical and archaeological journals. The department's classical museum contains a small collection of coins, vases, and facsimiles in bronze from Mycenae, Pompeii, and Herculaneum.

The University is a supporting institution of the American School of Classical Studies at Athens, the American Academy in Rome, and the Intercollegiate Center for Classical Studies in Rome. Consult the director of undergraduate studies for more information.

The department offers students the opportunity to participate in an archaeological dig during the summer. Contact the Department of Classics in mid-February for details.

## Classics Courses

### Classics in English for Undergraduates

All readings for these courses are in English except Sanskrit courses 20E:110 First-Year Sanskrit: First Semester, 20E:111 First-Year Sanskrit: Second Semester, 20E:121 Second-Year Sanskrit: First Semester, and 20E:122 Second-Year Sanskrit: Second Semester; no previous knowledge of Greek or Latin is necessary.

#### **20E:005 Legends and Heroes of Ancient Rome** 1 s.h.

Introduction to narratives of Roman heroes from Livy, Ovid, and Plutarch; background information for further study in classics.

#### **20E:009 Classics and Cinema** 3 s.h.

Cinematic depictions of the classical world compared with scholarly views; selected films and primary ancient sources of the same period.

#### **20E:014 Hero, God, Mortal: Literature of Greece** 3 s.h.

Ancient Greek literature and culture as it responded to Homer; may include genre (e.g., epic to tragedy), religion, changing concept of hero, interaction with Mediterranean cultures, myth versus history. GE: Foreign Civilization & Culture, Humanities.

#### **20E:015 Love and Glory: Literature of Rome** 3 s.h.

Main themes and works of ancient Roman literature; works reflecting conflict of personal desire and public self in Rome. GE: Foreign Civilization & Culture, Humanities.

#### **20E:017 The First Caesars: Julius Caesar to Nero** 3 s.h.

Introduction to history, politics, and personalities of the first Caesars, the Julio-Claudians (Julius Caesar, Augustus, Tiberius, Caligula, Claudius, and Nero); conditions of the Roman social and political system that led to the Caesars; character of each emperor; changes each brought about in that system; primary and secondary sources.

#### **20E:020 Greek and The New Testament** 3 s.h.

Cultural history and intellectual tradition of the Greek-speaking eastern Mediterranean to explore why early Christians chose to preserve New Testament writings in Greek.

#### **20E:026 Introduction to Ancient Art** 3 s.h.

Art and architecture of the Mediterranean world ca. 3500 B.C.E. to death of Constantine (337 C.E.); Egyptian, Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, religion. Same as 01H:026.

**20E:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first or second semester standing.

**20E:030 Greek Civilization** 3 s.h.  
History, literature, art, architecture, religion, social life ca. 3000 B.C.E. to second century B.C.E. GE: Historical Perspectives.

**20E:031 Roman Civilization** 3 s.h.  
History, literature, politics, religion, social structure from eighth century B.C.E. to second century C.E. GE: Historical Perspectives.

**20E:071 Middle East and Mediterranean: Alexander to Suleiman** 3 s.h.  
GE: Foreign Civilization & Culture. Same as 016:045, 032:061.

**20E:075 Ancient Sports and Leisure** 3 s.h.  
Sports, games, and hobbies in the ancient world, primarily Greece and Rome, 1500 B.C.E. to 500 C.E.; ancient Olympic games, Roman festival games; anthropology of sport. GE: Humanities.

**20E:076 The Olympics: Ancient and Modern** 3 s.h.  
Origins and development of the ancient and modern Olympics; the Olympic spirit, political and religious contexts, and athletics through literature and material culture. Same as 028:072.

## Classics in English for Undergraduate and Graduate Students

All of these, except the Sanskrit courses, are taught in English.

**20E:101 Ancient Egypt and the Ancient Near East** 3 s.h.  
Same as 16E:101.

**20E:103 Medical and Technical Terminology** 2 s.h.  
Memorization of word stems and basic medical terms, practice on computer terminal; no formal classes.

**20E:104 Suffering, Death, and the Afterlife in Christianity and Judaism** 3 s.h.  
Development of afterlife ideology in Jewish and Christian traditions and ideas that influenced this development, particularly as it relates to the problem of suffering. Same as 032:109.

**20E:106 Warfare in Ancient Mediterranean Society** 3 s.h.  
Same as 16E:106.

**20E:107 In Search of the Good Life** 3 s.h.  
Works from Greco-Roman, Jewish, and Christian cultures to analyze various beliefs on how humans can live the good life and examine how these solutions are intimately connected to the specific conceptions of the divine world. Same as 032:107.

**20E:109 Women in Antiquity** 3 s.h.  
Attitudes toward women and the role of women in ancient Greek and Roman society; ancient authors, male and female, and modern critics. Same as 131:109.

**20E:110 First-Year Sanskrit: First Semester** 4 s.h.  
Grammar, basic vocabulary; elementary readings. Offered fall semesters of even years. Requirements: undergraduate standing. GE: Foreign Language First Level Proficiency. Same as 039:110.

**20E:111 First-Year Sanskrit: Second Semester**

4 s.h.

Readings in epic and story literature. Offered spring semesters of odd years. Prerequisites: 039:110. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency. Same as 039:111.

**20E:112 Classical Mythology**

3 s.h.

Ancient Greek and Roman myths, their interpretation by Western civilization; emphasis on flexibility of myth and its importance for art, literature, anthropological, psychological studies. GE: Humanities.

**20E:113 Middle Egyptian I**

3 s.h.

Introduction to the language (Middle Egyptian dialect, c. 2200-1350 B.C.E.), and script (hieroglyphic) of ancient Egypt; in-class readings from passages in the chrestomathie; Pennsylvania State University video conference.

**20E:114 Middle Egyptian II**

3 s.h.

Continuation of 20E:113; introduction to the language (c. 2200-1350 B.C.E.) and script (hieroglyphics) of ancient Egypt. Prerequisites: 20E:113.

**20E:115 Greek Religion and Society**

3 s.h.

From Bronze Age to the Hellenistic period, in context of Mediterranean culture; evidence such as choral hymn, inscribed prayers, magical curses inscribed on lead, architecture, sculpted offerings to the gods. GE: Humanities. Same as 032:164.

**20E:117 Concepts of the City: Rome**

3 s.h.

Physical and cultural development of the city of Rome from early republic to emperor Constantine and rise of Christianity in fourth century C.E.

**20E:118 Greek Archaeology and Ethnohistory**

3 s.h.

Archaeology and ethnology of the Greek world, from end of Bronze Age to late Roman Empire; sociocultural processes that influence development and persistence of Greek civilization. Prerequisites: 113:012 or 113:013. Same as 113:192.

**20E:119 Roman Archaeology**

3 s.h.

Archaeology and ethnology of Roman civilization from Iron Age eighth-century occupation of the Palatine Hill to the end of the Roman empire in the West, A.D. 476. Prerequisites: 113:012 or 113:013. Same as 113:194.

**20E:120 Concepts of the City: Athens**

3 s.h.

Athens from Bronze Age to present; city's role in development of political democracy and religion.

**20E:121 Second-Year Sanskrit: First Semester**

3 s.h.

Readings in epic and puranic texts. Offered fall semesters of odd years. Prerequisites: 039:111. Requirements: undergraduate standing. GE: Foreign Language Second Level Proficiency. Same as 039:112.

**20E:122 Second-Year Sanskrit: Second Semester**

3 s.h.

The *Bhagavadgita* and related religious/philosophical texts. Offered spring semesters of even years. Prerequisites: 039:112. Requirements: undergraduate standing. GE: Foreign Language Fourth Level Proficiency. Same as 039:113.

**20E:124 Classical Greek Art**

3 s.h.

Art, sacred architecture from early Classical through late fourth century B.C.E.; Athens in the Golden Age. Prerequisites: 01H:005 or 01H:026. Same as 01H:127.

**20E:128 Art of Early Rome: Patrons and Politics**

3 s.h.

Art and architecture of Roman Italy and provinces from late Caesar Republic through reign of Hadrian, 80 B.C.E.-138 C.E. Prerequisites: 01H:005 or 01H:026. Same as 01H:132.

**20E:129 Art and Culture in Ancient Pompeii**

3 s.h.

Art and architecture, as documents of ancient society and religion in towns destroyed by Mount Vesuvius in C.E. 79. Same as 01H:134.

**20E:130 Art of the Ancient Roman Empire**

3 s.h.

Art and architecture of late imperial Rome and the provinces, from the Antonines through Constantine, C.E. 138-337. Prerequisites: 01H:005 or 01H:026. Same as 01H:133.

**20E:133 Advanced Topics in Mythology**

3 s.h.

In-depth exploration of issues in mythology raised in 20E:112; theories of myth, comparative mythology, reception of myth; experience applying methodologies and approaches to specific myths or clusters of myths in Greco-Roman and world traditions. Prerequisites: 20E:112.

**20E:136 Food in Ancient Mediterranean Society**

3 s.h.

Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as 16E:102.

**20E:138 Philosophy of Ancient Greece and Rome**

3 s.h.

Ancient Greek and Roman philosophy from its inception in Ionia in sixth century B.C.E. through the Neoplatonic philosophy of Plotinus in third century C.E., encompassing philosophies of Plato, Aristotle, the Stoics and Epicureans, and later Platonists.

**20E:140 Magic in the Ancient World**

3 s.h.

Ancient Greek and Roman writings on magic, including ancient spells and charms. Requirements: completion of rhetoric requirement. GE: Humanities.

**20E:141 Studies in Latin Literature**

3 s.h.

In-depth look at specific authors or genres, as indicated in the subtitle, focusing on Latin literary texts from second century B.C.E. to fifth century C.E. and the post-antique reception of those texts. Taught in English.

**20E:142 Word Power: Building English Vocabulary**

3 s.h.

Analysis of unfamiliar English words through knowledge of the history and meaning of word parts.

**20E:143 Word Power II: Building English Vocabulary--Advanced**

3 s.h.

Continuation of 20E:142; vocabulary building through additional Latin and Greek bases; vocabulary recognition through analysis of Greek and Latin elements of English words; how words change over time. Prerequisites: 20E:142.

**20E:144 Engineering and Technology in the Ancient Mediterranean**

3 s.h.

Technologies developed and used in the ancient Mediterranean--primarily in Greece and Rome, also in Egypt and the Ancient Near East; agriculture and food preparation; construction and architecture; technologies related to warfare.

**20E:150 Gender and Sexuality in the Ancient World**

3 s.h.

Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of rhetoric requirement and sophomore standing. GE: Foreign Civilization & Culture. Same as 131:152, 154:121.

**20E:180 Teaching in the Classics**

3 s.h.

Instructional approaches and issues in teaching ancient language and civilization at secondary and college levels. Prerequisites: 20G:002 or 20L:002.

**20E:190 Honors Readings**

arr.

Discussion, readings, research for a paper on ancient civilization. Requirements: ancient civilization major.

**20E:196 The Archaeology of Ancient Egypt**

3 s.h.

Introduction to the archaeology of ancient Egypt from predynastic times to Roman Egypt, including monumental architecture; patterns of everyday life; social, economic, and demographic considerations; history of archaeology in Egypt. Prerequisites: 113:012. Same as 113:196.

**20E:198 Postbaccalaureate Seminar**

0 s.h.

Current work of postbaccalaureate students; preparation of writing sample and portfolio. Requirements: postbaccalaureate certificate enrollment.

**20E:199 Private Assignments**

arr.

Readings in classical literature in translation.



## Classics in English for Graduate Students

### **20E:201 Topics in Comparative Romance Linguistics** 3 s.h.

Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Repeatable. Prerequisites: 035:204. Recommendations: additional graduate course work in linguistics. Same as 035:207, 103:262, 164:262.

### **20E:210 Graduate Pedagogy** 1 s.h.

Pedagogical theories on teaching classics in translation, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in classics courses taught in English.

### **20E:220 Proseminar in Classics** 1 s.h.

Texts, techniques, and trends in classical scholarship; areas and subtopics of classical scholarship.

### **20E:230 Classical Rhetoric** 3 s.h.

Discourse in the ancient world. Same as 010:301, 036:310.

### **20E:326 Seminar: Problems in Ancient Art** 3 s.h.

Ancient contexts of Roman statues and modern methodological issues surrounding their study; monuments considered in tandem with relevant archaeological evidence and textual sources read in translation; historiography of Roman statues; evidence for ancient art market and collectors; roles of statues in civic, religious, funerary, and domestic spaces; cultural forces driving the widespread emulation of earlier Greek artworks. Same as 01H:320.

## Greek for Undergraduates

### **20G:001 Classical and New Testament Greek I** 3-5 s.h.

Introduction to ancient Greek; Greek readings from all periods, from Homer and classical Greek poetry and prose to Christian writings and beyond; focus on classical and New Testament works, Greek culture and thought; comprehension, vocabulary, structure of Greek words and sentences; first of two-semester sequence. GE: Foreign Language First Level Proficiency.

### **20G:002 Classical and New Testament Greek II** 3-5 s.h.

Continuation of 20G:001; focus on classical and New Testament works, Greek culture and thought, comprehension, vocabulary, structure of Greek words and sentences; increased emphasis on original texts. Prerequisites: 20G:001. GE: Foreign Language Second Level Proficiency.

### **20G:011 Second-Year Greek I** 3 s.h.

Focus on reading Greek prose authors, such as Xenophon and Plato. Prerequisites: 20G:002. GE: Foreign Language Second Level Proficiency.

### **20G:012 Second-Year Greek II** 3 s.h.

Continuation of 20G:011; focus on reading and interpretation of Greek poetry. Prerequisites: 20G:011. GE: Foreign Language Fourth Level Proficiency.

## Greek for Undergraduate and Graduate Students

### **20G:120 Archaic and Classical Periods I** 3 s.h.

Readings in major Greek authors of the Archaic and Classical periods. Prerequisites: 20G:012.

### **20G:121 Archaic and Classical Periods II** 3 s.h.

Continuation of 20G:120. Prerequisites: 20G:012.

### **20G:122 Classical and Hellenistic Periods I** 3 s.h.

Readings in Greek literature of the Classical and Hellenistic periods. Prerequisites: 20G:012. Same as 032:122.

- 20G:123 Classical and Hellenistic Periods II** 3 s.h.  
Continuation of 20G:122. Prerequisites: 20G:012.
- 20G:176 Greek Composition** 3 s.h.  
Review of Greek morphology, syntax, sentence structure; composition of sentences, short passages in Greek.
- 20G:190 Honors Readings** arr.  
Discussion, readings, research for a paper on Greek literature, history, or civilization. Requirements: classical languages major.
- 20G:199 Private Assignments** 1-3 s.h.  
Directed reading and study with faculty member.

### **Greek for Graduate Students**

Courses numbered 20G:222 Archaic Poetry and 20G:223 Hellenistic Literature cover topics from the major genres and periods of Greek literature. They are offered on a four-year cycle.

Courses numbered 20G:222 Archaic Poetry, 20G:223 Hellenistic Literature, and 20G:228 Classical Greece cover authors, genres, and topics of the major periods of Greek history. Specific topics are determined by the instructor's expertise and research interests. Ph.D. students are exposed to topics in all major periods at least once in four years of course work.

- 20G:202 Advanced Reading** arr.  
Requirements: classics graduate standing.
- 20G:204 Archaic Greek Literature** 3 s.h.  
Introductory survey of Greek literature and language from Homer to end of the fifth century.
- 20G:205 Classical and Hellenistic Literature** 3 s.h.  
Introductory survey of Greek literature and language in and after the fourth century B.C.E.
- 20G:210 Graduate Pedagogy** 1 s.h.  
Pedagogical theories on teaching classical languages, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in Greek.
- 20G:222 Archaic Poetry** arr.  
Topics chosen from Homer, Hesiod, Homeric hymns or lyric poetry. Repeatable.
- 20G:223 Hellenistic Literature** arr.  
Authors, genres, and topics from the death of Alexander to the accession of Augustus. Repeatable.
- 20G:228 Classical Greece** arr.  
Authors, genres, and topics from the fourth and fifth centuries B.C.E. Repeatable.
- 20G:229 Roman Greece** arr.  
Greek authors of the Second Sophistic, including Plutarch, Lucian, and Philostratus; seminar.
- 20G:291 Greek Thesis** arr.  
For Ph.D. students writing a dissertation. Repeatable. Requirements: Ph.D. candidacy.

### **Latin for Undergraduates**

- 20L:001 Elementary Latin I** 3-5 s.h.

Focus on reading Latin and on Roman culture. GE: Foreign Language First Level Proficiency.

**20L:002 Elementary Latin II**

3-5 s.h.

Continuation of 20L:001. Prerequisites: 20L:001. GE: Foreign Language Second Level Proficiency.

**20L:005 Accelerated Latin**

3-5 s.h.

Combines two semesters of Latin in one semester. Duplicates 20L:001 and 20L:002; additional credit will not be earned by those who take 20L:001, 20L:002, and 20L:005. Recommendations: experience learning a foreign language. GE: Foreign Language Second Level Proficiency.

**20L:011 World of Cicero**

3 s.h.

Focus on reading Latin prose authors, such as Caesar and Cicero. Prerequisites: 20L:002. GE: Foreign Language Second Level Proficiency.

**20L:012 Golden Age of Roman Poetry**

3 s.h.

Focus on reading and interpretation of Roman poets, such as Vergil and Catullus. Prerequisites: 20L:011. GE: Foreign Language Second Level Proficiency.

**Latin for Undergraduate and Graduate Students****20L:120 Latin Literature of the Republic I**

3 s.h.

Prose or poetry by major authors of the republic. Prerequisites: 20L:012.

**20L:121 Latin Literature of the Republic II**

3 s.h.

Continuation of 20L:120. Prerequisites: 20L:012.

**20L:122 Latin Literature of the Empire I**

3 s.h.

Prose or poetry by major authors of the empire. Prerequisites: 20L:012.

**20L:123 Latin Literature of the Empire II**

3 s.h.

Continuation of 20L:122. Prerequisites: 20L:012.

**20L:171 Elementary Latin Composition**

3 s.h.

Review of Latin morphology, syntax, sentence structure; composition of sentences, short passages in Latin.

Prerequisites: 20L:012.

**20L:190 Honors Readings**

3 s.h.

Discussions, readings, research for a paper on Roman literature, history, or civilization. Requirements: classical languages major.

**20L:199 Private Assignments**

1-3 s.h.

Directed reading and study with faculty member for advanced students.

**Latin for Graduate Students**

Courses numbered 20L:222 Augustan Poetry through 20L:225 cover topics from the major genres and periods of Latin literature. They are offered on a four-year cycle.

Courses numbered 20L:220 Republican Rome, 20L:228 Late Roman Empire, and 20L:229 High Empire cover authors, genres, and topics of the major periods of Roman history. Specific topics are determined by the instructor's expertise and research interests. Ph.D. students are exposed to topics in all major periods at least once in four years of course work.

**20L:202 Advanced Reading**

arr.

Repeatable. Requirements: classics graduate standing.

**20L:204 Republican Literature**

3 s.h.

Introductory survey of Latin literature and language from the early Republic to the end of the first century B.C.E.

**20L:205 Imperial Literature**

3 s.h.

Introductory survey of Latin literature and language from the Augustan age through the second century C.E.

**20L:210 Graduate Pedagogy**

1 s.h.

Pedagogical theories on teaching classical languages, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in Latin.

**20L:217 Accelerated Elementary Latin/Graduate**

4 s.h.

One year of Latin in one semester. Offered summer session.

**20L:220 Republican Rome**

arr.

Authors and topics from the beginnings of Roman literature to the death of Julius Caesar. Repeatable.

**20L:222 Augustan Poetry**

arr.

Authors and topics from the death of Caesar to the accession of Tiberius. Repeatable.

**20L:228 Late Roman Empire**

arr.

Authors and topics from the third through fifth centuries C.E. Repeatable.

**20L:229 High Empire**

arr.

Authors and topics from the first and second centuries C.E. Repeatable. Same as 032:229.

**20L:272 Advanced Latin Composition**

arr.

Writing of extended prose passages in Latin.

**20L:291 Latin Thesis**

arr.

For Ph.D. students writing a dissertation. Repeatable. Requirements: Ph.D. candidacy.

# Communication Sciences and Disorders

**Chair:** Paul J. Abbas

**Professors:** Paul J. Abbas (Communication Sciences and Disorders/Otolaryngology--Head and Neck Surgery), Ruth A. Bentler, Carolyn Jane Brown (Communication Sciences and Disorders/Otolaryngology--Head and Neck Surgery), Kate E. Gfeller (Music/Communication Sciences and Disorders), Richard R. Hurtig (Starch Faculty Fellow), Karen Kirk, Karla K. McGregor, Jerald B. Moon, Ingo R. Titze (Communication Sciences and Disorders/Music, UI Foundation Distinguished Professor), J. Bruce Tomblin (Communication Sciences and Disorders/Otolaryngology--Head and Neck Surgery, Priestestersbach Professor), Chris W. Turner (Communication Sciences and Disorders/Otolaryngology--Head and Neck Surgery), Richard S. Tyler (Otolaryngology--Head and Neck Surgery/Communication Sciences and Disorders), Patricia M. Zebrowski

**Professors emeriti:** Erich S. Luschei, Kenneth L. Moll, Hughlett L. Morris, Arnold M. Small, Duane C. Priestestersbach, Duane R. Van Demark

**Professor (clinical):** Lenore Holte

**Adjunct professors:** Fariborz Alipour-Haghighi, Lorraine Ramig

**Associate professors:** Douglas Baynton (History/Communication Sciences and Disorders), Eileen Finnegan (Communication Sciences and Disorders/Otolaryngology--Head and Neck Surgery), Jean K. Gordon, Michael P. Karnell (Otolaryngology--Head and Neck Surgery/Communication Sciences and Disorders)

**Associate professors emeriti:** Charles V. Anderson, Penelope, K. Hall

**Associate professors (clinical):** Toni D. Cilek, Ann M. Fennell, Danielle Kelsay, Linda Louko, Diane P. Niebuhr, Anne K. Wallace

**Adjunct associate professors:** Carolyn Jean Brown, Charles A. Miller, Ronald C. Scherer, Katherine Verdolini, Gerald N. Zimmermann

**Assistant professors:** Sandie Bass-Ringdahl, Melissa Duff, Shawn J. Goodman, Amanda Owen

**Assistant professors (clinical):** Karen Bryant, Stephanie Fleckenstein

**Adjunct assistant professors:** Sarah Klemuk, Alice Smith, Brad Story, Gail Takahashi

**Adjunct instructors in practicum instruction:** Barbara Anderson, Emily Andrews, Julie Bridges, Paige Burden, Margaret Christiansen, Debora Downey, Suzanne Dunn, Jessica Egge, Kelly Macauley Frost, Barbara A. Gienapp, Daniel Hansen, Diana Hanson, Emily Hart, Rebecca Hubbard, Maura Kenworthy, Judith Knabe, Marsha Barth Leick, Maggie Lenkowski, Mary Lowder, Mary F. Lukas, Beth MacPherson, Joan D. Marttila, Elizabeth Merrifield, Rebecca R. Miller, Kelly Neppi, Aaron Packer, Ann Perreau, Debra K. Robin, Janette Rogers, Katherine Emerich Seerveld, Sandra D. Show, Christine Troxell, Michael Tyskind, Tanya Van Voorst, Gina Wiley

**Undergraduate degree:** B.A. in Speech and Hearing Science

**Graduate degrees:** M.A. in Speech Pathology and Audiology, Ph.D. in Speech and Hearing Science, Au.D.

**Web site:** <http://www.uiowa.edu/~comsci/>

The courses and degree programs of the Department of Communication Sciences and Disorders are planned to meet the needs of students preparing for careers in clinical service, college and university teaching, and research concerned with speech, language, or hearing processes and disorders. The department also offers courses for students with vocational and professional goals in other fields--for example, engineering, psychology, education, speech, theatre arts, dentistry, and medicine--whose preparation may be enriched by the study of speech and hearing processes and their disorders.

Advanced degree holders in communication sciences and disorders provide clinical services for people with speech, hearing, or language problems in hospitals, community clinics, rehabilitation facilities, elementary and secondary schools, and private practice. They teach in colleges and universities and conduct research in laboratories concerned with communication processes and disorders.

The department's professional programs leading to the M.A. or Au.D. are accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA).

## Undergraduate Program

The department offers a Bachelor of Arts in speech and hearing science. The program emphasizes the normal processes of speech, hearing, and language.

The Master of Arts or Doctor of Audiology is the minimum level of preparation for persons seeking professional careers in communication sciences and disorders. The undergraduate curriculum leading to the B.A. in speech and hearing science does not qualify an individual to work professionally in the field. Instead, it is designed primarily to prepare students for graduate work. It also may be pursued by students earning College of Liberal Arts and Sciences degrees who are not seeking careers in speech pathology and audiology.

### Bachelor of Arts

The Bachelor of Arts in speech and hearing science requires a minimum of 120 s.h., including 55-56 s.h. of work for the major. Requirements include nine core courses offered by the department and eight cognate courses offered by other departments. Students must complete the College of Liberal Arts and Sciences General Education Program. Transfer students must complete a minimum of 15 s.h. toward the major at The University of Iowa. Requirements for the major are as follows.

#### CORE COURSES

All of these:

003:015 Introduction to Speech and Hearing Processes and Disorders	3 s.h.
003:110 Phonetics: Theory and Applications	3 s.h.
003:111 Basic Acoustics for Speech and Hearing	3 s.h.
003:112 Anatomy and Physiology of Speech Production	4 s.h.
003:113 Introduction to Hearing Science	4 s.h.
003:116 Basic Neuroscience for Speech and Hearing	3 s.h.

003:117 Psychology of Language	3 s.h.
003:118 Language Development	3 s.h.
003:185 Hearing Loss and Audiometry	3 s.h.

**COGNATE COURSES**

Students may choose cognate courses that help fulfill the College of Liberal Arts and Sciences General Education Program.

Both of these:

031:001 Elementary Psychology	3 s.h.
103:100 Introduction to Linguistics	3 s.h.

One of these:

07P:025/22S:025 Elementary Statistics and Inference	3 s.h.
07P:143/22S:102 Introduction to Statistical Methods	3 s.h.
22S:030 Statistical Methods and Computing	3 s.h.
22S:101 Biostatistics	3 s.h.

One of these:

004:007 General Chemistry I	3 s.h.
004:011 Principles of Chemistry I	4 s.h.
029:008 Basic Physics (preferably with lab)	4 s.h.
029:011 College Physics I	4 s.h.

One of these:

031:013 Introduction to Clinical Psychology	3 s.h.
031:050 Psychology of Aging	3 s.h.
031:063 Abnormal Psychology: Health Professions	3 s.h.
042:108 Basic Aspects of Aging	3 s.h.

One of these:

07P:106 Child Development	3 s.h.
031:014 Introduction to Developmental Science	3 s.h.

One of these:

002:002 Introductory Animal Biology (with lab)	4 s.h.
002:010 Principles of Biology I (with lab)	4 s.h.

One of these:

22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:016 Calculus for the Biological Sciences	4 s.h.
22M:025 Calculus I	4 s.h.

First-year calculus is encouraged, particularly for those who are interested in pursuing a graduate degree in audiology.

**CLINICAL OBSERVATION**

Students have the opportunity and are encouraged to obtain 25 hours of supervised clinical observation, a prerequisite for participation in clinical practicums at the graduate level. This requirement is satisfied by completion of independent observations or required observations made for elective departmental courses.

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Note: The major requires specific mathematics and science competencies that may be satisfied with courses approved for the General Education Program.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** three courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** nine courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 12 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

The junior/senior-year program leading to the B.A. with honors in speech and hearing science is open to students who, at the beginning of their junior year, have completed at least 10 s.h. of course work that can be counted toward a major in the department and have earned a g.p.a. of at least 3.50 in all course work at the University.

At any time during their undergraduate study, students who have a cumulative University of Iowa g.p.a. of at least 3.33 and who did not enter the University as honors students may enroll in the University of Iowa Honors Program (contact the University of Iowa Honors Program for more information). Students with a g.p.a. of 3.50 or higher may enter the department's honors program upon recommendation of the departmental honors advisor. To graduate with honors, students must be members of the University of Iowa Honors Program and must complete both 003:097 Honors Seminar and 003:098 Honors Thesis. Students register for 003:097 Honors Seminar in the spring of their junior year and for 003:098 Honors Thesis in both fall and spring of their senior year.

## Graduate Programs

The department offers a Master of Arts in speech pathology and audiology, with two emphases: research (general), and professional (speech-language pathology). It also offers the Doctor of Audiology (Au.D.), and a Doctor of Philosophy in speech and hearing science.

The M.A. with research emphasis and the Ph.D. are designed to train scholar-researchers; they do not provide preparation for professional work as speech-language pathologists or audiologists.

The M.A. with professional emphasis and the Au.D. provide training for individuals who wish to do clinical work in speech-language pathology or audiology. Graduates of the M.A. professional emphasis program meet all academic and practicum requirements for clinical certification by the American Speech-Language-Hearing Association (ASHA) and for licensure by the State of Iowa. The Au.D. is required for ASHA national certification in audiology. Students preparing for clinical positions in public schools must meet school licensure or certification requirements of the states in which they plan to work. See "M.A. with Professional Licensure" later in this section.

### Master of Arts with Research Emphasis

The Master of Arts in speech pathology and audiology with research emphasis (general emphasis) requires a minimum of 38 s.h. of graduate credit. The program is designed for students who intend to pursue a Ph.D. or who seek additional education but do not intend to work professionally in the United States as speech-language pathologists or audiologists. It typically includes a substantial portion of the courses in the M.A. with professional emphasis and Au.D. curricula.

Students in the M.A. research emphasis program are required to complete a thesis and defend their research successfully at a final oral examination.

The program typically requires two years to complete. Specific course work required depends on the student's background and interests.

### Master of Arts with Professional Emphasis

The Master of Arts in speech pathology and audiology with professional emphasis in speech-language pathology

requires a minimum of 38 s.h. of graduate credit. The program prepares clinicians in speech-language pathology or audiology to be able to function independently in a variety of clinical settings. Graduates of the program meet all academic and practicum requirements for clinical certification by the American Speech-Language-Hearing Association and for licensure by the State of Iowa. The program is designed to ensure that upon graduation, the student will meet requirements for immediate professional employment.

M.A. students usually have a background of undergraduate courses in speech and hearing science, psychology of language, and human behavior that is equivalent to an undergraduate major in speech and hearing science at The University of Iowa.

Before registering in the program, entering M.A. students receive descriptive materials about basic science core courses considered to be required preparation for the M.A. program, and required M.A. clinical core courses for which the department may accept comparable courses taken at the undergraduate level. Decisions about incorporating background course work in these areas are made by the faculty advisor in consultation with the student and the instructors of the basic science or clinical core courses. Entering students must have completed the following courses or their equivalents.

003:110 Phonetics: Theory and Applications	3 s.h.
003:111 Basic Acoustics for Speech and Hearing	3 s.h.
003:112 Anatomy and Physiology of Speech Production	4 s.h.
003:113 Introduction to Hearing Science	4 s.h.
003:116 Basic Neuroscience for Speech and Hearing	3 s.h.
003:117 Psychology of Language	3 s.h.
or	
003:218 Psycholinguistics	3 s.h.
003:118 Language Development	1-3 s.h.
003:185 Hearing Loss and Audiometry	3 s.h.
07P:025 Elementary Statistics and Inference	3 s.h.
Biology, physics, chemistry, or mathematics courses (must include at least one biology, physics, or chemistry course)	6 s.h.
Behavioral science or social science courses (must include at least one psychology course)	6 s.h.

Students pursuing the M.A. with professional emphasis must complete at least 4 s.h. of work related to research. This may be accomplished by any combination of enrollment in seminars (2 s.h. each) and/or research hours. Completion of the research hours may consist of work toward a thesis or preparation of a paper involving one or a combination of the following: literature review, prospectus development, and presentation of data. A paper is required at the end of each semester's enrollment. An exception to this requirement can be made in the case of research hours leading to a thesis.

Candidates for an M.A. with professional emphasis in speech-language pathology are not required to complete a thesis, although all students demonstrating research aptitude and interest are encouraged to do so. Students who do not elect the thesis option are required to take final written comprehensive examinations.

A typical M.A. professional emphasis program usually takes two calendar years to complete but may take longer, depending on the student's background and personal interests.

#### **CORE REQUIREMENTS**

All students seeking an M.A. with professional emphasis in speech-language pathology must take the following.

003:135 Foundations of Clinical Practice I	1-3 s.h.
003:136 Foundations of Clinical Practice II	1 s.h.
003:137 Foundations of Clinical Practice III	1 s.h.

In addition, they must take the following courses unless they completed equivalent courses as undergraduates.

003:114 Introduction to Voice Disorders	2 s.h.
003:115 Structural Disorders	2 s.h.
003:116 Basic Neuroscience for Speech and Hearing	3 s.h.
003:140 Manual Communication	1 s.h.
003:145 Developmental Speech and Language Disorders	3 s.h.
003:146 Neurogenic Disorders of Language	3 s.h.



003:147 Neurogenic Disorders of Speech	2 s.h.
003:183 Introduction to Stuttering	2 s.h.
003:185 Hearing Loss and Audiometry	3 s.h.
003:244 Rehabilitative Audiology	3 s.h.

Students must take 003:510 Seminar: Introduction to Research in Speech and Hearing (1 s.h.) during the fall semester of their first year.

They must take 003:515 Proseminar (0 s.h.) during the fall and spring semesters of their first year.

Also required are additional semester hours of practicum registration sufficient to meet supervised, direct clinical experience requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association and the Iowa license, and to provide broad, supervised practicum experience.

In addition to the core requirements listed above, all students preparing to be speech-language pathologists must earn a minimum of 12 s.h. from the following.

003:201 Principles of Voice Production	3 s.h.
003:206 Language Disorders in Children 0-18 Yrs	3 s.h.
003:213 Voice Habilitation	2 s.h.
003:222 Speech and Hearing Anatomy (dissection)	2 s.h.
003:228 Stroboscopy	1 s.h.
003:233 Aphasia	2 s.h.
003:236 Swallowing Disorders	2 s.h.
003:237 Cleft Palate and Related Disorders	2 s.h.
003:260 Designing Assistive Devices	1-3 s.h.
003:282 Phonological Development and Disorders	2 s.h.
003:283 Stuttering	2 s.h.
003:350 Preceptorship in Augmentative Communication	1 s.h.
07E:104 Remedial Methods in Speech and Hearing	2 s.h.

Students also must earn a total of 4 s.h. in 003:590 Research or 4 s.h. in a combination of research and seminar courses.

## **M.A. with Professional Licensure**

### **M.A. with Licensure to Work Outside Public Schools**

A number of states, including Iowa, require a state license in speech-language pathology or audiology for persons who work in settings outside the public schools. Students who meet the requirements listed below for the M.A. in speech pathology and audiology with professional emphasis also meet the academic requirements for the license in Iowa as well as in most other states. In 2007 the requirements to earn American Speech-Language-Hearing Association national certification in audiology changed. Certification now requires a clinical doctoral degree (Doctor of Audiology) or the equivalent. Students preparing for careers in audiology should consult their advisors.

### **M.A. with Public School Licensure**

Students preparing for clinical positions in public schools typically must meet school licensure or certification requirements of the states in which they plan to work. The following criteria meet the requirements for endorsement as speech-language pathologists or audiologists in Iowa and most other states.

- A master's degree with professional emphasis in speech-language pathology or audiology or the equivalent
- Completion of an approved human relations component
- Completion of courses that cover the education of the disabled and the gifted and talented (e.g., exceptional persons, education of the gifted)
- Completion of the requirements in speech-language pathology or audiology and the 20 s.h. professional education sequence, including 07E:104 Remedial Methods in Speech and Hearing and 07E:192 Special Area Student Teaching as a speech-language pathologist or audiologist; course work in the following areas must be completed to meet the professional education sequence:

**Curriculum** (e.g., reading, methods, curriculum development)

**Foundations** (e.g., philosophy of education, foundations of education)

**Educational measurement** (e.g., tests and measurements, measures and evaluations of instruction)

**Educational psychology** (e.g., educational psychology, counseling theories and techniques)

**Special education** (e.g., introduction to special education, exceptional persons, learning disabilities)

**Child development** (e.g., human growth and development, principles and theories of child development, history and theories of early childhood education)

Note: General Education Program courses (e.g., introduction to psychology, sociology, history, literature, and humanities) do not meet the requirements of the professional education sequence.

## Doctor of Audiology

The Doctor of Audiology (Au.D.) requires 95 s.h. of graduate credit. Individuals who wish to work as audiologists in the United States must hold a clinical doctoral degree or the equivalent.

The four-year Au.D. program is designed for students with an undergraduate degree in speech and hearing science. Au.D. students must complete the following courses. They may be excused from taking courses whose equivalents they completed successfully during undergraduate study.

22M:016 Calculus for the Biological Sciences (or one semester of calculus)	4 s.h.
003:135 Foundations of Clinical Practice I	1-3 s.h.
003:145 Developmental Speech and Language Disorders	3 s.h.
003:219 Fundamentals of Laboratory Instrumentation	3 s.h.
003:224 System and Signal Theory for Speech and Hearing Science	3 s.h.
003:230 Advanced Hearing Science and Speech Perception	3 s.h.
003:238 Capstone Requirement	1 s.h.
003:240 Hearing Aids I	3 s.h.
003:242 Hearing Aids II	3 s.h.
003:244 Rehabilitative Audiology	3 s.h.
003:245 Pediatric Audiology	3 s.h.
003:246 Advanced Audiology	3 s.h.
003:247 Medical Audiology	2 s.h.
003:249 Cochlear Implants	1-3 s.h.
003:255 Educational Audiology	2 s.h.
003:256 Physiology of Hearing	3-4 s.h.
003:290 Auditory Evoked Potentials	3 s.h.
003:291 Vestibular Assessment and Rehabilitation	3 s.h.
003:292 Advanced Rehabilitative Audiology	3 s.h.
003:311 Clinical Practice in Audiology	2-3 s.h.
07P:243 Intermediate Statistical Methods	4 s.h.
or	
171:161 Introduction to Biostatistics	3 s.h.

Students also must select at least one of the following electives. With their advisors' consent, they may substitute other University of Iowa course work to satisfy this requirement.

003:222 Speech and Hearing Anatomy	2 s.h.
003:526 Seminar: Rehabilitative Audiology	2 s.h.
003:538 Seminar: Hearing Science	2 s.h.
07E:104 Remedial Methods in Speech and Hearing	2 s.h.
068:199 Basic Otolaryngologic Science	2 s.h.
132:180 Fundamental Neurobiology	4 s.h.
158:101 Topics in Deaf Studies	3 s.h.
158:110 Teaching Deaf and Hard of Hearing Students	3 s.h.

## Doctor of Philosophy

The Doctor of Philosophy in speech and hearing science requires a minimum of 72 s.h. of graduate credit. The program provides flexible, comprehensive training for scholar-researchers interested in communication processes and their disorders. Students with diverse backgrounds in the natural and behavioral sciences are encouraged to apply and develop their skills in an atmosphere of interdisciplinary research.

The Ph.D. program reflects the broad interests of its multidisciplinary faculty, whose members have diverse backgrounds in speech, language, hearing, engineering, physiology, physics, psychology, linguistics, and bioengineering. Faculty members are committed to an interdisciplinary approach to questions at every level of the speech and language production/perception system.

The purpose of the doctoral program is to provide the integrated knowledge necessary for a productive career in speech-language pathology and audiology, communication science, and related areas.

The department encourages candidates with special interests, goals, or backgrounds to develop individualized programs of study. There is no standard curriculum for the Ph.D.; rather, a program of study is developed by each student in consultation with a faculty committee. The course of study is developed from courses offered by the department, courses in other areas (e.g., physics, engineering, psychology, mathematics, statistics, physiology, neurology, anatomy, and others), and special reading and research experiences.

The following courses are offered by the department of Communication Sciences and Disorders primarily for Ph.D. students. (Students interested in specific areas of research and selected publication citations of the faculty are encouraged to write to the department.)

003:201 Principles of Voice Production	3 s.h.
003:218 Psycholinguistics	3 s.h.
003:219 Fundamentals of Laboratory Instrumentation	3 s.h.
003:224 System and Signal Theory for Speech and Hearing Science	3 s.h.
003:230 Advanced Hearing Science and Speech Perception	3 s.h.
003:251 Biophysics of Speech and Hearing	4 s.h.
003:256 Physiology of Hearing	3-4 s.h.
003:310 Scientific Writing	3 s.h.
003:511 Introduction to Doctoral Research (taken spring of the first year)	1 s.h.

In addition, seminars offered by the department cover a broad range of topics relevant to doctoral study.

Students in the Ph.D. program usually are expected to register for research credit (003:590 Research) during each semester of residence and to register for and participate in 003:515 Proseminar.

Knowledge in each of the areas of hearing, speech, language, mathematics, statistics, computer science, and instrumentation is required of all students. Decisions regarding the extent of this knowledge and how it is obtained (e.g., course work or independent study) are made jointly by the student and the student's faculty committee.

Doctoral students who have not written a master's thesis must complete the equivalent of a master's thesis project as well as the comprehensive examination. They also must successfully complete and submit a dissertation based on original research.

## Admission

The Department of Communication Sciences and Disorders has requirements for admission that supplement those specified by the Graduate College. A brief summary of department requirements is presented below. More detailed information is available from the department's director of graduate studies.

All applicants for admission to graduate study in the Department of Communication Sciences and Disorders must complete the Graduate College application form. In addition, they must complete the department's information form, available from the Department of Communication Sciences and Disorders.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### M.A. and Au.D. Admission

The department bases M.A. admission on applicants' credentials relative to those presented by other applicants for the same term. While an undergraduate g.p.a. above 3.20 does not ensure admission, the department admits few applicants with an undergraduate g.p.a. below 3.20.

Completed applications must be received no later than January 1 for entry the next summer session or fall semester. Later applications are considered only in special situations. Applications for spring semester entry are considered only under special circumstances and only if received no later than the preceding November 1.

### Ph.D. Admission

Completed applications should be received by January 15 for summer session and fall semester entry. Applicants who want to be considered for graduate appointments must file the admission application by February 1. Applicants usually are notified of action on their admission within six weeks of the application deadline.

## Financial Support

The following information applies to all financial appointments administered by the department. For more detailed information, contact the Department of Communication Sciences and Disorders director of graduate studies.

Graduate appointments usually begin only in fall semester. Students beginning study spring semester or summer session are considered for appointments for the following fall semester.

Appointment applications must be received by January 15 to ensure consideration for an appointment beginning the following fall semester. Initial appointment offers generally are made between April 1 and June 1; however, the department continues to make offers after this time.

Scores on the Graduate Record Examination (GRE) General Test are required for consideration for financial assistance.

## Facilities

### Clinical Facilities

The clinical training program benefits greatly from Iowa City's standing as the principal health center of the state, and from the ready availability of health service facilities for clinical training of students in speech-language pathology and audiology.

The University of Iowa Affiliated Speech and Hearing Services include the Wendell Johnson Speech and Hearing Clinic; the division of speech and hearing in the University of Iowa Hospitals and Clinics (UIHC) Department of Otolaryngology--Head and Neck Surgery; UIHC Consolidated Speech and Swallowing Services, which provides services to the Departments of Neurology, Child Psychiatry, and Otolaryngology--Head and Neck Surgery; speech and hearing services in the Center for Disabilities and Development; Pediatrics Regional Child Health Specialty Clinics; and the audiology and speech pathology service in the Iowa City Veterans Affairs Medical Center. Directors of these programs form the Council on Speech Pathology and Audiology at The University of Iowa.

The Wendell Johnson Speech and Hearing Clinic serves the University and the general public. Included in its services are outpatient evaluation and rehabilitation programs for speech, hearing, and language problems; one-week intensive summer programs in stuttering, language development, reading, and aural rehabilitation; and a six-week summer preschool program for hearing-impaired children. These clinical programs give students supervised clinical experience with a wide variety of speech, hearing, and language disorders.

In addition to the clinical training in the Wendell Johnson Speech and Hearing Clinic, training also may be acquired in supervised clinical practice with elementary school children through various state area education agencies; and in supervised clinical practice in speech, language, and hearing services provided by the University of Iowa Hospitals and Clinics Consolidated Speech and Swallowing Services, the Regional Child Health Specialty Clinics, Center for Disabilities and Development, and the Veterans Affairs Iowa City Health Care System.

Public and private departments and programs in addition to those mentioned above often contribute to the cooperative professional training, research, and service programs.

### Research Facilities

Facilities in the Wendell Johnson Speech and Hearing Center include audiometric testing suites, diagnostic and remediation suites, equipment for diagnosis and therapy, a closed-circuit television system, and laboratories and equipment for acoustic, physiologic, and perceptual studies of speech, and for audiologic, psychoacoustic, and neurophysiologic studies of hearing. Mechanical and electronic shops and trained technical personnel are available for assistance in research instrumentation.

Cooperation with varied departments in the Carver College of Medicine and the College of Dentistry makes additional laboratory facilities available for research on problems in speech and hearing. The participation and cooperation of specialists from various fields, including psychology, child development, education, engineering, statistics, and medicine, further broaden the scope of research activities in speech and hearing.

## Communication Sciences and Disorders Courses

### For Undergraduates

**003:015 Introduction to Speech and Hearing Processes and Disorders**

3 s.h.

Speech, language, auditory behavior as fields of scientific study; major types of speech, hearing, language disorders. Offered fall and spring semesters.

**003:029 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**003:096 Research Practicum** arr.

Individual or small group participation in faculty research projects.

**003:097 Honors Seminar** 2 s.h.

Research topics and procedures in speech and hearing sciences; ongoing faculty research, research opportunities, possible research projects. Requirements: honors standing with intent to complete an honors thesis.

**003:098 Honors Thesis** 2 s.h.

Close work with a faculty mentor. Prerequisites: 003:097.

## **For Undergraduate and Graduate Students**

**003:110 Phonetics: Theory and Applications** 3 s.h.

Basic concepts: articulatory and acoustic description of speech sound production, dialect variations, language differences; development of phonetic transcription skills with emphasis on English phonetics, clinical applications to developing and disordered speech. Offered fall semesters.

**003:111 Basic Acoustics for Speech and Hearing** 3 s.h.

Principles of sound, simple harmonic motion, sound pressure and intensity, decibels, complex waves, Fourier analysis, resonance and filters, distortion, transmission of sound. Offered spring semesters. Requirements: completion of department math requirement.

**003:112 Anatomy and Physiology of Speech Production** 4 s.h.

Normal anatomy, physiology of structures used to produce speech; principles, methods for instrumental study of speech production. Offered spring semesters. Prerequisites: 003:110. Corequisites: 003:111, if not taken as a prerequisite.

**003:113 Introduction to Hearing Science** 4 s.h.

Normal auditory process; anatomy and physiology of auditory system; subjective correlates of auditory stimuli. Offered fall semesters. Prerequisites: 003:111.

**003:114 Introduction to Voice Disorders** 2 s.h.

Basic foundations for management of voice disorders. Offered spring semesters. Prerequisites: 003:112.

**003:115 Structural Disorders** 2 s.h.

Therapy approaches used to treat speech production and swallowing disorders associated with disorders that affect structure and physiology of the speech and swallowing mechanism; basic knowledge necessary for clinical practice by clinicians who do not specialize in management of patients with head and neck cancer, cleft palate, or neurological disorders. Offered fall semesters. Prerequisites: 003:110 and 003:112.

**003:116 Basic Neuroscience for Speech and Hearing** 3 s.h.

Basic anatomy, physiology of central nervous system; emphasis on neural systems involved in normal and disordered communication. Offered fall semesters. Requirements: biology, zoology, or physiology course. Same as 103:177.

**003:117 Psychology of Language** 3 s.h.

Theoretical, empirical investigations of linguistic behavior; behaviorist, rationalist models in context of formal linguistic structure and context of models of speech perception and production. Offered spring semesters. Prerequisites: 103:100. GE: Social Sciences. Same as 103:172.

**003:118 Language Development** 1-3 s.h.

Models of children's language acquisition; child language/communication development from infancy through school age, in context of current developmental research. Offered spring semesters. Requirements: (for 003:118) 031:001 and 103:100; (for 103:176) 103:100 or 103:172. GE: Social Sciences. Same as 103:176.

**003:119 Clinical Research and Evaluating Treatment Efficacy** 2 s.h.

Introduction to design and conduct of research and evidence-based clinical practice, observation and measurement, population sampling, group and single-subject research designs, treatment research, data organization and analysis, and presenting research results in graphic and written form; issues concerning research ethics and the protection of human subjects in research. Recommendations: clinical graduate student in audiology or speech-language pathology.

**003:122 Speech Production: Anatomy and Physiology** 4 s.h.

Anatomy and physiology of the respiratory, phonatory, and articulatory systems and the systems' roles during speech production; approaches to instrumental assessment of speech physiologic events.

**003:140 Manual Communication** 1 s.h.

Training in use of sign systems in manual communication.

**003:145 Developmental Speech and Language Disorders** 3 s.h.

The nature of developmental disorders--basic concepts, including behavioral characteristics, developmental patterns, etiology theories; assessment and intervention principles in phonology, semantics, morphology, syntax. Offered fall semesters. Prerequisites: 003:015, 003:110 or 103:110, 003:112, and 003:118.

**003:146 Neurogenic Disorders of Language** 3 s.h.

Language disorders secondary to acquired brain damage in adults; clinical intervention issues. Offered fall semesters. Prerequisites: 003:015, 003:110 or 103:110, 003:112, and 003:116.

**003:147 Neurogenic Disorders of Speech** 2 s.h.

Speech disorders secondary to acquired brain damage in adults; clinical intervention issues. Offered spring semesters. Prerequisites: 003:116.

**003:165 Communication Disorders and Aging** 2 s.h.

Introduction to speech, language, and hearing processes and disorders among older adults; survey of characteristics of communication and communication breakdown, remediation, and strategies for improving communication with older adults with communication disorders; primarily for nonmajors and service providers other than speech-language pathologists and audiologists. Offered spring semesters of even years. Same as 153:165.

**003:183 Introduction to Stuttering** 2 s.h.

Theoretical perspectives on the nature of stuttering, including onset and development, basic phenomena, beginning treatment principles. Offered spring semesters. Prerequisites: 003:112.

**003:185 Hearing Loss and Audiometry** 3 s.h.

Introduction to profession of audiology; overview of hearing disorders, evaluation, treatment; basic pure-tone and speech audiometry. Offered fall semesters. Corequisites: 003:113, if not taken as a prerequisite.

**003:186 Problems: Speech/Hearing Processes and Disorders** arr.

## For Graduate Students

**003:135 Foundations of Clinical Practice I** 1-3 s.h.

Basic concepts of clinical practice, including models of diagnosis, fundamentals of clinical data collection and measurement, treatment planning, professional writing. Offered fall semesters. Prerequisites: 003:015, 003:110 or 103:110, 003:112, 003:118, and 07P:025. Corequisites: 003:145. Requirements: graduate standing.

**003:136 Foundations of Clinical Practice II** 1 s.h.

Advanced concepts of clinical practice, including principles of human behavior change, clinical decision making, generalization, transfer and maintenance, models of service delivery, ethical practice, advanced professional writing. Offered spring semesters. Prerequisites: 003:135. Requirements: graduate standing.

**003:137 Foundations of Clinical Practice III**

1 s.h.

Advanced principles of clinical practice, including risk management, public policy and models of third-party reimbursement, professional issues. Offered fall semesters. Prerequisites: 003:136. Requirements: graduate standing.

**003:201 Principles of Voice Production**

3 s.h.

Basic physical, physiological, pedagogical principles in understanding professional, nonprofessional, impaired voice production; vocal anatomy, voice classification; control of loudness, pitch, register, quality; efficient, inefficient use of voice; instrumentation for voice analysis, synthesis. Offered fall semesters of odd years. Same as 025:201.

**003:202 Methods of Teaching Voice**

3 s.h.

Attitude, musicianship, foreign language aptitude, physical and emotional characteristics; mental images used to modify respiratory, phonatory, articulatory behavior; vocal hygiene; performance anxiety; student-teacher relationships; administration in vocal schools, professional organizations. Offered spring semesters. Same as 025:202.

**003:204 Voice for Performers**

2 s.h.

Comparison of Kinesthetic techniques for singing and acting voice; relaxation, posture, breathing, tone quality, diction, interpretation. Same as 025:216, 049:201.

**003:206 Language Disorders in Children 0-18 Yrs**

3 s.h.

Disorders resulting from phonological, semantic, pragmatic, and morphosyntactic deficits; receptive, expressive problems; special assessment and intervention procedures. Offered fall semesters of even years. Prerequisites: 003:145.

**003:213 Voice Habilitation**

2-3 s.h.

Application of methods of intervention in development, training, rehabilitation of vocal behavior; motor learning, efficacy of treatment strategies, factors affecting compliance with recommended therapy. Offered fall semesters. Prerequisites: 003:114 or 003:201. Requirements: enrollment in Summer Vocology Institute, Salt Lake City, Utah. Same as 025:356.

**003:218 Psycholinguistics**

3 s.h.

Theoretical, empirical issues in psycholinguistics; models demonstrating relation of formal language structure to psychological operations used in speech perception and production; laboratory emphasis on paradigmatic research in psycholinguistics. Offered fall semesters. Prerequisites: 103:100. Same as 103:218.

**003:219 Fundamentals of Laboratory Instrumentation**

3 s.h.

Electrical circuits, emphasis on application to instrumentation used in speech and hearing; laboratory focus on instrumentation. Offered spring semesters.

**003:221 Instrumentation for Voice Analysis**

2 s.h.

Glottographic, videostroboscopic, electromyographic, and acoustic analysis for assessment of vocal and respiratory function; using these techniques in conjunction with perceptual evaluation of voice; through the Vocology Institute in Utah. Offered summer sessions of even years. Same as 025:357.

**003:222 Speech and Hearing Anatomy**

2 s.h.

Laboratory course in anatomy of speech and hearing mechanisms; instruction in dissection techniques. Offered summer sessions. Prerequisites: 003:112.

**003:224 System and Signal Theory for Speech and Hearing Science**

3 s.h.

Principles of linear-systems theory applied to speech and auditory research, including system functions, filter properties, convolution, Fourier Series, Fourier transform. Offered fall semesters. Requirements: introductory calculus.

**003:228 Stroboscopy**

1 s.h.

How to perform videolaryngoscopy using a rigid scope and applying knowledge of normalcy and pathophysiology; how to interpret findings; describe and report them concisely. Offered summer sessions. Prerequisites: 003:114.

**003:230 Advanced Hearing Science and Speech Perception**

3 s.h.

Perception of speech and other sounds by human listeners, how these perceptual abilities relate to the physiology of the auditory system; perception of speech by hearing-impaired listeners through hearing aids or cochlear implants. Offered spring semesters. Requirements: (for 003:230) 003:113; (for 103:230) background in phonetics, speech science, and hearing science. Same as 103:230.

- 003:233 Aphasia** 2 s.h.  
Assessment, diagnosis, and treatment of aphasia and other acquired language and cognition-based communication disorders. Offered spring semesters. Prerequisites: 003:117 and 003:146. Corequisites: 003:136.
- 003:234 Acquired Cognitive-Communication Disorders** arr.  
Cognitive, neuropsychological, and social aspects of communication and the management of acquired cognitive-communication disorders associated with traumatic brain injury, right hemisphere damage, and neurodegenerative diseases. Prerequisites: 003:116 and 003:146.
- 003:236 Swallowing Disorders** 2 s.h.  
Physiology of normal, abnormal swallowing; assessment, treatment of swallowing disorders in adults, children. Offered fall semesters. Prerequisites: 003:112, 003:115, and 003:116.
- 003:237 Cleft Palate and Related Disorders** 2 s.h.  
Nature, etiologies, principles of treatment of common disorders associated with cleft lip and palate, associated disorders. Offered spring semesters. Prerequisites: 003:115.
- 003:238 Capstone Requirement** 1 s.h.  
Individual work with a faculty member on audiology topics; final Au.D. project. Offered spring semesters.
- 003:240 Hearing Aids I** 3 s.h.  
Hearing aids, diagnostic procedures; laboratory emphasis on measurement procedures. Offered spring semesters. Prerequisites: 003:185.
- 003:242 Hearing Aids II** 3 s.h.  
Evaluation, verification procedures; emphasis on advanced technologies, strategies. Offered fall semesters. Prerequisites: 003:240.
- 003:244 Rehabilitative Audiology** 3 s.h.  
Theory, procedures for assessment, rehabilitation of speech, hearing, language deficits of people with hearing impairment. Offered spring semesters. Prerequisites: 003:145 and 003:185.
- 003:245 Pediatric Audiology** 3 s.h.  
Theory, procedures for assessment, rehabilitation of pediatric populations; laboratory emphasis on test administration. Offered fall semesters. Prerequisites: 003:185.
- 003:246 Advanced Audiology** 3 s.h.  
Theory, procedures for assessment of hearing loss in adult and pediatric populations; experience in test administration through supervised laboratory sessions. Offered fall semesters. Prerequisites: 003:185.
- 003:247 Medical Audiology** 2 s.h.  
Genetic, acquired, traumatic pathologies that affect auditory systems; nature, etiology, principles of assessment, treatment. Offered spring semesters of odd years. Prerequisites: 003:185.
- 003:249 Cochlear Implants** 1-3 s.h.  
Introduction to cochlear implantation; history of cochlear implantation, introduction to cochlear technology, basics of device programming and trouble shooting, candidacy issues, outcomes in children and adults, auditory rehabilitation specific to cochlear recipients, the auditory brainstem implant, future trends in cochlear implantation. Offered fall semesters. Prerequisites: 003:185 and 003:244.
- 003:251 Biophysics of Speech and Hearing** 4 s.h.  
Cellular, molecular, and macromechanical description of tissues in the ear and the larynx involved in sound reception and production; basic elements of molecular and cell biology, continuum mechanics, and nonlinear dynamics in the transduction of acoustic waves to tissue vibration to cell response. Offered fall semesters of even years.
- 003:255 Educational Audiology** 2 s.h.  
Training in skills necessary for working with the school-age population; case management and aural rehabilitation, amplification and classroom hearing technology, identification and assessment practices, federal legislation that affects services. Offered fall semesters. Prerequisites: 003:185 and 003:244. Requirements: 003:240 for Au.D. students.



- 003:256 Physiology of Hearing** 3-4 s.h.  
Anatomy of auditory system, cochlear mechanics, electrophysiology of peripheral and central auditory nervous system; laboratory emphasis on physiological techniques for study of ear. Offered spring semesters. Prerequisites: 003:113 and 003:224.
- 003:260 Designing Assistive Devices** 1-3 s.h.  
System design (hardware and software) useful in building augmentative and alternative communication devices for the profoundly impaired; opportunity to build systems for theoretical and/or applied purpose; interdisciplinary, clinical perspectives. Offered summer sessions.
- 003:282 Phonological Development and Disorders** 2 s.h.  
Advanced topics in phonological development and disorders; current theoretical approaches to phonological analysis and typical phonological acquisition applied to assessment and intervention with children who have phonological disorders. Offered spring semesters. Prerequisites: 003:110 or 103:110, 003:118, 003:135, and 003:145.
- 003:283 Stuttering** 2 s.h.  
Issues, approaches to treatment of children, adults. Offered fall semesters. Prerequisites: 003:183. Corequisites: 003:135.
- 003:290 Auditory Evoked Potentials** 3 s.h.  
Introduction to evoked potentials for assessing audiologic function. Offered spring semesters. Prerequisites: 003:219.
- 003:291 Vestibular Assessment and Rehabilitation** 1-3 s.h.  
Introduction to otoacoustic emissions, vestibular theory, and testing techniques. Offered fall semesters.
- 003:292 Advanced Rehabilitative Audiology** 3 s.h.  
Current and developing procedures for assessment, habilitation of adults and children with hearing losses. Offered spring semesters.
- 003:301 Practicum: Speech-Language Pathology** arr.  
Supervised clinical practice. Repeatable. Corequisites: 003:135. Requirements: M.A. professional emphasis.
- 003:302 Practicum: Speech-Language Assessment** arr.  
Supervised clinical practice involving evaluation of individuals for speech or language impairments. Repeatable. Requirements: M.A. professional emphasis.
- 003:304 Speech Pathology Student Teaching** arr.  
Supervised teaching and observation in an area of speech pathology in the elementary schools.
- 003:310 Scientific Writing** 3 s.h.  
Principles of writing for scientific posters, journal articles, grant proposals; effective communication of concepts and data.
- 003:311 Clinical Practice in Audiology** arr.  
Varied topics relevant to professional issues in audiology clinical practice; presentations by clinical faculty members and guest speakers. Repeatable. Requirements: M.A. professional emphasis or Au.D. enrollment.
- 003:312 Practicum: Hearing Measurement** arr.  
Evaluation of individuals for hearing impairment and its impact; clinical practice. Repeatable. Requirements: M.A. professional emphasis.
- 003:314 Audiology Student Teaching** arr.  
Supervised teaching and observation in an area of audiology in the elementary schools.
- 003:315 Clinical Rotations in Audiology** arr.  
Supervised clinical practice in audiology. Repeatable. Corequisites: 003:311. Requirements: Au.D. second- or third-year enrollment.
- 003:316 Advanced Externship in Audiology** arr.

Advanced clinical externship in audiology. Repeatable. Prerequisites: 003:311 and 003:315. Requirements: Au.D. fourth-year enrollment.

**003:317 Audiology Business Practice Management** 1 s.h.

Introduction to the development and management of an audiology practice; topics include short and long range business planning, general accounting, budgeting, establishing fees for service, coding and third party reimbursement, marketing, professional liability, certification and licensure; business and professional ethics. Requirements: Au.D. second-year or higher enrollment and 3.00 cumulative g.p.a.

**003:350 Preceptorship in Augmentative Communication** 1 s.h.

Approaches to development of alternate modes of communication for individuals with limited oral communication. Offered fall semesters.

**003:510 Seminar: Introduction to Research in Speech and Hearing** 1 s.h.

Philosophy of science; basic principles of research; issues in conducting research; review of research opportunities in the department. Offered fall semesters.

**003:511 Introduction to Doctoral Research** 1 s.h.

Topics related to development and execution of research; doctoral program, use of library, human and animal subject issues, philosophy of science, use of common research tools, reading and writing research papers, research grant preparation. Offered fall and spring semesters.

**003:515 Proseminar** 0 s.h.

Presentation of research ideas, results by faculty, students. Repeatable.

**003:520 Seminar: MA Language** 2 s.h.

Research literature related to language. Offered spring semesters of odd years. Repeatable.

**003:522 Seminar: Speech** 2 s.h.

Topics in speech. Offered fall semesters. Repeatable.

**003:526 Seminar: Rehabilitative Audiology** 2 s.h.

Theoretical issues, research literature. Offered fall semesters. Repeatable.

**003:528 Seminar: Ph.D. Language** 2 s.h.

Theoretical issues related to language. Offered spring semesters. Repeatable.

**003:538 Seminar: Hearing Science** 2 s.h.

Selected topics. Offered fall semesters of even years. Repeatable.

**003:590 Research** arr.

Repeatable.

# Communication Studies

**Chair:** John Durham Peters

**Professors:** Leslie Baxter (F. Wendell Miller Professor, Communication Studies/Community and Behavioral Health), Steve Duck (Daniel and Amy Starch Research Chair, Communication Studies/Psychology), Kristine L. Muñoz, John Durham Peters (F. Wendell Miller Professor, Communication Studies/International Programs)

**Professors emeriti:** Samuel L. Becker, David Depew, Bruce E. Gronbeck (A. Craig Baird Professor of Public Address), Hanno Hardt, Robert Kemp, George Klingler, Donovan J. Ochs

**Associate professors:** Mark Andrejevic, Shelly Campo (Communication Studies/Community and Behavioral Health), Timothy Havens (Communication Studies/African American Studies), Joy Hayes, David Hingstman, Kembrew McLeod

**Assistant professors:** Jeff Bennett, Jiyeon Kang, Rachel McLaren, Keli Steuber, Zala Volčič (Communication Studies/Journalism and Mass Communication), Isaac West, Rita Zajacz

**Undergraduate degree:** B.A. in Communication Studies

**Undergraduate nondegree program:** Minor in Communication Studies

**Graduate degrees:** M.A., Ph.D. in Communication Studies

**Web site:** <http://www.uiowa.edu/~commstud>

The Department of Communication Studies focuses on the study of human communication as a social practice. Scholarship and teaching in the department center on the role that human communication processes play in the construction, maintenance, reinforcement, and reformation of various aspects of social, professional, and institutional life.

The department provides a liberal-arts-based undergraduate education that prepares students to meet the complex communication challenges of the 21st century. It provides top-ranked doctoral education and is a national and international leader in research and knowledge dissemination.

The department has three areas of specialization. The rhetoric and discourse specialization focuses on how citizens use public argumentation and other rhetorical processes to bring about cultural, social, and political changes. The media studies specialization focuses on modern media in their cultural, economic, historical, political, and social contexts to understand how society and social relations shape and are shaped by media practices. The interpersonal communication and relationships specialization focuses on how the communicative practices of relating in everyday life construct, shape, sustain, and change who people are as individuals, as well as the quality of their lives.

The Department of Communication Studies encourages exploration of the practical, political, social, and aesthetic dimensions of symbolic exchange and awareness of the relationships among these dimensions. The department has produced many influential scholars and artists and has been a hub for the intersection of programs and projects of the University and other institutions.

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in communication studies. First-year students interested in pursuing a degree in communication studies are advised at the Academic Advising Center. Students who have earned 24 s.h. or more and have declared the communication studies major are advised in the department by the communication studies academic counselor.

### Bachelor of Arts

The Bachelor of Arts in communication studies requires a minimum of 120 s.h., including 36 s.h. of work for the major. Students must complete the College of Liberal Arts and Sciences General Education Program.

The curriculum is designed to encourage learning that progresses from foundation courses that teach the basics of communication to intermediate and advanced (capstone) courses. Students may choose to build creative combinations of course work that suit their individual learning and career goals.

Students may count up to 50 s.h. of communication studies course work toward credit required for the Bachelor of Arts degree. Guided Independent Study and transfer courses may be accepted as long as the student meets University of Iowa and College of Liberal Arts and Sciences residency requirements and the department approves the courses; a maximum of 15 s.h. of transfer credit may be counted toward the degree.

Students must have a cumulative g.p.a. of at least 2.50 in order to enroll in most communication studies courses.

Students work with the department academic counselor to develop study plans that meet the requirements of the communication studies major. They may check their progress toward the degree by logging on to ISIS (Iowa Student Information Services).

Students are encouraged to discuss their career goals and interests with faculty members.

The communications studies major requires 36 s.h., including foundation courses (15 s.h.), intermediate courses (12 s.h.), a capstone course (3 s.h.), and an additional 6 s.h., which may be earned in courses listed under "Intermediate Courses," "Capstone Experience," and/or "Additional Courses" below. Students may not use one course to satisfy more than one requirement for the major.

**FOUNDATIONS OF COMMUNICATION**

Foundation courses cover introductory concepts in the field of communication. Students must complete five foundation courses (15 s.h.) and should take them early in their studies.

The following foundation courses are appropriate for first-year students. They do not have a minimum grade-point average required for enrollment, and none has prerequisites except 036:017, which requires fulfillment of the General Education rhetoric requirement for enrollment. Students complete three of these, as follows.

One of these:

036:012 Interpersonal Communication	3 s.h.
036:070 Communication Theory in Everyday Life	3 s.h.

One of these:

036:017 Theory and Practice of Argument	4 s.h.
036:030 The Art of Persuading Others	3 s.h.

And this:

036:074 Media and Society	3 s.h.
---------------------------	--------

The fourth and fifth foundation courses are appropriate for second-year students. Enrollment in these courses requires completion of 30 s.h. and a g.p.a. of at least 2.50 for University of Iowa and transfer course work. Students complete both of these.

036:001 Core Concepts in Communication Studies	3 s.h.
036:005 Studying Communication: Methods and Critiques	3 s.h.

**INTERMEDIATE COURSES**

Intermediate courses cover detailed aspects of the study of communication. Students must complete four intermediate courses (12 s.h.), usually during their third and fourth years of study. They must have completed the five foundation courses listed above and must have a cumulative g.p.a. of at least 2.50 in order to enroll in intermediate courses.

At least four of these (12 s.h.):

036:011 Group Communication	3 s.h.
036:016 Business and Professional Communication	3 s.h.
036:022 Introduction to Media Production	4 s.h.
036:040 Communication and Conflict	3 s.h.
036:041 Gender Roles and Communication	3 s.h.
036:042 Intercultural Communication	3 s.h.
036:043 Rhetoric, Science, and Technology	3 s.h.
036:044 Political Communication	3 s.h.
036:048 Transforming Media: From Telegraph to Internet	3 s.h.
036:051 Politics of Popular Culture	3 s.h.
036:053 Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships	3 s.h.
036:054 Movements, Protest, Resistance	3 s.h.
036:061 Persuasion in Society	3 s.h.
036:062 Feminist Critical Practice	3 s.h.
036:064 Media, Advertising, and Society	3 s.h.
036:065 Television Criticism	3 s.h.
036:068 Popular Music and Culture	3 s.h.
036:071 Communication and Critical/Cultural Studies	3 s.h.
036:075 Gender, Sexuality, and Media	3 s.h.
036:076 Race, Ethnicity, and Media	3 s.h.
036:080 Radio Production	3 s.h.
036:081 Television Production	3 s.h.
036:083 Networking America: The Cultural History of Broadcasting	3 s.h.
036:085 Media Industries and Organizations	3 s.h.
036:086 Global Media Studies	3 s.h.
036:087 Culture and Intellectual Property Law	3 s.h.
036:088 Media and Democracy	3 s.h.

036:089 Nonverbal Communication	3 s.h.
036:090 Topics in Communication Studies	3 s.h.
036:091 Organizational Communication	3 s.h.
036:094 Topics in Production	3 s.h.
036:095 Queer Rhetorics	3 s.h.

#### **CAPSTONE EXPERIENCE**

Students must complete one capstone course (3 s.h.), a faculty-led experience in which they participate directly in producing knowledge, research, or creative work about communication. The capstone experience gives students a chance to synthesize what they have learned about the study of communication.

In order to enroll in a capstone course, students must have completed at least two of the required intermediate courses and must have a cumulative g.p.a. of at least 2.50. Most students take the capstone course during their senior year.

One of these (3 s.h.):

036:130 Performing Culture, Language, and Literature	3 s.h.
036:140 Communication and Relationships	3 s.h.
036:142 Advanced Intercultural Communication	3 s.h.
036:143 Classical Rhetoric and Greek Culture	3 s.h.
036:145 Argument and Law	3 s.h.
036:146 Issues in Rhetoric and Culture	3 s.h.
036:147 Family Communication	3 s.h.
036:150 Cultural History of Advertising	3 s.h.
036:151 Cultural History of Television	3 s.h.
036:152 Latin American Media	3 s.h.
036:153 Communication Technologies in History	3 s.h.
036:155 Visual Rhetoric	3 s.h.
036:156 Feminist Visual Rhetoric	3 s.h.
036:157 Advanced Topics in Communication Studies	3 s.h.
036:158 Rhetoric and Past Public Controversy	3 s.h.
036:160 The Talk of Everyday Life	3 s.h.
036:163 The Dark Side of Interpersonal Communication	3 s.h.
036:165 Criticism and Public Culture	3 s.h.
036:166 Life-Span Communication	3 s.h.
036:167 Communication, Cognition, and Emotion	3 s.h.
036:168 Rhetoric of the Body	3 s.h.
036:170 Theories of Persuasion	3 s.h.
036:172 Television and African American Culture	3 s.h.
036:173 Technoculture and the Information Society	3 s.h.
036:174 Communication, Technology, and National Security	3 s.h.
036:176 Advanced Relational Theory	3 s.h.
036:181 Legal Communication and Culture	3 s.h.

#### **ADDITIONAL COURSES**

Students earn an additional 6 s.h. to complete the 36 s.h. in communication studies courses required for the major. They may choose from the courses listed below and/or from the lists of intermediate and capstone courses above. However, students may not use one course to fulfill more than one requirement for the major, so in selecting the additional 6 s.h. of course work, they may not choose a course they already used to fulfill the intermediate or capstone course requirement.

The following courses are open to all students; they do not have prerequisites or require a minimum grade-point average requirement for enrollment.

036:013 Practicum in Debate	1 s.h.
036:014 Elements of Debate	3 s.h.
036:018 Leadership and Organizational Procedures	2 s.h.
036:019 Organizational Leadership	2-3 s.h.

The following courses have prerequisites, minimum grade-point average, or other requirements for enrollment.

036:002 Workshop in Debate and Forensics	3 s.h.
--	--------

036:028 Communication Studies Internship	arr.
036:100 Independent Study	arr.
036:101 Honors Workshop	1 s.h.
036:102 Honors Thesis	3 s.h.
036:105 Workshop in Teaching Communication and Forensics	arr.

### Internships

Internships enable students to supplement their course work with professional experiences relevant to careers in communication-related fields. The department's internship program is open only to communication studies majors.

To earn academic credit for internships, students must obtain approval for their internship experience and site before they register for 036:028 Communication Studies Internship (arr.). Internship academic credit is awarded for an analytical paper and daily log submitted at the end of the internship and for the number of hours worked. Internships can be completed during fall semester, spring semester, or summer session.

Visit the department's web site for information on communication studies internships.

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Students who have signed the four-year graduation agreement should consult the department for details.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least eight courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Honors

The department encourages outstanding undergraduates to take part in the honors program. To graduate with honors in communication studies, students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, be a member of The University of Iowa Honors Program, and fulfill the following course requirements.

036:101 Honors Workshop (seminar offered fall semesters only)	1 s.h.
036:102 Honors Thesis (usually taken final semester before graduation)	3 s.h.

In special cases, independent study course work may be substituted for the Honors Workshop, with the honors officer's permission. Additional course work may be required by the student's honors advisor.

To begin work toward a degree with honors in communication studies, students choose a faculty member to supervise their honors project and act as their honors advisor.

Students the honors program are eligible to take courses offered through the University of Iowa Honors Program and to add an honors designation to any other departmental course by completing an agreement with the course instructor for special work in that course.

For detailed information, see Honors Program in Communication Studies on the department's web site.

### Minor

The minor in communication studies requires a minimum of 18 s.h. in communication studies courses, including 12 s.h. in courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor must include the five courses (15 s.h.) listed under "Foundations of Communication" above and one (3 s.h.) listed under "Intermediate Courses" above. Although students must maintain a g.p.a. of at least 2.00 in courses taken for the minor, they must have a cumulative g.p.a. of at least 2.50 in order to enroll in some of the courses required for the minor.

### Forensics/Debate

Students in the forensics/debate program have the opportunity to participate in on-campus debates, in developmental programs designed to improve speech activities in the state, and as members of competitive intercollegiate debate teams. Forensics scholarships are available. Students interested in debate should enroll in 036:013 Practicum in Debate or 036:014 Elements of Debate.

## **Graduate Programs**

The department offers a Doctor of Philosophy in communication studies with specializations in interpersonal communication and relationships, media studies, and rhetoric and discourse. Graduate education in communication studies is focused on the Ph.D., but doctoral students may choose to earn a Master of Arts on their way toward the Ph.D. A terminal master's degree may be an option for some students already admitted to the doctoral program.

### **Master of Arts**

The M.A. in communication studies requires a minimum of 30 s.h. of graduate credit. It may be granted to students working toward the Ph.D.; it also may be granted as a terminal degree for doctoral students who decide not to complete the Ph.D. All master's students take 036:200 Introduction to Research and Teaching (3 s.h.) and at least two courses numbered 200 or above. They also prepare a graduate seminar paper that involves significant original research. For a detailed description of M.A. requirements, see the Communication Studies Graduate Student Handbook.

### **Doctor of Philosophy**

The Doctor of Philosophy requires a minimum of 82 s.h. of graduate credit, including dissertation credit. All students take 036:200 Introduction to Research and Teaching, and earn at least 10 s.h. of dissertation credit in 036:399 Ph.D. Dissertation.

Ph.D. students must successfully complete a qualifying examination during their second or third semester and a comprehensive (predissertation) examination in their major research area during their fifth or sixth semester, and write a substantial scholarly dissertation. They must take a 3 s.h. course in each of the program's three areas of specialization. Students must maintain a cumulative g.p.a. of at least 3.00 throughout the graduate program.

Admission usually is for fall semester entry. Applicants whose materials are received at the department by January 1 receive preference for admission and financial support. Admission decisions are based on undergraduate achievement, letters of reference, Graduate Record Examination (GRE) General Test scores, the statement of purpose, and samples of scholarly work.

### **Interpersonal Communication and Relationships**

The communication and relationships program is centered on theory complemented by strength in quantitative and qualitative research methods. It focuses on scholarly issues that arise from face-to-face, everyday communication practices. It emphasizes personal relationship and family processes, identity construction, persuasion, and culture.

The goal of the program is to produce scholars who possess sophisticated knowledge of theory and methodology, who are careful consumers of theories and methods, and who can develop their own approaches to communication phenomena. The program emphasizes systematic analysis of the forms, functions, and meanings of messages within various contexts. Its broad social-scientific orientation springs from the belief that many methodological approaches are appropriate to studying and building theoretical explanations of communication.

Graduate students typically enter the program to earn a Ph.D. Advisors and committee members work closely with individual students to select courses from communication studies and other University departments and plan teaching and research experiences that will prepare students well for the employment they seek after graduation.

### **Media Studies**

The graduate program in media studies focuses on the interplay of institutions, texts, and audiences in mediated communication systems. Its central aim is to examine modern media--radio, television, advertising, music, new media, and a wide range of other popular cultural expressions--within their historical, social, political, economic, and cultural contexts. It also uses the mass media as sites for asking basic questions about culture, society, politics, and modernity.

Like the department's other graduate programs, media studies has a strong interdisciplinary flavor. Students draw not only on allied areas in the Department of Communication Studies but on fields across the University.

### **Rhetoric and Discourse**

The program in rhetoric and discourse is built on foundation courses in classical and 20th-century rhetorical theory and in an overview of 20th-century rhetorical criticism. Courses from a rhetorical perspective include rhetorical theory, rhetorical criticism, visual rhetoric and politics, public address and public culture, studies in argumentation and freedom

of speech, work in science and technology as well as academic inquiry, and historical methods. Cognate work of interest to rhetoricians also can be found in interpersonal communication and relationship studies as well as media studies.

The Ph.D. in rhetoric and discourse is designed to give students a mature grasp of the specialties and perspectives embraced by the field and to develop research competence essential to a life of productive scholarship.

Work in related disciplines--political science, history, sociology, English, cinema and comparative literature, anthropology, American studies, and journalism--complements rhetorical studies course offerings. Faculty from the Departments of Rhetoric, Political Science, and American Studies cross-reference their courses on rhetorical topics in this program.

The Project on Rhetorics of Inquiry (POROI) offers a certificate program, allowing doctoral students to specialize in the study of how academic fields use argumentative and linguistic strategies to generate and control knowledge. Many doctoral students also do extensive work in media studies or interpersonal communication to improve their range of teaching opportunities and their research skills.

## Admission

Applicants to graduate programs in communication studies must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Facilities

The Samuel L. Becker Communication Studies Building is designed to meet the department's research and technological needs.

## Communication Studies Courses

Courses numbered below 200 are intended primarily for undergraduates; those numbered 200 and above are for graduate students. Graduate students may take 100-level courses for credit, with their committee's approval.

Not all courses are offered each semester.

### For Undergraduates

To register for most undergraduate communication studies courses, students must have earned 30 s.h. and have a cumulative g.p.a. of at least 2.60. However, registration for the following General Education courses is open to all undergraduates, regardless of their grade-point average: 036:017 Theory and Practice of Argument, 036:070 Communication Theory in Everyday Life, and 036:074 Media and Society. Registration in 036:029 First-Year Seminar is open to first- and second-semester students regardless of grade-point average.

#### 036:001 Core Concepts in Communication Studies

3 s.h.

Introduction to communication topics; face-to-face interaction, public speaking, globally-distributed film, music, and television; ways of thinking, vocabulary, and overview of concepts used in other communication studies courses. Requirements: g.p.a. of at least 2.50 and 30 s.h. of credit.

#### 036:002 Workshop in Debate and Forensics

3 s.h.

Public argument on questions of value and policy; opportunities for demonstration and practice in discussion and debate. Requirements: concurrent enrollment in the National Summer Institute in Forensics.

#### 036:005 Studying Communication: Methods and Critiques

3 s.h.

Social scientific methods used to generate knowledge about communication processes; basic tools necessary to conduct and evaluate communication research; epistemological perspectives, research procedures, and data analysis; readings and hands-on activities. Communication studies majors may apply to this course to the following area requirement. AREA: Research and Criticism. Requirements: g.p.a. of at least 2.50 and 30 s.h. of credit.

#### 036:011 Group Communication

3 s.h.



Study of relevant theory, research, and application to increase understanding of communication in small groups; critical thinking and communication skills; individual roles in groups, creativity, leadership, decision making, problem solving, and conflict resolution. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: completion of Foundations of Communication requirement.

**036:012 Interpersonal Communication**

3 s.h.

Introduction to face-to-face communication in social and personal relationships; maximizing communicative effectiveness in relationships with knowledge about how communication functions; analysis of one's own and others' communication practices and experiences. Communication studies majors may apply this course to the following area requirement. AREA: Practice

**036:013 Practicum in Debate**

1 s.h.

Practice of skills in research, reasoning, argument development, and argumentative performance in debate undertaken by members of the A. Craig Baird Debate Forum in preparation for and participation in intercollegiate debate competition. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Requirements: participation in A. Craig Baird Debate Forum.

**036:014 Elements of Debate**

3 s.h.

Debates that occur everyday in a wide variety of situations and settings; how to recognize when a debate is occurring and the different procedures by which people conduct debates; emphasis on development of personal advocacy skills and how one goes about teaching those same skills to others by example and practice; examination of the role of debate in achieving collective economic and political purposes in contemporary societies. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Requirements: g.p.a. of at least 2.60 and 30 s.h. of credit.

**036:016 Business and Professional Communication**

3 s.h.

Introduction to business and professional communication at individual and corporate levels; individual-level topics cover organizational communication, business vocabulary, speaking and writing, professionalism and interviewing; corporate-level topics focus on marketing, advertising, public relations, corporate communications, crisis communication management, business and communication plans, proposals; guest speakers from for-profit and not-for-profit organizations. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: completion of Foundations of Communication requirement.

**036:017 Theory and Practice of Argument**

4 s.h.

Public arguments as practiced in law, politics, science, and other public arenas; improvement of skills in researching, constructing, organizing, and presenting arguments on disputed subjects; analyzing and refuting arguments of others; developing a better understanding of how scholars apply the tools of formal and informal logic in a variety of disciplines to improve the quality of academic argument. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Requirements: completion of General Education Program rhetoric component. GE: Quantitative or Formal Reasoning.

**036:018 Leadership and Organizational Procedures**

2 s.h.

Use of organizational procedures to facilitate discussion, from by-laws to full parliamentary procedure; knowledge of effective organizational procedures enhances ability to participate in meetings and organizational business runs more smoothly; benefits instructors of speech communication with inclusion of parliamentary procedure/debate units. Offered only through Guided Independent Study. Communication studies majors may apply this course to the following area requirement. AREA: Practice.

**036:019 Organizational Leadership**

2-3 s.h.

Introduction to the nature of leadership, styles of leadership that are most effective, and ways in which obstacles may be overcome in groups or organizations; different approaches to qualities of leadership, role of visions and motivation, interpersonal and decision-making skills, meeting preparation and evaluation, and related communication skills. Offered only through Guided Independent Study. Communication studies majors may apply this course to the following area requirement. AREA: Practice.

**036:021 Oral Interpretation**

3 s.h.

Communication studies majors may apply this course to the following area requirement. AREA: Practice. Requirements: (for 036:021) g.p.a. of at least 2.60 and 30 s.h. of credit. Same as 07E:021.

**036:022 Introduction to Media Production**

4 s.h.

**036:028 Communication Studies Internship**

arr.

Communication skills, knowledge in work assignments related to students' academic and career interests; full- or part-time, on or off campus. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Requirements: g.p.a. of at least 2.50, communication studies major, and completion of Foundations of Communication requirement.

**036:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**036:030 The Art of Persuading Others**

3 s.h.

Basic theoretical concepts of effective public communication; employ knowledge of concepts in analyzing texts; definition and influence of the rhetorical situation, different elements of persuasion (message logic, appeal to feelings, character of the speaker), ability of speakers to invent arguments; issues of judgment, public discourse, identity, and agency. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Same as 010:030.

**036:040 Communication and Conflict**

3 s.h.

Conflict and its management as critical issues that pervade people's personal and professional lives; complexities of conflict; forces that make conflict challenging; skills for thinking about and managing conflict more effectively; central features that define conflict; behaviors, attributions, and emotions that are manifest during conflict; formal models of conflict management and their corresponding recommendations for handling conflict. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:041 Gender Roles and Communication**

3 s.h.

Interactive relationships between gender and communication in contemporary U.S. society; multiple ways families, schools, and media perpetuate, negotiate, and contest gender roles; how we are part of those processes by looking at how we enact socially-created gender differences in public and private settings. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 131:041.

**036:042 Intercultural Communication**

3 s.h.

Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 042:042, 187:042.

**036:043 Rhetoric, Science, and Technology**

3 s.h.

How science and technology shape culture; media representations of technology; role of rhetoric in science and technology, especially in the physical and biological sciences; cultural implications of the information revolution. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:044 Political Communication**

3 s.h.

Relationship between media, cultural politics, and the American political system; focus on advertising, campaigns, and new media outlets; ways politicians, the press, and intermediaries create and disseminate messages into mainstream culture; how people generate their own discourses of political identity and dissent, creating a robust democratic practice that is both empowering and central to the contemporary political landscape. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:048 Transforming Media: From Telegraph to Internet**

3 s.h.

Communication media as global phenomena in which U.S. corporate and government interests play a major part; from electronic telegraph to broadcasting and cable, an investigation of historical contexts in which these media emerged and tracing the ways in which they have been shaped by political, economic, and social relations of power. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:051 Politics of Popular Culture**

3 s.h.

How culture is political and how politics is cultural; overview of theories of culture and critical-cultural approaches to the study of popular culture, past and present; specific topics of analysis vary, may include television, celebrity culture, music, film, games, sports, and more. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:053 Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships**

3 s.h.

How individuals manage private information with regard to their interpersonal relationships; multiple theories of privacy management; how aspects of the information, the individual, and the target of disclosure all contribute to decisions to reveal or conceal private information to friends and family. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074.

**036:054 Movements, Protest, Resistance**

3 s.h.

Historical and contemporary study of social movements from a symbolic perspective (e.g., speeches, protests, propaganda, media events); social movements as interpersonal and group communication; relationships between media and social change; the efficacy of individual and larger-scale forms of resistance. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:061 Persuasion in Society**

3 s.h.

Introduction to concepts, theories, and methods designed to build critical understanding of mass persuasion processes; persuasion theory and research; theories that account for the processes of social acculturation, maintenance, and change; specific mass persuasion processes (i.e., advertising, corporate advocacy or public relations, film and television programming, sociopolitical rituals, and social protest and change). Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:062 Feminist Critical Practice**

3 s.h.

Feminist approaches to communicative practices. Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:064 Media, Advertising, and Society**

3 s.h.

Introduction to the critical study of advertising in the United States; advertising contextualized as an industry and as a key part of media and culture; advertising as an institution and as a series of symbols, ideas, and fantasies; how advertising works--the role and function of advertising in culture and society. Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:065 Television Criticism**

3 s.h.

Introduction to scholarly study of television as a social institution; nature of television form and content; role of the industry itself in the creation, selection, and presentation of television programs; production conventions and textual conventions in defining the medium; application of genre and narrative theory, semiotics, political economy of media industries, and audience reception study. Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:068 Popular Music and Culture**

3 s.h.

What makes popular music important for people; music's power to change culture; production, distribution, reception of popular music in cultural and historical contexts. Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:070 Communication Theory in Everyday Life**

3 s.h.

General overview of everyday life communication and the theories and research techniques used to understand it; sheer depth and complexity of processes in communication that occur in everyday lives and which appear to be trivial; how to observe conversations and identify what is really happening in them; ways in which scholars explain everyday communication and how it works; applications of theoretical thinking to explain processes of everyday communication. Communication studies majors may apply this course to the following area requirement. AREA: Theory. GE: Social Sciences.

**036:071 Communication and Critical/Cultural Studies**

3 s.h.

Engagement of cutting-edge rhetorical and social theories; ways in which rhetorical and social theories play out in daily life, especially in decision-making activities; weekly readings, class discussions. Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:074 Media and Society**

3 s.h.

Processes and effects of mass communication; how mass media operate in the United States; how mass communication scholars develop knowledge. Communication studies majors may apply this course to the following area requirement. AREA: Theory. GE: Social Sciences.

**036:075 Gender, Sexuality, and Media**

3 s.h.

Mediated representations of gender and sexuality (television, film, and internet) to understand how these complex and complicated codes influence the meaning of sex, sexuality, and gender; contemporary and historical examples used to engage texts that illuminate cultural conceptions of femininity, masculinity, heterosexuality, and homosexuality; cases that confuse and trouble the stability of these categories. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:076 Race, Ethnicity, and Media**

3 s.h.

Introduction to debates about media portrayals of race and ethnicity; focus primarily on entertainment media; use of general analytic perspectives--stereotype analysis, aesthetic analysis, history--applied to real-world examples; address one or more racial/ethnic groups in the United States. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 129:076. Same as 129:076.

**036:080 Radio Production**

3 s.h.

Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:081 Television Production**

3 s.h.

Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:083 Networking America: The Cultural History of Broadcasting**

3 s.h.

Exposure to different interpretations of the cultural impact and legacy of U.S. broadcasting in the 20th century; institutional practices, program genres, and audience formations of the radio and television network eras of the 1920s-1970s; how historical contexts shape, and are shaped by, production and reception of broadcasting texts. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:085 Media Industries and Organizations**

3 s.h.

Trends in media industries as reflected in changes of ownership, different work conditions, media convergence, and globalization generally; focus on local, network, and cable television; examination of industry structures, business practices, economic fundamentals, and theoretical explanations of media industries in society. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:086 Global Media Studies**

3 s.h.

Key developments in contemporary international communication; impact of deregulation and privatization on the ownership and control of the global communication infrastructure; spread of American television abroad in terms of production, texts, and reception; cultural concerns surrounding the phenomenon. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:087 Culture and Intellectual Property Law**

3 s.h.

How digital technologies have dramatically changed media and popular culture landscapes; the advent of relatively cheap editing programs that allow anyone to collage media on their home computers and enable people to become cultural producers; technologies that allow more people to break the law in the eyes of copyright industries; historical look at collage practices, from pre-digital era to present; ethical and legal questions surrounding the use and re-use of copyrighted materials; the notion of free speech in a media age. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:088 Media and Democracy**

3 s.h.

Exploration of the relationship between democracy and mass communication; why controversies regarding mass communication are also controversies about democracy; the logical relationship between democracy and mass media; roots and history of ideas of democracy, contemporary obstacles to the realization of these ideas, and varied issues of the present; latest developments in the world of politics and media. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:089 Nonverbal Communication**

3 s.h.

Introduction to theoretical study of nonverbal communication; focus on the major principles and research trends in the area; examination of the role of nonverbal communication in communication as a whole; perception and interpretation of nonverbal communication (i.e., posture, eye movements, tone of voice); nonverbal behaviors (i.e., facial expression, eye movement) as used to persuade, impress, or deceive someone. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:090 Topics in Communication Studies**

3 s.h.

Topics vary. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:091 Organizational Communication**

3 s.h.

Theories and concepts of organizational communication; focus on issues of good communication at a number of levels: people within the organization must be able to work with one another and communicate in effective ways; people, and especially leaders, need to be able to persuade one another effectively; organizations must be able to persuade outsiders, whether persuading them to buy the organization's products, or, in more complex circumstances, persuade the outside world to accept apologies or statements of regret when the company does something wrong. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:094 Topics in Production** 3 s.h.

Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement.

**036:095 Queer Rhetorics** 3 s.h.

Overview of queer theory and its application to different communicative situations including television, film, and everyday life; development of critical thinking skills in relation to cultural constructions of gender, sexuality, race, and other identity categories. Communication studies majors may apply this course to the following area requirement.

AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074.

Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 131:095, 154:095.

**036:100 Independent Study** arr.

Creative or research project under faculty supervision. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:101 Honors Workshop** 1 s.h.

Preparation for honors thesis prospectus; coordination of student's individual thesis work, introduction to issues in research design, methods. Communication studies majors may apply this course to the following area requirement.

AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074.

Requirements: g.p.a. of at least 3.33, honors standing, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:102 Honors Thesis** 3 s.h.

Individual research, writing, or creative production under faculty supervision. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, 036:074, and 036:101. Requirements: g.p.a. of at least 3.33, honors standing, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:105 Workshop in Teaching Communication and Forensics** arr.

Methods, materials, progression, evaluation in teaching and supervising students in courses and class activities; opportunities for observation, demonstration, practice in teaching theater, discussion and debate, individual speech, dramatic and forensic events. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 07S:178.

**036:130 Performing Culture, Language, and Literature** 3 s.h.

Performance of self in everyday life; performance in/of literature; performance as an aesthetic act; performance as a way to understand and represent identities, languages and cultures; students participate in performance as a mode of literary and rhetorical interpretation, cultural and political intervention, and artistic-embodied public presentation.

Requirements: (for 036:130) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:130, 049:160, 160:130.

**036:140 Communication and Relationships** 3 s.h.

Communication process in personal relationships; how communication functions to initiate, sustain, and dissolve a variety of relationships including friendships, romantic couples, marital pairs, and family relationships. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:142 Advanced Intercultural Communication**

3 s.h.

Defining culture as a historically-transmitted, socially-constructed system of meaning enacted in face-to-face interaction and mass media; focus on a specific topic within intercultural communication research and theory (i.e., cultural nature of personal relationships, built environment as culture, intersection of private with public cultural meaning); in-depth follow-up of the general approach to intercultural communication covered in lower-level courses. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:143 Classical Rhetoric and Greek Culture**

3 s.h.

Origins, development of the art of rhetoric from Sophists to Aristotle; significance to Greek culture from fifth to fourth century B.C. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:143) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:131.

**036:145 Argument and Law**

3 s.h.

Practices of argumentation that have special legal significance; court practices in legal argumentation (constructing legal arguments and briefs, trial and appellate oral advocacy); structure of argumentation that creates the categories and limits of freedom of expression. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:146 Issues in Rhetoric and Culture**

3 s.h.

Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:146) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:160, 048:160, 160:160.

**036:147 Family Communication**

3 s.h.

Family relationships and the various ways they develop and change, how they affect those who participate in them; theory and research on communication in the family; family conceived as a group of persons who share their lives over an extended period of time bound by ties of marriage, blood, or commitment. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:150 Cultural History of Advertising**

3 s.h.

Cultural, historical, and critical approach to creating, maintaining, repairing, and transforming a consumption culture in the United States; material and ideological character of life in the United States as it evolved from a culture of production in the Gilded Age (late 19th century) to a culture of consumption through the first half of the 20th century, culminating in the collective fantasy of the American Dream as articulated and celebrated in the 1950s; emergence of corporate capitalism and its crucial ideological voice, national brand advertising. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:151 Cultural History of Television**

3 s.h.

Cultural history of television in the United States; focus on the rise of network television, relationship between networks and advertisers, imagery surrounding the introduction of television into the home, and larger historical context; postwar era (the 1950s) and the rise of genres that are still with us, especially the sitcom (situation comedy); questions about desire, gender, family, nation, and the body. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:152 Latin American Media**

3 s.h.

Development of media institutions, texts, and audiences across a number of Latin American countries; focus on broadcast media (radio and television) and situates them within the larger historical context of 20th- and 21st-century Latin America; readings, discussions, and assignments pay particular attention to the influence of U.S. corporate and state interests on Latin American media, and engage debates over cultural dependency, globalization, and hybridity in the region. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:153 Communication Technologies in History**

3 s.h.

How media has altered culture, society, and human consciousness throughout history with focus on the last two centuries (or modernity); how communication has been shaped by a variety of media (i.e., gesture, language, writing, printing, calendars, clocks, photography, telegraph, telephone, phonograph, film, radio, television, computers, etc.); 21st-century questions concerning technology, and how few communicate today without the aid of some kind of machine or technique. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:155 Visual Rhetoric**

3 s.h.

Introduction to the politics of images as they relate to the field of communication; ideas and research ranging from the visual rhetoric of images and films to that of architecture and fashion; ways in which visual communicative messages impact individuals on a daily basis; developing a critical eye for deconstructing visual messages. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:156 Feminist Visual Rhetoric**

3 s.h.

Exploration of connections among feminist rhetoric, visual rhetoric, and visual culture; critical analysis of the scholarship on visual rhetoric; feminist theoretical and conceptual frameworks about the body; fields of visual culture and visual rhetoric; critiques of several feminist body artists' artworks as a means to concretize theories. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:157 Advanced Topics in Communication Studies**

3 s.h.

Issues or problems in particular communication contexts. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:158 Rhetoric and Past Public Controversy**

3 s.h.

Role of rhetoric in public controversy in particular historical time periods; focus on various perspectives, diverse voices, and multiple arguments informing particular movements/issues. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:158) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:141.

**036:160 The Talk of Everyday Life**

3 s.h.

In-depth study of various genres of talk that organize everyday communicative life; mundane interaction rituals (i.e., small talk, gossip, face-saving talk, compliance-gaining, asking for and giving advice and support, and telling stories); formalized interaction rituals (i.e., rites of passage); functions of talk in constructing identities, building relationships, and sustaining the social order more generally across all genres. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:163 The Dark Side of Interpersonal Communication**

3 s.h.



Review of advanced communication theories and research with focus on the dark side of interpersonal communication and close relationships; negative or difficult elements of developing and maintaining relationships; expression of difficult emotions; mundane communication that can function in destructive or negative ways. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:165 Criticism and Public Culture**

3 s.h.

How people formulate attitudes, beliefs, and values about an array of arenas in public culture; critical perspectives (i.e., feminism, Marxism, psychoanalysis, queer theory); sporting rituals, television programs, political speeches, museums, sacred cultural documents; practice of critical reading to engage various cultural texts such as films, national memorials, and social movement rhetoric. Communication studies majors may apply this course to the following area requirement. AREA: Research and Criticism. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:166 Life-Span Communication**

3 s.h.

How communication processes (social support, language skills, interpersonal relationship management) change across the course of one's existence; normative and unexpected demographic and health events mapped out across a life span; how our communication processes influence and are influenced by social experiences; underlying premise of the life-span perspective that our potential for human growth extends throughout our life course. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:167 Communication, Cognition, and Emotion**

3 s.h.

Understanding how communication, cognition, and emotion are tied together; different theories of emotion and types of emotions (i.e., love, anger, jealousy, happiness, embarrassment, and hurt). Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:168 Rhetoric of the Body**

3 s.h.

Survey of a range of theories about the body and application to specific case studies; implications of how bodies are endowed with and convey meaning; theories of pollution, pain, ability, and normativity; diverse case studies are seemingly disparate, but all preoccupy themselves with public conceptions of bodily meaning (i.e., beauty pageants, freak shows, plastic surgery, the wannabe movement, tattoos, the FDR Presidential Memorial, Deaf culture, fat bodies, illness, and torture). Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:170 Theories of Persuasion**

3 s.h.

Theoretical examination of four perspectives on persuasion--historical, psychological, social, and cultural; analysis of persuasive attempts; questions of cultural persuadables and current problems in U.S. American culture (i.e., obesity, drunk driving, date rape). Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

**036:172 Television and African American Culture**

3 s.h.

Role of television in African American culture; examination of debates; topics include stereotyping, authenticity, effects of programming, aesthetics, and television's relationship to other forms of cultural expression. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 129:195.

**036:173 Technoculture and the Information Society**

3 s.h.

Exploration of ongoing popular discourses surrounding the emergence of new media; claims about new media, new technology, and their role in the information economy; digital media technologies and practices thought about in new and different ways, put in historical perspective, and evaluation of how they are changing society. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

### **036:174 Communication, Technology, and National Security**

3 s.h.

Relationship between communication technologies and national security via three main themes: the use of the communications infrastructure in previous and future wars for the purpose of securing and maintaining U.S. leadership in the world-system, the uses of propaganda for both domestic and foreign consumption, and the representation of national security issues in popular media; historical and contemporary components. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

### **036:176 Advanced Relational Theory**

3 s.h.

Relationships and how they significantly shape our experiences of the world, our sense of identity, our outlook on life, and the way in which we think about experiences and life in general; the premise that relationships are more than emotional attachments or bonds; relationships as happy, emotionally satisfying elements of life; demonstrations of a variety of communicative situations that establish, reconstitute, and demonstrate the importance of membership of communities and relationships. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

### **036:181 Legal Communication and Culture**

3 s.h.

Law and the legal system as communicative networks of meaning-making; in contrast with legal courses concerned with learning blackletter law, the law viewed as a symbolic system from courtroom arguments to judicial opinions to legal reporting to the circulation of law in everyday life; law from a rhetorical perspective that allows us to think in new and different ways about the cultural implications of legal argument. Communication studies majors may apply this course to the following area requirement. AREA: Theory. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

## **For Graduate Students**

Graduate students also may take 100-level courses for credit, with approval of their committee.

### **036:200 Introduction to Research and Teaching**

3 s.h.

Introduction to communication studies as a field of scholarship; selection of research problems, major lines of research represented in the department, bibliographical tools for scholarship in the field; issues, practical tasks, and concerns relevant to effective college or university classroom teaching.

### **036:210 Introduction to Rhetorics of Inquiry**

2-4 s.h.

How connections between discourses that don't seem connected suggest innovative arguments and ways of crossing boundaries between disciplines. Same as 160:200.

### **036:220 Rhetorical Criticism**

3 s.h.

Approaches to rhetorical analysis of communicative artifacts, acts, events; rhetorical-critical essay writing. Same as 010:230.

### **036:222 Feminist Cultural Studies**

3 s.h.

Same as 008:243, 010:243, 131:243, 160:243.

### **036:223 Deliberation, Advocacy, Civic Engagement**

3 s.h.

Practices of public deliberation in governance and civil society; counterpublic sphere discourses. Same as 160:223.

<b>036:224 Movements and Media</b>	3 s.h.
<b>036:225 Seminar: Social Movements</b>	3 s.h.
<b>036:241 Theories of Mass Communication</b> Major concepts, theories, schools of thought in media studies, mass communication.	3 s.h.
<b>036:242 Studies and Practices of Audio and Video Production</b>	3 s.h.
<b>036:250 Introduction to Rhetoric of Science</b> How science is related to social and political practices, examined by placing philosophical and pedagogical controversies about scientific method into their historical and rhetorical contexts. Same as 160:250.	3 s.h.
<b>036:270 Health Communication</b> Theories, concepts, research associated with health communication; interpersonal and mass communication approaches. Offered summer sessions. Same as 172:240.	3 s.h.
<b>036:299 Graduate Independent Study</b>	arr.
<b>036:310 Classical Rhetoric</b> Discourse in the ancient world. Same as 010:301, 20E:230.	3 s.h.
<b>036:311 Modern Rhetoric</b> History of modernist rhetorical theory in the 20th century; relationships with philosophy, social and physical sciences, cultural change. Same as 160:311.	2-4 s.h.
<b>036:312 Rhetoric and Philosophy</b> Contemporary philosophical approaches to the study of rhetoric.	2-4 s.h.
<b>036:313 Rhetoric and Argument Theory</b> Approaches to study of argumentation, key issues at dispute in contemporary conceptualizations of argument.	2-4 s.h.
<b>036:317 Current Issues in Rhetoric</b> Ethical, social, or cultural issues; rhetoric's role in their contemporary significance; traditional aspects of rhetoric, their pertinence to present concerns. Same as 010:340, 160:340.	3 s.h.
<b>036:319 Practical Criticism</b> Basics of rhetorical criticism; rhetoric as practice or technique; how to read rhetorically; fundamentals (i.e., figuration and tropes, form and genre, voice, style, topoi) and art of rhetorical critique.	3 s.h.
<b>036:330 Reading Group</b> Analysis and discussion of important texts in rhetorical theory and criticism. Repeatable.	1-2 s.h.
<b>036:331 Studies in Language Theory</b> Semiotics, speech acts, philosophy of language; emphasis on their relationship to rhetoric. Same as 160:331.	2-4 s.h.
<b>036:332 Visual Political Rhetoric</b> Theoretical and critical studies of visual political discourse.	1-4 s.h.
<b>036:335 Proseminar: Contemporary Rhetorical Studies</b> Problems in contemporary rhetorical studies; may include works of Kenneth Burke, Wayne Booth, deconstructionists, feminist theorists and critics, critics of communication technologies. Same as 160:335.	2-4 s.h.
<b>036:336 Seminar in Rhetorical Theory</b> Topics in history and development of rhetorical theory; theory construction and application to critical practice. Same as 010:600.	1-4 s.h.
<b>036:337 Seminar: Public Address</b> History and criticism of discourse addressed to the public; periods, approaches.	1-4 s.h.

- 036:339 Seminar: Rhetoric and Culture** 1-4 s.h.  
Cultural theories, their utility in accounting for communication practices.
- 036:340 Media and Modernity** 3 s.h.  
Survey of classic and contemporary theoretical texts on cultural, social, political, and human consequences of 19th- and 20th-century media.
- 036:341 Topics in Mass Communication Scholarship** 1-3 s.h.  
Theory and research on problems in mass communication.
- 036:342 Critical Television Studies** 3 s.h.  
Introduction to canonical and contemporary readings in critical television studies; primary questions and theories associated with textual, industrial, ethnographic, and integrated approaches to studying television; how technological, economic, and cultural changes have altered television and how it is studied.
- 036:346 The Public Sphere** 3 s.h.  
Theories, intellectual history, critics, contemporary issues of the public sphere.
- 036:347 Nationalism as a Communication Process** 3 s.h.  
Nation building and construction of national identity as a problem in communication history and theory; the nation as a community constructed through discourse, role of the state and other social forces in creating and deploying nationalist discourse.
- 036:349 Visual Advocacy** 3 s.h.
- 036:350 Seminar: Mass Communication** 1-4 s.h.  
Topics vary.
- 036:351 Global Media Seminar** 3 s.h.  
Theories and processes of globalization and the cultural implications of media globalization; local responses to globalizing processes with reference to questions of modernity and national/transnational identity.
- 036:352 Seminar: Media Theory** 3 s.h.  
Topics vary.
- 036:353 Seminar: Intellectual Property** 3 s.h.  
Areas of cultural production that have been affected by intellectual property law; notions of authorship and ownership that lie at the heart of intellectual property law, how they affect varied areas of cultural production. Same as 160:353.
- 036:370 Quantitative Research Methods** 3 s.h.  
Primary methods for conducting quantitative research on interpersonal and group communication.
- 036:371 Communication Theory** 3 s.h.  
Survey of primary theories of interpersonal, cultural, group, and organizational communication.
- 036:372 Ethnographic Methods** 3 s.h.  
Qualitative methods used by ethnographers and interpretive researchers, including participant observation, field interviewing.
- 036:373 Persuasion Theory and Research** 3 s.h.  
Traditional social scientific approaches to research and theory; development of a cultural perspective on persuasion.
- 036:374 Relational Communication Theory and Research** 3 s.h.  
Communication in initiation, development, maintenance, breakdown, and repair of social and personal relationships.
- 036:375 Ethnography of Communication** 3 s.h.  
Research and theory on face-to-face communication, from ethnography of communication perspective.

**036:376 Family Communication**

3 s.h.

Theory and research on communication among and between family members (parents, children, marital partners, siblings); quantitative and qualitative research.

**036:377 The Dark Side of Interpersonal Communication**

3 s.h.

Communication in dysfunctional, dissatisfying, and otherwise unpleasant aspects of familial, personal, and social relationships; jealousy, deception, infidelity, nagging and complaining, verbal and physical abuse; relational communication's dark side, in which behavior viewed as dysfunctional may actually be functional, and behavior viewed as functional may be dysfunctional.

**036:378 Critical Ethnography**

3 s.h.

How power relations constitute the work of ethnographic research; ethnography as a rhetorical form--how ethnographic inscription renders self, other, culture, and the world intelligible in ways that reinscribe and/or challenge dominant social relations; axes of power such as race, class, gender, sexuality, and nation within postcolonial, feminist, and antiracist approaches to ethnographic/autoethnographic theory and praxis; negotiating researcher privilege and epistemic violence; crisis of representation. Same as 010:332, 160:332.

**036:379 Health Communication Campaigns**

3 s.h.

Design and analysis of health campaigns; theory, practice, methods; mass media, community, organization, and interpersonal approaches. Offered spring semesters. Same as 172:246.

**036:380 Seminar: Dialogic Communication**

3 s.h.

Dialogic approaches to communication, including Bakhtin and Buber.

**036:381 Seminar: Topics in Communication Research**

3 s.h.

**036:383 Seminar: Constructs, Communication, and Identity**

3 s.h.

Concepts of identity and sociality in George Kelly's Personal Construct Theory; their connection to theories of rhetoric, especially Burke, and social community, especially Mead.

**036:387 Communication, Cognition, and Emotion**

3 s.h.

Theoretical and empirical work that integrates communication, cognition, emotion; role of social cognition in communication, theories of emotion, types of emotional experiences; approaches to understanding emotion from perspectives in psychology, social cognition, communication; emotion-related issues such as influence of gender, effects of mood.

**036:395 Research Practicum**

arr.

Individual projects.

**036:399 Ph.D. Dissertation**

arr.

# Computer Science

**Chair:** James Cremer

**Professors:** Kurt Anstreicher (Management Sciences/Computer Science), Steven Bruell, James Cremer, Sukumar Ghosh, Ted Herman, Joseph Kearney, Gregg Oden (Psychology/Computer Science), Suely Oliveira, Teodor Rus, Alberto Segre, Padmini Srinivasan (Library and Information Science/Computer Science), Hantao Zhang

**Professors emeriti:** Donald Alton, Kendall Atkinson, Robert Baron, Donald Epley, Arthur Fleck

**Associate professors:** David Eichmann (Library and Information Science/Computer Science), Douglas Jones, Sriram Pemmaraju, W. Nick Street (Management Sciences/Computer Science), Aaron Stump, Cesare Tinelli, Kasturi Varadarajan, Christopher Wyman

**Adjunct associate professor:** Jun Ni

**Assistant professors:** Juan Pablo Hourcade, Eunjin (EJ) Jung

**Adjunct assistant professor:** Donald McClain

**Lecturer:** Ines Curto

**Adjunct instructor:** Raman Aravamudan

**Adjunct lecturer:** Kenneth Slonneger

**Undergraduate degrees:** B.A., B.S. in Computer Science, Informatics

**Undergraduate nondegree programs:** Minor in Computer Science, Informatics

**Graduate degrees:** M.C.S., M.S., Ph.D. in Computer Science

**Web site:** <http://www.cs.uiowa.edu>

## Undergraduate Programs

The department offers a Bachelor of Arts, a Bachelor of Science, and a minor in computer science and in informatics. Both the B.A. and B.S. provide students with the necessary training for employment in careers such as software development and information management. Students who do not want to pursue a computer science career should consider earning a minor in computer science to acquire fundamental knowledge of the use and applications of computers. The department encourages students in both B.A. and B.S. programs to consider earning a second major, certificate, or minor.

Undergraduates majoring in computer science develop competence in programming principles and methodologies, problem-solving techniques, mathematics, and computer systems. Computer science training is critical for many careers in science, engineering, and business.

Informatics brings the computational sciences together with the arts, the humanities, and the biological, health, information, natural, and social sciences in an interdisciplinary effort to solve problems. It uses algorithmic techniques and the power of computing to acquire and manipulate data, extract new knowledge, and ultimately examine existing and new problems from broad perspectives.

The informatics major combines fundamental and practical computing knowledge with a choice of cognate areas from the liberal arts and sciences, providing students with the necessary background and specialized skills to work at the interface of computing and another discipline. The major also provides good preparation for graduate study in a variety of disciplines.

Students may declare a major in computer science or in informatics and be admitted to the department's B.A. or B.S. programs at any time on or after admission to the University. Students are admitted to the informatics B.A. or B.S. program without a chosen cognate area; they may declare a cognate at any time. After admission to the major, computer science students must maintain a g.p.a. of 2.00 or higher in all course work in order to graduate; informatics students must maintain a g.p.a. of at least 2.00 in the informatics core, the statistics course, and the elective(s).

All students are advised at the Academic Advising Center until they have completed 22C:019 Discrete Structures (computer science students) or 22C:080 Programming for Informatics (informatics students). Computer science students being advised at the advising center also may consult with computer science faculty members; informatics students being advised at the center also should consult with the department's informatics program director.

Transfer students who have taken a course approved as equivalent to a required computer science or informatics course are exempt from that course. Transfer course grades are included in the computer science or informatics grade-point average.

Students should consult the Department of Computer Science web site or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Informatics and Computer Science (WICS).

### Advanced Placement

The Computer Science Advanced Placement Program test can be used to gain credit for elective semester hours. See Advanced Placement Credit Policy under Prospective Students on the Department of Computer Science web site.

### Joint Bachelor's/Master's Degree Programs

Qualified undergraduate students who plan to earn the Master of Computer Science degree may apply for the joint Bachelor of Arts/Master of Computer Science program or the joint Bachelor of Science/Master of Computer Science program. The joint programs allow students to earn both degrees in five years. See "Joint B.A./M.C.S. and B.S./M.C.S." later in this section.

## Early Admission to the Graduate College

Undergraduate computer science or informatics students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

## Bachelor of Arts in Computer Science

The Bachelor of Arts in computer science requires a minimum of 120 s.h., including at least 41 s.h. of work for the major. The B.A. program is designed for students who wish to gain considerable knowledge in computer science and have flexibility in selecting electives. Students preparing for careers in the computing field are encouraged to supplement the base requirements with additional computer science courses. The program's flexibility makes it suitable for combination with other majors.

All students must complete the College of Liberal Arts and Sciences General Education Program. Students who are enrolled in the B.A. program but who might switch to the B.S. program should choose their General Education natural science courses carefully; see "Natural Science Sequences" under "Bachelor of Science," below.

The B.A. major in computer science requires the following core courses. They may not be taken pass/nonpass. Students also must take one advanced computer science elective.

### COMPUTER SCIENCE CORE

All of these:

22C:016 Computer Science I: Fundamentals	4 s.h.
22C:019 Discrete Structures	3 s.h.
22C:021 Computer Science II: Data Structures	4 s.h.
22C:022 Object-Oriented Software Development	4 s.h.
22C:031 Algorithms	3 s.h.
22C:111 Programming Language Concepts	3 s.h.

One of these:

22C:060 Computer Organization	3 s.h.
055:035 Computer Architecture and Organization	3 s.h.

One of these:

22C:112 Operating Systems	3 s.h.
22C:113 Introduction to Systems Software	3 s.h.
22C:118 Introduction to Networks and Their Applications	3 s.h.
22C:169 Computer Security	3 s.h.

### MATHEMATICS CORE

Calculus I--one of these:

22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

Calculus II--one of these:

22M:026 Calculus II	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.

Linear algebra/probability and statistics--one of these:

22M:027 Introduction to Linear Algebra	4 s.h.
22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:120 Probability and Statistics	4 s.h.

**ADVANCED ELECTIVES**

Bachelor of Arts students must earn at least 3 s.h. in advanced electives.

22C:072/22M:072 Elementary Numerical Analysis	3 s.h.
22C:096 Topics in Computer Science (with department approval)	arr.
22C:099 Honors in Computer Science or Informatics (may be counted once as an advanced course)	arr.
Any 22C course numbered above 110	3 s.h.

With department approval, students may count most 22C courses numbered above 200 as advanced courses.

**Bachelor of Science in Computer Science**

The Bachelor of Science in computer science requires a minimum of 120 s.h., including at least 63 s.h. of work for the major. The B.S. program is more rigorous than the B.A. and is designed to provide in-depth training for students who may wish to acquire strength in math and science in order to enhance their skills and job prospects. It also is appropriate for those who plan to pursue graduate work in computer science; however, the B.S. is not required for graduate study.

All students must complete the College of Liberal Arts and Sciences General Education Program. When chosen carefully, courses that fulfill the General Education Program natural sciences requirement also satisfy the Department of Computer Science natural science requirement (see "Natural Science Sequences," below).

B.S. students complete all requirements for the B.A. major in computer science. They also complete an additional mathematics course, a course on computation theory, an additional computer science elective, two technical electives, and the natural science requirement. These courses cannot be taken pass/nonpass.

**COMPUTER SCIENCE CORE**

All of these:

22C:016 Computer Science I: Fundamentals	4 s.h.
22C:019 Discrete Structures	3 s.h.
22C:021 Computer Science II: Data Structures	4 s.h.
22C:022 Object-Oriented Software Development	4 s.h.
22C:031 Algorithms	3 s.h.
22C:111 Programming Language Concepts	3 s.h.

One of these:

22C:060 Computer Organization	3 s.h.
055:035 Computer Architecture and Organization	3 s.h.

One of these:

22C:112 Operating Systems	3 s.h.
22C:113 Introduction to Systems Software	3 s.h.
22C:118 Introduction to Networks and Their Applications	3 s.h.
22C:169 Computer Security	3 s.h.

**MATHEMATICS CORE**

Calculus I—one of these:

22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

Calculus II—one of these:

22M:026 Calculus II	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.



Linear algebra:

22M:027 Introduction to Linear Algebra 4 s.h.

Probability and statistics--one of these:

22S:039 Probability and Statistics for the Engineering and Physical Sciences 3 s.h.

22S:120 Probability and Statistics 4 s.h.

Another probability and statistics course with a calculus prerequisite, approved by a computer science advisor

### ADVANCED ELECTIVES

Bachelor of Science students must earn at least 6 s.h. in advanced electives.

22C:072/22M:072 Elementary Numerical Analysis 3 s.h.

22C:096 Topics in Computer Science (with department approval) arr.

22C:099 Honors in Computer Science or Informatics (may be counted once as an advanced course) arr.

Any 22C course numbered above 110 3 s.h.

With department approval, students may count most 22C courses numbered above 200 as advanced courses.

### COMPUTATION THEORY

One of these:

22C:131 Limits of Computation 3 s.h.

22C:135 Theory of Computation 3 s.h.

22C:188 Logic in Computer Science 3 s.h.

### TECHNICAL ELECTIVES

Bachelor of Science students must earn 6 s.h. in technical electives. Advanced elective courses in computer science or in any other department, approved by an advisor, can be counted as technical electives. For a list of approved technical electives, see Technical Electives for the B.S. under Courses on the Department of Computer Science web site.

### NATURAL SCIENCE SEQUENCES

For the B.S., students take two or more courses in a sequence (totaling at least 7 s.h.) in a cognate area of natural science. The natural science sequence is intended to enhance the student's perspective by providing a deeper understanding of the scientific method. Typically, it consists of a sequence of courses taken in the same science department. Students often choose courses that also fulfill the General Education Program natural sciences requirement. Some possible choices are listed below; the department chair may approve others.

CLEP/APP credit may be used to satisfy part or all of the natural science requirement only if the appropriate science department at The University of Iowa accepts the credit as equivalent to one or more of the specific courses listed below.

#### Astronomy

029:061 General Astronomy I 4 s.h.

029:062 General Astronomy II 4 s.h.

#### Biology/Chemistry

002:010 Principles of Biology I 4 s.h.

002:011 Principles of Biology II 4 s.h.

004:011 Principles of Chemistry I 4 s.h.

**Chemistry**

004:011 Principles of Chemistry I	4 s.h.
004:012 Principles of Chemistry II	4 s.h.

**Geography**

044:003 Introduction to Earth Systems Science	4 s.h.
044:005 Foundations of GIS	3 s.h.

**Geoscience**

012:008 Introduction to Environmental Science	3-4 s.h.
One of these:	
012:003 Earth History and Resources	4 s.h.
012:005 Introduction to Geology	4 s.h.

**Physics**

One of these sequences:

029:027-029:028 Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II (recommended)	8 s.h.

**Bachelor of Arts, Bachelor of Science in Informatics**

The Bachelor of Arts in informatics requires a minimum of 120 s.h., including at least 43-50 s.h. of work for the major. The Bachelor of Science in informatics requires a minimum of 120 s.h., including at least 53-55 s.h. of work for the major. Both majors combine informatics course work that provides a strong foundation in computing with course work in a cognate discipline. Required credit for the major depends on the choice of cognate area.

The Bachelor of Arts major in informatics offers the cognate areas of fine and applied arts (art, music), human-computer interaction, health sciences, linguistics, social sciences (economics, geography, sociology), and individualized cognates.

The Bachelor of Science major in informatics offers the cognate areas of bioinformatics and individualized cognates.

All informatics students complete the informatics core, one (B.A.) or two (B.S.) electives, a statistics course, and a set of courses in their chosen cognate area. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Students are expected to possess an appropriate high school background in mathematics.

**INFORMATICS CORE**

The informatics core consists of six required computing courses (at least 18 s.h.) that emphasize data manipulation, databases, and networking. It provides more applications-oriented content than the traditional computer science curriculum yet is designed to offer students a sound basis in underlying computer sciences themes and techniques.

One of these:

22C:080 Programming for Informatics	4 s.h.
22C:104 Introduction to Informatics	3 s.h.

All of these:

22C:005 Introduction to Computer Science	3 s.h.
22C:082 Human-Computer Interaction	3 s.h.
22C:084 Databases for Informatics	3 s.h.
22C:086 Networking and Security for Informatics	3 s.h.
22C:094 Informatics Project	3 s.h.

#### INFORMATICS ELECTIVES

B.A. students must complete at least one course (3 s.h.) and B.S. students must complete at least two (6 s.h.) from a list of approved computing informatics electives. Course selection must be approved by an advisor or by the informatics program director. In addition to the courses listed below, students may have additional choices from the Department of Electrical and Computer Engineering, the Department of Management Sciences, and the School of Library and Information Science; consult the informatics program director for additional choices.

22C:096 Topics in Computer Science	3 s.h.
22C:109 Programming Languages and Tools	3 s.h.
Any 22C course numbered above 110	3 s.h.

#### STATISTICS COURSE

B.A. and B.S. students must complete one introductory statistics course. Some cognates require a specific statistics course or an alternative statistics course not on this list (e.g., 034:010 Quantitative Data Analysis for the sociology area of the human-computer interaction cognate). Students should consult with their advisor to choose a statistics course appropriate for their cognate area.

One of these:

22S:008 Statistics for Business	4 s.h.
22S:025 Elementary Statistics and Inference	3 s.h.
22S:030 Statistical Methods and Computing	3 s.h.
22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.
22S:120 Probability and Statistics	4 s.h.

#### Bachelor of Arts Cognates

Students must complete all requirements listed under one of the cognate areas below (art, economics, geography, health sciences, human-computer interaction, linguistics, music, sociology, or an individualized cognate).

#### ART

The informatics major with an art cognate requires a minimum of 45 s.h. of work for the major, including 21 s.h. in cognate courses. Students learn about the design and maintenance of Web services, applications of modern computerized artistic tools, and benefits and limitations of computers as a digital medium. They also gain insight into computerized tool design that is guided by knowledge of an artist's requirements. The art cognate may lead to careers in web development, technology coordination for artistic productions, development of digital artistic tools, and artistic or technical development for entertainment companies. Cognate courses are primarily in art history, design, elements of art, and photography.

All of these:

01A:003 Basic Drawing	3 s.h.
01D:082 Introductory Computer Graphic Design	3 s.h.
01D:090 Graphic Design I	3 s.h.

Two of these:

01H:001 Art and Visual Culture	3 s.h.
01H:002 Arts of Africa	3 s.h.
01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
01H:004 Masterpieces: Art and Cultural Paradigms	3 s.h.
01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.

01H:007 Writing About the Visual Arts	3 s.h.
01H:008 Themes in Global Art	3 s.h.
01H:010 Tutorial for Majors: Art History as a Discipline	3 s.h.
01H:016 Asian Art and Culture	3 s.h.
01H:021 Introduction to the Art of West Africa	3 s.h.
01H:022 Introduction to the Art of Central Africa	3 s.h.
01H:026 Introduction to Ancient Art	3 s.h.
01H:031 Introduction to the Art of China	3 s.h.
01H:033 Introduction to the Art of Japan	3 s.h.
01H:040 Introduction to Medieval Art	3 s.h.
01H:047 Introduction to Italian Renaissance Art	3 s.h.
01H:053 Introduction to Baroque Visual Culture	3 s.h.
01H:062 Introduction to Nineteenth-Century Art	3 s.h.
01H:066 Introduction to American Art	3 s.h.
01H:073 Introduction to Modern/Contemporary Art	3 s.h.
01H:084 Introduction to Western Architecture	3 s.h.
01H:090 Introduction to Art and Religion	3 s.h.
01H:098 Undergraduate Topics in Art History	3 s.h.
01H:099 Undergraduate Seminar in the History of Art	3 s.h.

At least 6 s.h. from these; 3 s.h. must be 100-level:

01D:064 Introduction to Computer-Aided Design for 3-D Design	4 s.h.
01D:120 Graphic Design II	4 s.h.
01D:128 Computer Graphic Design	3 s.h.
01L:040 Digital Imaging I	3-4 s.h.
01L:140 Advanced Digital Imaging	3-4 s.h.

## ECONOMICS

The informatics major with an economics cognate requires a minimum of 48 s.h. of work for the major, including 24 s.h. in cognate courses, which are primarily from economics. The economics cognate is intended for students interested in working with economic, financial, or demographic data. It may lead to careers in administration, business, or government or to graduate study in management or policy areas.

All of these:

22M:017 Calculus and Matrix Algebra for Business	4 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.
06E:104 Microeconomic Theory	3 s.h.
06E:105 Macroeconomics	3 s.h.

Two of these:

06E:111 Personnel Economics	3 s.h.
06E:113 Health Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:145 Transportation Economics	3 s.h.
06E:158 American Economic History	3 s.h.
06E:160 Household Finance	3 s.h.
06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.

06E:172 Law and Economics	3 s.h.
06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:179 History of Economic Thought	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:184 Introduction to Econometrics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

## GEOGRAPHY

The informatics major with a geography cognate requires a minimum of 46 s.h. of work for the major, including 22 s.h. in cognate courses, which are primarily from geography. The geography cognate is intended for students interested in geographic information systems (GIS) and spatial aspects of data. It may lead to careers in business, government, or public health or to graduate study in geography, public health, or policy areas.

All of these:

044:001 Introduction to Human Geography	4 s.h.
044:003 Introduction to Earth Systems Science	4 s.h.
044:005 Foundations of GIS	3 s.h.

One of these:

044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:015 Introduction to Political Geography	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:030 The Global Economy	3 s.h.
044:035 World Cities	3 s.h.

One of these:

044:110 GIS for Environmental Studies: Introduction	3 s.h.
044:112 Mapping American Cities and Regions	3 s.h.
044:180 Field Methods in Physical Geography	2-4 s.h.
044:181 Field Methods: Mapping and Mobile Computing	3 s.h.

Two of these:

044:105 Introduction to Environmental Remote Sensing	3 s.h.
044:110 GIS for Environmental Studies: Introduction	3 s.h.
044:112 Mapping American Cities and Regions	3 s.h.
044:113 Principles of Geographical Information Systems	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:128 GIS for Environmental Studies: Applications	3 s.h.
044:136 Planning Livable Cities	3 s.h.
044:137 Health and Environment: GIS Applications	3 s.h.
044:139 Spatial Analysis and Location Models	3 s.h.
044:145 Applications in Environmental Remote Sensing	4 s.h.

## HEALTH SCIENCES

The informatics major with a health sciences cognate requires a minimum of 49 s.h. of work for the major, including 25 s.h. in cognate courses. The health sciences cognate is intended for students interested in applications of computing to the health sciences. It may lead to careers in medical research or hospital settings and to graduate-level professional degree programs in public health or to graduate study in health or medical informatics. Cognate courses

are from anatomy and cell biology, biology, chemistry, health and sport studies, nursing, and psychology.

One of these:

002:002 Introductory Animal Biology	4 s.h.
002:010 Principles of Biology I	4 s.h.

One of these:

004:007 General Chemistry I	3 s.h.
004:011 Principles of Chemistry I	4 s.h.

One of these:

027:053 Human Anatomy	3 s.h.
060:110 Principles of Human Anatomy	3 s.h.

All of these:

027:075 Health in Everyday Life	3 s.h.
027:136 Health Behavior and Health Promotion	3 s.h.
027:156 Planning and Evaluating Health Interventions	3 s.h.
031:001 Elementary Psychology	3 s.h.

One of these:

031:014 Introduction to Developmental Science	3 s.h.
096:030 Human Development and Behavior	3 s.h.

#### **HUMAN-COMPUTER INTERACTION**

The informatics major with a cognate in human-computer interaction requires a minimum of 43 s.h. of work for the major, including at least 19 s.h. in cognate courses. The cognate is intended for students interested in designing useful and usable technologies. It can lead to careers in interaction design, web design, implementation of user interfaces and evaluation of human-computer interactions, as well as provide valuable skills for graduate study in human-computer interaction.

The cognate's courses are drawn largely from psychology, sociology, and industrial engineering. Four required courses include foundational aspects of psychology or sociology, an examination of basic human abilities and performance relevant to information technology use, and an introduction to research topics in human-computer interaction.

Students must complete either the psychology area or the sociology area.

#### **Psychology**

Students who choose the psychology area must satisfy the statistics requirement for the informatics core by taking 22S:008 Statistics for Business, 22S:025 Elementary Statistics and Inference, 22S:101 Biostatistics, or 22S:102 Introduction to Statistical Methods. The psychology area requires the following courses.

All of these:

031:001 Elementary Psychology	3 s.h.
031:010 Research Methods in Psychology	4 s.h.
031:016 Introduction to Cognitive Psychology	3 s.h.
22C:196 Topics in Computer Science (topic must be human-computer interaction)	3 s.h.

Two of these:

031:002 Biological Psychology	4 s.h.
031:014 Introduction to Developmental Science	3 s.h.
031:015 Introduction to Social Psychology	3 s.h.
031:123 Psychology of Learning	3 s.h.

**031:133 Sensation and Perception**

3 s.h.

Students who take 031:123 Psychology of Learning or 031:133 Sensation and Perception must first complete the prerequisite 031:002 Biological Psychology.

**Sociology**

Students who choose the sociology area must satisfy the statistics requirement for the informatics core by taking 034:010 Quantitative Data Analysis. The sociology area requires the following courses.

All of these:

034:001 Introduction to Sociology Principles	3-4 s.h.
034:009 Sociological Theory	3 s.h.
034:011 Research Methods	3 s.h.
22C:196 Topics in Computer Science (topic must be human-computer interaction)	3 s.h.

Three of these:

034:020 Principles of Social Psychology	3-4 s.h.
034:125 Small Group Analysis	3 s.h.
056:144 Human Factors	3 s.h.
056:147 Ergonomics	3 s.h.

**LINGUISTICS**

The informatics major with a linguistics cognate requires a minimum of 45 s.h. of work for the major, including at least 21 s.h. in cognate courses. Linguistics, the scientific study of human languages, is directly related to psychology, anthropology, and computer science as well as to more applied fields such as second language acquisition or speech and hearing science. The cognate focuses on computational representations of syntax and semantics for processing natural language. Cognate courses are drawn primarily from linguistics.

All of these:

103:100 Introduction to Linguistics	3 s.h.
103:110 Articulatory and Acoustic Phonetics	3 s.h.
103:111 Syntactic Analysis	3 s.h.
103:112 Phonological Analysis	3 s.h.
103:140 Introduction to Computational Linguistics	3 s.h.

One of these:

103:131/08L:131 History of the English Language	3 s.h.
103:139/039:139 Chinese Historical Phonology	3 s.h.

One of these:

008:141 Old English Beowulf	3 s.h.
103:132/008:140 Elementary Old English	3 s.h.
20E:110/039:110 First-Year Sanskrit: First Semester	4 s.h.
20E:111/039:111 First-Year Sanskrit: Second Semester	4 s.h.
20E:121/039:112 Second-Year Sanskrit: First Semester	3 s.h.
20E:122/039:113 Second-Year Sanskrit: Second Semester	3 s.h.
20G:001 Classical and New Testament Greek I	5 s.h.
20G:002 Classical and New Testament Greek II	5 s.h.
20G:011 Second-Year Greek I	3 s.h.
20G:012 Second-Year Greek II	3 s.h.
20L:001 Elementary Latin I	5 s.h.
20L:005 Accelerated Latin	3-5 s.h.
20L:002 Elementary Latin II	5 s.h.
20L:011 World of Cicero	3 s.h.
20L:012 Golden Age of Roman Poetry	3 s.h.

**MUSIC**

The informatics major with a music cognate requires a minimum of 47 s.h. of work for the major, including 23 s.h. in cognate courses. The music cognate is intended for students interested in audio recording, manipulation of sound, and digital media. It may help students prepare for careers in the entertainment industry. Cognate courses are primarily from the music, with some from cinema and comparative literature and from theatre arts. Entering students must possess basic musicianship skills; an audition may be required for admission.

All of these:

025:001 Fundamentals of Music for Majors	3 s.h.
025:002 Musicianship and Theory I	4 s.h.
025:003 Musicianship and Theory II	4 s.h.
025:071 Group Instruction in Piano I	1 s.h.
025:072 Group Instruction in Piano II	1 s.h.
025:149 Audio Recording I	3 s.h.
025:152 Audio Recording II	3 s.h.

Students who plan to take 025:002 Musicianship and Theory I or 025:003 Musicianship and Theory II must take the music theory diagnostic examination, which is administered on the Sunday before fall semester classes begin. See Music Theory Diagnostic Exam on the School of Music web site for more information.

One of these:

025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:141 History of Jazz	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
025:178 Music, Culture, and Identity	3 s.h.

At least one of these to complete 23 s.h. for the cognate:

025:007 Garage Band: The Basics	2 s.h.
025:064 Recital Attendance for Non-Majors	1 s.h.
048:053 Introduction to Film Sound	3 s.h.
048:119 Topics in Film Sound	3 s.h.
048:131 Film/Video/Audio Production: Sound Design	3 s.h.
049:140 Sound Design for the Theatre	3 s.h.

**SOCIOLOGY**

The informatics major with a sociology cognate requires a minimum of 44 s.h. of work for the major, including 20 s.h. in cognate courses, which are drawn from sociology.

All of these:

034:001 Introduction to Sociology Principles	3-4 s.h.
034:009 Sociological Theory	3 s.h.
034:011 Research Methods	3 s.h.

At least 11 s.h. from these:

034:002 Social Problems	3-4 s.h.
034:010 Quantitative Data Analysis	3 s.h.
034:018 Gender and Society	3-4 s.h.
034:020 Principles of Social Psychology	3-4 s.h.
034:022 Introduction to Social Work	4 s.h.
034:040 Criminology	3 s.h.
034:061 The American Family	3 s.h.
034:066 Social Inequality	3 s.h.



034:100 Honors Proseminar	2 s.h.
034:125 Small Group Analysis	3 s.h.
034:126 Social Movements in the U.S.	3 s.h.
034:128 Sociology of Mental Illness	3 s.h.
034:135 Sociology of Sexuality	3 s.h.
034:141 Juvenile Delinquency	3 s.h.
034:146 Deviance and Control	3 s.h.
034:148 Internship in Criminal Justice and Corrections	1-5 s.h.
034:149 Sociology of Criminal Punishment	3 s.h.
034:150 Political Sociology	3 s.h.
034:153 Public Opinion	3 s.h.
034:155 Comparative Studies in Race and Ethnicity	3 s.h.
034:156 Gender Inequality	3 s.h.
034:158 Economy and Society	3 s.h.
034:159 Families in Comparative Perspective	3 s.h.
034:162 Work and Family Institutions	3 s.h.
034:164 Organizations and Modern Society	3 s.h.
034:165 Sociology of Work and Occupations	3 s.h.
034:175 Community and Urban Sociology	3 s.h.
034:179 Sociology of Education	3 s.h.
034:182 Sociology of Law	3 s.h.
034:186 Criminal Legal System	3 s.h.
034:190 Selected Topics in Sociology	3 s.h.
034:195 Capstone Course in Sociology	3 s.h.
034:196 Field Experience	arr.
034:199 Honors Research	arr.

#### INDIVIDUALIZED COGNATES

Students interested in developing individualized cognates may work with an informatics faculty advisor. Individualized cognates may be drawn primarily from one department or an appropriate mix of departments. In the Bachelor of Arts, individualized cognates require an approved set of cognate courses totaling 18-25 s.h.

#### Bachelor of Science Cognates

Students must complete all requirements listed under one of the cognate areas below (bioinformatics or an individualized cognate).

#### BIOINFORMATICS

The informatics major with a bioinformatics cognate requires a minimum of 54 s.h. of work for the major, including 27 s.h. in cognate courses. The bioinformatics cognate is intended for students interested in applications of computing to the biological sciences. It may lead to careers in laboratory research, data management, and other related areas. It also is preparation for graduate programs in bioinformatics or genetics. The cognate offers a choice of several areas: genome bioinformatics, phylogenetics and evolution, proteomics, and systems biology. Cognate courses are drawn primarily from biology and chemistry.

All students in the bioinformatics cognate must complete the following five courses.

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:121 Organic Chemistry I	3 s.h.

Students also must complete one of the following four areas.

#### Genome Bioinformatics

Both of these:

002:128 Fundamental Genetics	3-4 s.h.
002:131 Evolution	4 s.h.

One of these:

002:169 Introduction to Bioinformatics	4 s.h.
002:174 Computational Genomics	3 s.h.
002:176 Microarray Data Analysis	3 s.h.
002:178 Genomics	3 s.h.

#### **Phylogenetics and Evolution**

Both of these:

002:128 Fundamental Genetics	3-4 s.h.
002:131 Evolution	4 s.h.

One of these:

002:134 Ecology	4 s.h.
002:160 Molecular Phylogenetics	3 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.

#### **Proteomics**

All of these:

002:133 Cell Biology Laboratory	3 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:241 Biophysical Chemistry I	3 s.h.

#### **Systems Biology**

061:157 General Microbiology	5 s.h.
------------------------------	--------

One of these:

002:124 Animal Physiology	3 s.h.
061:147 Survey of Immunology	4 s.h.
061:160 Microbial Physiology	3 s.h.
061:170 Microbial Genetics	3 s.h.

#### **INDIVIDUALIZED COGNATES**

Individualized cognates may be drawn primarily from one department or an appropriate mix of departments. In the Bachelor of Science, individualized cognates require an approved set of cognate courses totaling 27-31 s.h. Students interested in developing individualized cognates should contact the Department of Computer Science for the name of an informatics faculty advisor.

### **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

#### **B.A. in Computer Science**

**Before the third semester begins:** math through calculus I, three courses in the major (e.g., 22C:016 Computer Science I: Fundamentals, 22C:019 Discrete Structures, and 22C:021 Computer Science II: Data Structures), and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** math through calculus II, two more courses in the major (e.g., 22C:022 Object-Oriented Software Development and 22C:060 Computer Organization), and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least two more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least one more course in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.S. in Computer Science**

These checkpoints do not include the required natural science sequence, which students usually complete as part of their General Education Program natural science component.

**Before the third semester begins:** math through calculus I, three courses in the major (e.g., 22C:016 Computer Science I: Fundamentals, 22C:019 Discrete Structures, and 22C:021 Computer Science II: Data Structures), and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** math through calculus II, at least two more courses in the major (e.g., 22C:022 Object-Oriented Software Development and 22C:060 Computer Organization), and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least three more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.A., B.S. in Informatics**

Note: Much of the work in informatics and in the cognate area needs to be taken in sequence, so students must begin fulfilling major requirements as early as possible.

**Before the third semester begins:** 22C:005 Introduction to Computer Science, 22C:080 Programming for Informatics, one or two courses in the cognate area, the statistics course, and at least one-quarter of the semester hours required to graduate

**Before the fifth semester begins:** the three mid-level informatics courses (22C:082 Human-Computer Interaction, 22C:084 Databases for Informatics, and 22C:086 Networking and Security for Informatics), the statistics course (if not already completed), two or three more courses in the cognate area, and at least one-half of the semester hours required to graduate

**Before the seventh semester begins:** 22C:094 Informatics Project, an informatics elective course, two or three courses in the cognate area, and at least three-quarters of the semester hours required to graduate

**Before the eighth semester begins:** a second informatics elective course (for BS students) and courses in the cognate area

**During the eighth semester:** enrollment in all remaining course work in the major; all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

In order to pursue honors study in the Department of Computer Science, students must be members of the University of Iowa Honors Program, which requires them to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

To graduate with honors in computer science or informatics, students must complete 4-6 s.h. of 22C:099 Honors in Computer Science or Informatics and submit an acceptable honors thesis. Students are responsible for finding a faculty member willing to supervise their honors project. The faculty member must approve the proposed project and a timetable for the work. Students register for 22C:099 Honors in Computer Science or Informatics under the thesis supervisor's instructor number. See the Computer Science Undergraduate Student Handbook for details. Students may count 3 s.h. of 22C:099 Honors in Computer Science or Informatics toward an advanced or technical elective for the B.S. in computer science. Students in the joint bachelor's/master's degree program may register for 4-6 s.h. of 22C:199 Individualized Research or Programming Project instead of 22C:099. This will allow them to receive graduate credit for the course while satisfying the course requirements to graduate with honors.

## Minor in Computer Science

The minor in computer science requires a minimum of 17 s.h. in computer science, including 12 s.h. in courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students excused from courses required for the minor may substitute other computer science electives. The minor requires the following courses.

All of these:

22C:016 Computer Science I: Fundamentals	4 s.h.
22C:019 Discrete Structures	3 s.h.
22C:021 Computer Science II: Data Structures	4 s.h.

At least one of these:

22C:022 Object-Oriented Software Development	4 s.h.
22C:031 Algorithms	3 s.h.
22C:060 Computer Organization	3 s.h.

Students choose one additional Department of Computer Science course to complete the 17 s.h. required for the minor.

The following courses do not count toward the minor.

22C:001 Computer Literacy	3 s.h.
22C:002 First-Year Seminar	1 s.h.
22C:005 Introduction to Computer Science	3 s.h.
22C:080 Programming for Informatics	4 s.h.
22C:084 Databases for Informatics	3 s.h.
22C:094 Informatics Project	3 s.h.
22C:104 Introduction to Informatics	3 s.h.

Students who have completed 055:033 Introduction to Software Design, 057:017 Computers in Engineering, and 059:006 Engineering Problem Solving II are considered to have satisfied the requirements for 22C:016 Computer Science I: Fundamentals and 22C:022 Object-Oriented Software Development.

Students may declare the computer science minor on ISIS; application triggers an audit for the minor that is available on ISIS the next day of the academic session.

## Minor in Informatics

The minor in informatics requires a minimum of 16 s.h., including at least 12 s.h. in courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

Students earning a major in computer science or in management information systems (Tippie College of Business) may not earn a minor in informatics.

The informatics minor must include the informatics core (13 s.h.) and one statistics course (3-4 s.h.), as follows.

All of these:

22C:005 Introduction to Computer Science	3 s.h.
22C:080 Programming for Informatics	4 s.h.
22C:084 Databases for Informatics	3 s.h.

One of these:

22C:082 Human-Computer Interaction	3 s.h.
22C:086 Networking and Security for Informatics	3 s.h.

One of these:

22S:008 Statistics for Business	4 s.h.
22S:025 Elementary Statistics and Inference	3 s.h.
22S:030 Statistical Methods and Computing	3 s.h.

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.
22S:120 Probability and Statistics	4 s.h.

Students may declare the informatics minor on ISIS; application triggers an audit for the minor that is available on ISIS the next day of the academic session.

### **Joint B.A./M.C.S. and B.S./M.C.S.**

The joint Bachelor of Arts/Master of Computer Science and Bachelor of Science/Master of Computer Science programs allow qualified students to obtain an undergraduate and a graduate degree in computer science in five years. The B.A./M.C.S. and B.S./M.C.S. each require a total of 140 s.h., which is 12 s.h. less than the sum of the requirements for both degrees.

Students in the joint programs must complete all requirements for each degree. They may count a maximum of 12 s.h. (four courses) toward both degrees; the four courses must be taken during the fourth year, after admission to the joint program, and must satisfy degree requirements of both the B.A. or B.S., and the M.C.S.

When a student withdraws from the joint program before completing his or her bachelor's degree, credit earned in the four courses is counted only toward the undergraduate degree.

Students are granted the B.A. or B.S. when they complete all requirements for the undergraduate degree.

Students apply for admission to the joint program during their third year as undergraduates and enter the program at the beginning of their fourth year. They usually complete the joint program comfortably in one year after finishing their B.A. or B.S. requirements.

Applicants to the joint program must be enrolled as B.A. or B.S. students in computer science at The University of Iowa; must have completed a minimum of 80 s.h. at the time of admission to the joint program, with at least 30 s.h. earned at The University of Iowa; and must have a cumulative University of Iowa g.p.a. of at least 3.25, and a g.p.a. of at least 3.25 in the computer science major (computed on math prerequisites and core computer science course work taken at The University of Iowa).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants must submit an application for admission to the program, a statement of purpose, three letters of recommendation, and transcripts from all colleges attended; they also must apply to the Graduate College. Graduate Record Examination scores are not required. Applicants whose first language is not English must submit scores on the Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS).

For more detailed information, visit the Department of Computer Science web site.

## **Graduate Programs**

The department offers three graduate degree programs: the Master of Computer Science (M.C.S.), and a Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in computer science.

The M.C.S. is a nonresearch, course-based program for students who wish to enhance their careers with advanced knowledge of computer science. The Ph.D. emphasizes preparation for research, teaching, and scholarly work in academic settings or private, industrial, or government laboratories. The M.S. is granted only to students working toward the Ph.D.

Admission decisions are based on prior academic performance, letters of reference, the applicant's statement about background and purpose, and for Ph.D. applicants, scores on the Graduate Record Examination. Students need not have a master's degree to begin the Ph.D. program or to receive the Ph.D. A student admitted without a master's degree may choose to receive an M.S. or M.C.S. while working toward the doctorate.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Current and prospective graduate students should consult the Computer Science Graduate Student Handbook, available from the department's office or on its web site. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements. For general information about the department, faculty, and research activities, contact the Department of Computer Science or visit its web site.

### **Master of Computer Science**

The Master of Computer Science (M.C.S.) requires a minimum of 32 s.h. of graduate credit, including at least 24 s.h. earned at The University of Iowa.

Basic M.C.S. requirements are as follows. Consult the Computer Science Graduate Student Handbook for detailed information about M.C.S. requirements and graduate study policies.

#### **FOUNDATIONS**

One of these:

22C:131 Limits of Computation	3 s.h.
22C:135 Theory of Computation	3 s.h.
22C:231 Design and Analysis of Algorithms	3 s.h.

#### **SYSTEMS**

One of these:

22C:160 High Performance Computer Architecture	3 s.h.
22C:166 Distributed Systems and Algorithms	3 s.h.
22C:181 Formal Methods in Software Engineering	3 s.h.
22C:185 Programming Language Foundations	3 s.h.

#### **COLLOQUIUM**

M.C.S. students must earn at least 2 s.h. in 22C:399 Research Seminar: Colloquium Series.

#### **ELECTIVES**

M.C.S. students fill their remaining 24 s.h. with a combination of computer science graduate courses, reading and project courses, and non-computer science graduate courses approved by their advisor.

Students must take at least six computer science graduate courses (18 s.h.), numbered above 22C:120, excluding 22C:191 Research for Thesis, 22C:199 Individualized Research or Programming Project, 22C:290 Readings for Research, 22C:299 Research for Dissertation, and 22C:399 Research Seminar: Colloquium Series. They may count a maximum of 6 s.h. of technical or quantitative graduate courses outside of computer science, approved by their advisor, toward the elective requirement. Up to 3 s.h. of independent study courses (22C:199 Individualized Research or Programming Project or 22C:290 Readings for Research) may be counted toward the requirement.

### **Master of Science**

The Master of Science in computer science is offered only to students working toward a Ph.D. in computer science. Students who are interested primarily in a master's degree and do not intend to pursue a more advanced degree should apply to the M.C.S. program.

### **Doctor of Philosophy**

The Doctor of Philosophy in computer science requires a minimum of 72 s.h. of graduate credit, three examinations (qualifying, comprehensive, and final), and a written dissertation.

Basic Ph.D. requirements are as follows. Consult the Computer Science Graduate Student Handbook for detailed information about Ph.D. requirements and graduate study policies.

#### **CORE REQUIREMENT**

Both of these:

22C:135 Theory of Computation	3 s.h.
22C:231 Design and Analysis of Algorithms	3 s.h.

**BREADTH**

Ph.D. students must complete at least three of the following courses, with at least one course selected from each area (9 s.h.).

Systems and software:

22C:160 High Performance Computer Architecture	3 s.h.
22C:169 Computer Security	3 s.h.
22C:196 Topics in Computer Science (section approved by advisor)	3 s.h.

Networks and distributed systems:

22C:166 Distributed Systems and Algorithms	3 s.h.
22C:196 Topics in Computer Science (section approved by advisor)	3 s.h.

Programming languages and compilers:

22C:181 Formal Methods in Software Engineering	3 s.h.
22C:185 Programming Language Foundations	3 s.h.
22C:196 Topics in Computer Science (section approved by advisor)	3 s.h.

**PRACTICE**

Ph.D. students must complete at least one course (3 s.h.) with significant practical or implementation-oriented content. Each semester the department designates courses that satisfy this requirement. The following are typical selections.

22C:144 Database Systems	3 s.h.
22C:145 Artificial Intelligence	3 s.h.
22C:151 Computer Graphics	3 s.h.
22C:174 Optimization Techniques	3 s.h.
22C:177 High Performance and Parallel Computing	3 s.h.
22C:180 Fundamentals of Software Engineering	3 s.h.
22C:199 Individualized Research or Programming Project	3 s.h.
22C:251 Advanced Computer Graphics	3 s.h.
06K:278 Web Mining	3 s.h.

**COGNATE AREA**

Ph.D. students are required to select, in consultation with their advisor, a total of 9 s.h. in courses that constitute coherent coverage of an external cognate area. Choices include, but are not limited to, mathematics, statistics, genetics, biology, and engineering disciplines.

**COLLOQUIUM**

Ph.D. students must earn at least 4 s.h. in 22C:399 Research Seminar: Colloquium Series.

**ELECTIVES**

Ph.D. students fill their remaining semester hours with a selection of computer science graduate courses numbered above 22C:120 and graduate courses outside of computer science, approved by their advisor.

**QUALIFYING EXAM**

Ph.D. students are required to pass a qualifying examination by the end of their second year of graduate study. Once students select a topic in consultation with their advisor, they are assigned a three-member faculty examination panel by the department. Then they prepare a written prospectus for review by the committee, followed by an oral presentation.

**COMPREHENSIVE EXAM**

The comprehensive examination is an evaluation of the student's mastery of a research area near completion of formal course work, and before preparation of the dissertation. The exam may be written, oral, or both, at the department's discretion, and is administered by a faculty committee. The comprehensive exam typically should be completed by the end of the student's third year and no later than the end of the fourth year in the Ph.D. program.

## DISSERTATION

Each Ph.D. student must write a dissertation, a significant, original contribution to the field of computer science. Once students obtain some preliminary results and can identify and describe the boundaries of their dissertation, they prepare a written proposal for their committee's review. The dissertation must be prepared in accordance with the format specified in the Graduate College Thesis Manual.

## FINAL ORAL EXAMINATION

Once the dissertation is complete and has been reviewed by the student's committee, a final oral examination is administered on campus. This examination must take place no sooner than the semester following successful completion of the comprehensive examination and no later than five years after completion of the comprehensive exam.

# Computer Science Courses

## For Undergraduates

### **22C:001 Computer Literacy** 3 s.h.

Computer literacy; nature, uses, limitations of computers and computing; impact of computer technology on society; privacy, ethics, security; overview of computer organization; introduction to applications, including communications, word processing, desktop publishing, spreadsheets, graphics, databases, World Wide Web. Recommendations: no credit for students who have completed a higher-numbered 22C course or 06K:070.

### **22C:002 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

### **22C:005 Introduction to Computer Science** 3 s.h.

Broad overview; representation of information, microprocessor fundamentals, databases, networks, graphics, impact and limitations of technology, multimedia web page development, Flash movie clips. Recommendations: closed to students who have completed a computer science course numbered 22C:021 or above. GE: Quantitative or Formal Reasoning.

### **22C:016 Computer Science I: Fundamentals** 4 s.h.

Introduction to programming using Python; programming constructs, data types, problem-solving strategies, data structures, object-oriented programming. Requirements: 22M:005 or 22M:013 or 22M:015 or equivalent high school or college mathematics background. GE: Quantitative or Formal Reasoning.

### **22C:019 Discrete Structures** 3 s.h.

Mathematical methods used in computer science, including logic, proof techniques (with induction), functions, relations, algorithm analysis, recurrence relations, counting methods, combinatorics, graphs, trees. Prerequisites: 22C:016. Recommendations: calculus I.

### **22C:021 Computer Science II: Data Structures** 4 s.h.

Design, implementation and analysis of data structures and algorithms, including linked lists, stacks, queues, hash tables, trees, graphs; complexity analysis; recursion; dynamic data structures. Corequisites: 22C:019, if not taken as a prerequisite. Requirements: grade of C- or higher in 22C:016.

### **22C:022 Object-Oriented Software Development** 4 s.h.

Object-oriented design and software development methodology; team programming projects; GUIs, event handling, network programming, concurrency, data representation, IO programming. Prerequisites: 22C:016. Corequisites: 22C:019, if not taken as a prerequisite.

### **22C:031 Algorithms** 3 s.h.



Algorithm design techniques (divide and conquer, dynamic programming, greedy) and analysis techniques (big O notation, recurrence); sorting (merge sort, heapsort, and quicksort), searching (B-trees, AVL trees or red black trees, hashing); basic graph algorithms (depth-first and breadth-first search, minimum spanning trees, shortest paths); NP-completeness. Prerequisites: 22C:021, and 22M:025 or 22M:031.

**22C:060 Computer Organization**

3 s.h.

Computer building blocks: representing data, computer arithmetic, instruction sets, assembly language, digital logic, control units, ALU design, register operations, memory organization, IO. Prerequisites: 22C:021.

**22C:072 Elementary Numerical Analysis**

3 s.h.

Computer arithmetic, root finding, polynomial approximation, numerical integration, systems of linear equations, ordinary differential equations; use of higher-level computer language such as Matlab, Maple, Mathematica. Requirements: grade of C- or higher in 22M:026 or 22M:032. Same as 22M:072.

**22C:080 Programming for Informatics**

4 s.h.

Computing fundamentals for informatics students, including practical programming skills (e.g., in Perl, other scripting languages) and introduction to algorithms, data structures, databases. Prerequisites: 22C:005. Corequisites: 22M:003 or 22M:009 or 22M:010 or 22M:013 or 22M:015, if not taken as a prerequisite.

**22C:082 Human-Computer Interaction**

3 s.h.

Basic theories, principles, and guidelines for design and evaluation of human-computer interactions; design methodologies (e.g., participatory design, low- and high-fidelity prototyping), user interface technologies (e.g., input and output devices, interaction styles), quantitative and qualitative evaluation of user interfaces (e.g., expert reviews, usability testing). Corequisites: 22C:080, if not taken as a prerequisite. Requirements: an approved statistics course.

**22C:084 Databases for Informatics**

3 s.h.

Design and implementation of relational database systems: introduction to the relational model, database design, database normalization, use of database query and manipulation languages such as SQL. Prerequisites: 22C:080.

**22C:086 Networking and Security for Informatics**

3 s.h.

Introduction to computer networking, overview of network organization and management; basic understanding of encryption and network security; practical experience in network programming. Prerequisites: 22C:080.

**22C:094 Informatics Project**

3 s.h.

Experience designing, implementing, documenting, and testing a system using appropriate software tools (e.g., a project working with an information management tool consisting of a database system with a Web-based front end); typically done in small groups; capstone project for informatics majors. Prerequisites: 22C:082, 22C:084, and 22C:086.

**22C:096 Topics in Computer Science**

arr.

Complement to material in other courses. Prerequisites: 22C:021 or 22C:022 or 22C:080 or 22C:104.

**22C:099 Honors in Computer Science or Informatics**

arr.

Individual projects. Requirements: computer science or informatics major, and honors standing.

**For Undergraduate and Graduate Students****22C:109 Programming Languages and Tools**

3 s.h.

Varied programming languages and tools. Prerequisites: 22C:016 or 22C:080 or 22C:104.

**22C:111 Programming Language Concepts**

3 s.h.

Imperative, functional, and logical programming languages, and differences between them; syntax specification, types, control structures, recursion, data abstraction. Prerequisites: 22C:021 and 22C:022.

**22C:112 Operating Systems**

3 s.h.

Introduction to modern operating systems, including device control, memory management and addressing, process scheduling, interprocess communication, interrupts, synchronization, security. Prerequisites: 22C:060.

**22C:113 Introduction to Systems Software**

3 s.h.

Design and implementation of system software, including operating systems and programming support software (assemblers, compilers, linkers, loaders); process, memory, message management. Prerequisites: 22C:060.

**22C:118 Introduction to Networks and Their Applications** 3 s.h.

Introduction to networks and the development of network applications; basic concepts of network communication common to applications such as simulation and web services. Prerequisites: 22C:060.

**22C:131 Limits of Computation** 3 s.h.

Turing machines, undecidability and complexity: reductions, Cook's theorem and NP-completeness, approximation algorithms and randomized algorithms. Prerequisites: 22C:031.

**22C:135 Theory of Computation** 3 s.h.

Finite automata; regular sets and expressions; context-free and context-sensitive grammars, their properties; push-down automata; standard, universal, and linear-bounded Turing machines; relationships between formal languages and automata; undecidability and its consequences. Prerequisites: 22C:031.

**22C:137 Theory of Graphs** 3 s.h.

Connectivity properties, including Euler, Hamilton cycle problems; graph colorings, matchings; characterization of families of graphs such as trees, planar graphs, networks; graph algorithms, their applications. Prerequisites: 22M:050. Same as 22M:152.

**22C:141 Knowledge Discovery** 3 s.h.

Knowledge discovery process, including data reduction, cleansing, transformation; advanced modeling techniques from classification, prediction, clustering, association; evaluation and integration. Same as 06K:275.

**22C:142 Knowledge Discovery and Data Mining** 3 s.h.

Concepts and techniques in knowledge discovery and data mining (KDD); data preprocessing, exploration, association analysis, classification, prediction, clustering. Prerequisites: 22C:031 or 22C:080 or 22C:104. Requirements: some probability/statistics.

**22C:144 Database Systems** 3 s.h.

Introduction to database systems including querying using SQL, design using ER diagrams, developing relational databases, programming web applications using PHP or JDBC. Prerequisites: 22C:021 and 22C:031.

**22C:145 Artificial Intelligence** 3 s.h.

Introduction to artificial intelligence covering problem-solving methods, heuristic search, knowledge representation, automated reasoning, planning, game playing, machine learning, and neural networks. Prerequisites: 22C:031.

**22C:146 Introduction to Computational Linguistics** 3 s.h.

Introduction to computational linguistics; focus on theory and practice of natural language processing and syntactic and semantic analysis. Same as 103:140.

**22C:151 Computer Graphics** 3 s.h.

Introduction to computer graphics algorithms and techniques, with emphasis on interactive 3-D graphics; coordinate systems and frames, modeling and viewing transformations, rendering, shading, lighting, texture, bump, environment mapping, animation, ray tracing, radiosity. Prerequisites: 22C:031 and 22M:027.

**22C:160 High Performance Computer Architecture** 3 s.h.

Problems involved in designing and analyzing current machine architectures using hardware description language (HDL) simulation and analysis, hierarchical memory design, pipeline processing, vector machines, numerical applications, multiprocessor architectures and parallel algorithm design techniques; evaluation methods to determine relationship between computer design and design goals. Prerequisites: 22C:112 or 22C:113 or 055:035. Same as 055:132.

**22C:166 Distributed Systems and Algorithms** 3 s.h.

Models of distributed systems, program correctness--safety and liveness properties, causality, logical and vector clocks, mutual exclusion, distributed snapshot, leader election, distributed algorithms for graph-theoretic problems, fault-tolerance--masking versus nonmasking types, checkpointing, stabilization, consensus--byzantine generals problem, fault-tolerant broadcast and multicast, management of replicated data. Prerequisites: 22C:031, 22C:112 or 22C:113. Requirements: some interest in networking.

**22C:169 Computer Security**

3 s.h.

Mechanism versus policy; authentication, access control, security domains; perimeter security, defense in depth; cryptographic protocols; key management and distribution; security assessment. Prerequisites: 22C:060.

**22C:170 Numerical Analysis: Nonlinear Equations and Approximation Theory**

3 s.h.

Root finding for nonlinear equations; polynomial interpolation; polynomial approximation of functions; numerical integration. Prerequisites: 22M:027 and 22M:028, or 22M:037 or 22M:056. Requirements: knowledge of computer programming. Same as 22M:170.

**22C:171 Numerical Analysis: Differential Equations and Linear Algebra**

3 s.h.

Numerical methods for initial value problems for ordinary differential equations; direct and iterative methods for linear systems of equations; eigenvalue problems for matrices. Prerequisites: 22M:027 and 22M:028, or 22M:037 or 22M:056; and 22M:100. Requirements: knowledge of computer programming. Same as 22M:171.

**22C:174 Optimization Techniques**

3 s.h.

Basic theory of optimization, use of numerical algorithms in solution of optimization problems; linear and nonlinear programming, sensitivity analysis, convexity, optimal control theory, dynamic programming, calculus of variations. Prerequisites: 22M:027, 22M:028 or 22M:056, and 22M:072. Same as 22M:174.

**22C:177 High Performance and Parallel Computing**

3 s.h.

Parallel scientific computing methods such as parallel algorithms for dense and sparse matrices; implementation using libraries such as MPI; current topics such as grid computing. Requirements: linear algebra or numerical analysis course, and a programming language. Same as 22M:178.

**22C:180 Fundamentals of Software Engineering**

3 s.h.

Problem analysis, requirements definition, specification, design, implementation, testing/maintenance, integration, project management; human factors; management, technical communication; design methodologies; software validation, verification; group project experience. Prerequisites: 22C:022 or 055:033. Same as 055:180.

**22C:181 Formal Methods in Software Engineering**

3 s.h.

Models, methods, and their application in all phases of software engineering process; specification methods; verification of consistency, completeness of specifications; verification using tools. Prerequisites: 22C:180. Same as 055:181.

**22C:182 Software Engineering Languages and Tools**

3 s.h.

Object-oriented programming concepts (objects, classes, single and multiple inheritance, polymorphism and dynamic binding); object-oriented languages and environments such as JAVA and Eiffel; introduction to design patterns and software architectures such as Model-View-Controller and application frameworks; component-based software development; use of standard component frameworks such as CORBA and COM/DCOM. Prerequisites: 22C:180 or 055:180. Requirements: experience with an object-oriented programming language. Same as 055:182.

**22C:183 Software Engineering Project**

3 s.h.

Team software development project using concepts and methodologies learned in earlier software engineering classes; practical aspects of large-scale software development. Prerequisites: 22C:180 and 22C:182. Same as 055:183.

**22C:185 Programming Language Foundations**

3 s.h.

Introduction to formal foundations of programming languages using a variety of models, including attribute grammars, operational, axiomatic, denotational, and algebraic techniques; proofs of program equivalence, correctness, termination. Prerequisites: 22C:031 and 22C:111.

**22C:188 Logic in Computer Science**

3 s.h.

Applications of symbolic logic in computer science; symbolic logic as a powerful tool for modeling computation and computational devices and reasoning formally about them; introduction to several logics (i.e., propositional, predicate, temporal, modal) differing in their expressive power and focus, their uses in computer science; how to represent knowledge in these logics, what represents a valid argument, and how to prove or disprove, possibly automatically, the validity of a logical statement. Prerequisites: 22C:019. Recommendations: computer science, math, or engineering major.

<b>22C:191 Research for Thesis</b>	arr.
<b>22C:196 Topics in Computer Science</b> Complements material in other courses. Prerequisites: 22C:021 or 22C:022.	arr.
<b>22C:199 Individualized Research or Programming Project</b> Individualized research and/or programming projects in computer science, guided by a faculty member.	arr.

## For Graduate Students

Competence and exposure to computer science are not only useful, they often are prerequisite to advanced study and research in many disciplines. For most graduate students from other disciplines, an appropriate first course is 22C:104 Introduction to Informatics.

**22C:104 Introduction to Informatics** 3 s.h.  
Fundamentals of computer science: algorithms, complexity, relational databases, systems concepts, programming in Perl. Requirements: 22C:005 or graduate standing.

**22C:231 Design and Analysis of Algorithms** 3 s.h.  
Review of design and analysis techniques; advanced data structures (binomial and Fibonacci heaps, disjoint sets); graph algorithms (network flows, matching, min-cut); NP-completeness, randomization and approximation algorithms; special topics (string matching, computational geometry, number theoretic algorithms). Prerequisites: 22C:031 or 22C:131.

**22C:242 Data Mining and Machine Learning** 3 s.h.  
Topics in machine learning theory and support vector machines (SVM); state-of-the-art data mining and machine learning explored through student projects and discussion of research papers. Prerequisites: 06K:275 or 22C:141 or 22C:142.

**22C:251 Advanced Computer Graphics** 3 s.h.  
Topics such as global illumination and rendering; volume rendering; animation; curves and surfaces, advanced modeling and mapping techniques; graphics hardware; real-time graphics for virtual environments. Prerequisites: 22C:151.

**22C:290 Readings for Research** arr.  
Requirements: Ph.D. standing in computer science.

**22C:296 Seminar on Computer Science** arr.

**22C:299 Research for Dissertation** arr.  
Requirements: Ph.D. candidacy (post-comprehensive exam) in computer science.

**22C:398 Research Seminar: Programming Languages** 0 s.h.  
Repeatable.

**22C:399 Research Seminar: Colloquium Series** 1 s.h.  
Graduate colloquium. Repeatable. Requirements: graduate standing in computer science.

## Creative Writing (Iowa Writers' Workshop)

**Director:** Lan Samantha Chang

**Professors:** Ethan Canin (Creative Writing/English), Lan Samantha Chang (Creative Writing/English), James Galvin (Creative Writing/English), James Alan McPherson (Creative Writing/English), Marilynne Robinson (Creative Writing/English), Cole Swensen (Creative Writing/English/Cinema and Comparative Literature)

**Associate professor:** Mark Levine (Creative Writing/English)

**Graduate degree:** M.F.A. in English

**Web site:** <http://www.uiowa.edu/~iww/>

The Creative Writing Program (Iowa Writers' Workshop) is a world-renowned graduate program for fiction writers and poets. It was the first creative writing program in the United States to offer a degree, and it became a model for many contemporary writing programs. In addition to its Master of Fine Arts program, it also offers writing courses for undergraduates.

Creative writing classes at The University of Iowa began in the 1890s, and in 1922 the University became the nation's first institution of higher education to accept creative work as theses for advanced degrees. The Iowa Writers' Workshop began in 1936, drawing distinguished fiction writers and poets who would lecture and stay to discuss students' work; some came for a full year of teaching.

Today the program's faculty and alumni include nationally and internationally prominent poets, novelists, and short story writers; many have won Pulitzer Prizes, National Book Awards, and other major literary honors. In 2003 the Iowa Writers' Workshop received a National Humanities Medal from the National Endowment for the Humanities—the first awarded to a university and only the second given to an institution rather than an individual.

To learn more about the Creative Writing Program's history and faculty, visit the Iowa Writers' Workshop web site.

## Graduate Program

The Creative Writing Program offers instruction that leads to a Master of Fine Arts degree in English.

Unusually well-qualified students in the Department of English Ph.D. program may obtain permission to submit a creative dissertation for that degree. In such a case, the Program in Creative Writing assumes responsibility for granting permission for the option of the creative dissertation and for approving the dissertation once it is completed. Contact the director of graduate study in the Department of English for more information.

### Master of Fine Arts

The Master of Fine Arts in English (creative writing) requires 48 s.h. of graduate credit taken over four semesters in residence at The University of Iowa. Students specialize in fiction or poetry. Work toward the degree culminates in a creative thesis.

The program is flexible and individualized. Approximately half of the credit required for the degree is earned in writing courses; the rest may be earned in other graduate courses. Up to 18 s.h. of graduate transfer credit may be counted toward the degree, but transfer credit does not change the residency requirement.

Students must enroll in 08C:251 Fiction Workshop or 08C:252 Poetry Workshop during each semester of residence in the program. In each course, groups of 10-15 students read and critique each others' work.

The program's seminars provide students with a thorough knowledge of their chosen literary form and related aspects of craft. Seminars include 08C:270 Form of Fiction, 08C:275 Form of Poetry, 08C:490 Seminar: Problems in Modern Fiction, and 08C:495 Seminar: Problems in Modern Poetry. Each focuses on a single aspect of modern poetry or fiction, such as a single writer's work or a body of work with a common theme or purpose.

In addition to taking Creative Writing Program courses, many M.F.A. students choose courses offered by other University of Iowa departments and programs, such as the interdisciplinary Center for the Book (Graduate College), the Department of Theatre Arts, the Department of Cinema and Comparative Literature, and the Department of English.

During the last semester of the program, each student must take the M.F.A. examination, an essay exam that may be written outside of the classroom. Students also submit their graduate thesis during the last semester (08C:590 M.F.A. Thesis); the thesis is a fiction or poetry manuscript of substantial length.

### Admission

Applicants to the Creative Writing Program (Iowa Writers' Workshop) must meet the program's admission requirements as well as those of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

A creative writing manuscript is the most important element of the application for admission to the workshop. Submissions for poetry should include 10-12 poems. Submissions for fiction should include two or three short stories or

a section of a novel, or both, usually 30-38 double-spaced pages (may not exceed 100 double-spaced pages).

Other application materials include a personal statement, official transcripts from all universities and colleges attended, the graduate application form, three letters of recommendation, an application for graduate awards, and an application to the Graduate College. Graduate Record Exam (GRE) General Test scores are optional, but they may make applicants more competitive for a wider range of financial assistance.

For detailed information on application materials and procedures, see Graduate Admissions/Admission to the Workshop on the Iowa Writers' Workshop web site.

## Financial Support

Financial assistance is available to Creative Writing Program students in the form of teaching assistantships, research assistants, and fellowships. See Applying for Financial Aid on the Iowa Writer's Workshop web site.

## Creative Writing Program Courses

The Creative Writing Program offers courses for undergraduates as well as graduate students. Enrollment in some graduate-level courses requires admission to the M.F.A. program.

### For Undergraduates

See "Courses" in the Department of English section of the Catalog for course descriptions and prerequisites to enrollment.

08C:001 Creative Writing Studio Workshop	3 s.h.
08C:023 Creative Writing	3 s.h.
08C:097 Fiction Writing	3 s.h.
08C:098 Poetry Writing	3 s.h.
08C:107 Creative Writing for the Health Professions	3 s.h.
08C:108 Creative Writing for New Media	3 s.h.
08C:110 Creative Writing for the Ecologically Aware: Stories in the Land	3 s.h.
08C:115 Creative Writing and Popular Culture	3 s.h.
08C:163 Undergraduate Writers' Workshop: Fiction	arr.
08C:166 Undergraduate Writers' Workshop: Poetry	arr.
08C:167 Undergraduate Writers' Seminar	3 s.h.
08C:195 Undergraduate Project in Creative Writing	arr.

### For Graduate Students

See "Courses" in the Department of English section of the Catalog for course descriptions and prerequisites to enrollment.

08C:251 Fiction Workshop	arr.
08C:252 Poetry Workshop	arr.
08C:270 Form of Fiction	3 s.h.
08C:275 Form of Poetry	3 s.h.
08C:297 Fiction Writing	3 s.h.
08C:298 Poetry Writing	3 s.h.
08C:490 Seminar: Problems in Modern Fiction	arr.
08C:495 Seminar: Problems in Modern Poetry	arr.
08C:555 Graduate Project in Creative Writing	arr.
08C:590 M.F.A. Thesis	arr.

## Critical Cultural Competence

**Coordinator:** Edward Saunders

**Undergraduate nondegree program:** Certificate in Critical Cultural Competence

**Web site:** <http://www.uiowa.edu/~socialwk/CCCC>

The College of Liberal Arts and Sciences offers the Certificate in Critical Cultural Competence. The certificate program helps students develop an appreciation for their own cultural identities. It also helps them become critically self-reflective in their orientation to differences in other people's cultural identities as defined by matters such as race, ethnicity, gender, class, and sexual orientation.

The certificate program is open to undergraduate students across the University. It is administered by the School of Social Work.

### Certificate

The Certificate in Critical Cultural Competence requires 18 s.h. of course work. Ideally, students begin the certificate during their second year of undergraduate study.

Certificate students build the knowledge, skills, and attitudes they will need in order to increase their effectiveness in relating to others across cultural differences and in domestic and international environments that are increasingly diverse.

Intended outcomes for students who complete the certificate are:

- greater appreciation of cultural differences;
- increased ability to interact with individuals of diverse backgrounds;
- adoption of a philosophy of treating people fairly, equitably, and thoughtfully;
- critical self-reflection and awareness of one's own culture;
- ability to assess and understand culture-related privilege and disprivilege; and
- concern with issues of power and privilege, and social justice.

The certificate requires the following course work.

208:120 Foundations of Critical Cultural Competence	3 s.h.
Three electives covering at least two diversity categories	9 s.h.
One elective with an immersion-learning or service-learning component	3 s.h.
208:190 Integrative Seminar in Critical Cultural Competence	3 s.h.

Students begin the certificate with 208:120 Foundations of Critical Cultural Competence, which is offered spring semesters and is prerequisite to the course work that follows. They complete a minimum of three elective courses (9 s.h.) that cover at least two diversity categories; a maximum of two electives may be taken from the same department, and two of the three electives must be 100-level or above. An additional experiential elective (3 s.h.) with an immersion-learning or service-learning component is required. Students complete the certificate's requirements with the capstone course, 208:190 Integrative Seminar in Critical Cultural Competence, which is offered spring semesters.

In collaboration with the certificate program's coordinator, students establish study plans while completing the foundation course. The coordinator works with the academic advisor in the student's major to ensure that the study plan complements the student's academic program and career interests. The program coordinator approves the final study plan, recommends the sequence in which course work should be taken, schedules required courses, and keeps a record of each student's approved program and progress.

Once a student fulfills the requirements for the certificate and completes an undergraduate degree, the certificate is noted on his or her transcript.

For more information, contact the School of Social Work.

## Critical Cultural Competence Courses

<b>208:120 Foundations of Critical Cultural Competence</b>	3 s.h.
Experiential and theoretical foundation; cultural competence as a concept and practice; conceptual frameworks and models for understanding cultural differences and similarities within, among, and between groups of people with whom others interact in their professional, personal, public, and private lives; appreciating differences while learning to be self-reflective; adjustment of perceptions, behaviors, styles for effective interaction with people from different ethnic, racial, sexual, gender, class groups.	
<b>208:190 Integrative Seminar in Critical Cultural Competence</b>	3 s.h.

Capstone course; application of knowledge to one's areas of study; community settings where cultural competence is required; challenges and benefits of behaving in culturally competent ways in varied contexts; review and critique of educational experiences in the certificate program; development of skills in community education related to cultural competence; group project to benefit the University and/or community; development of a plan to integrate critical cultural competence into careers. Requirements: completion of other required certificate courses.



## Dance

**Director, Division of Performing Arts:** Alan MacVey

**Chair:** George de la Peña

**Professors:** Armando Duarte, Alan Sener

**Professor emerita:** Françoise Martinet

**Associate professors:** Charlotte Adams, George de la Peña, Rebekah Kowal

**Associate professors emeritae:** Alicia Brown, Helen Chadima

**Assistant professors:** Eloy Barragán, Deanna Carter, Jennifer Kayle

**Adjunct assistant professors:** Paul Cunliffe, Lyle Juracek

**Lecturer:** Jim Albert

**Undergraduate degrees:** B.A., B.F.A. in Dance

**Undergraduate nondegree program:** Minor in Dance

**Graduate degree:** M.F.A. in Dance

**Web site:** <http://dance.uiowa.edu>

The Department of Dance offers degree programs for undergraduates and graduate students. The undergraduate major in dance provides a liberal arts and sciences education and thorough preparation for careers in professional dance, choreography, and education, as well as preparation for graduate studies.

The department offers as many as 14 concerts every year, providing dance students with numerous opportunities for performance and choreography. Each year the University of Iowa Dance Company performs Dance Gala on campus, and since 1986, the department's touring company, Dancers in Company, has given students an opportunity to perform in Iowa and surrounding states.

Dance faculty members regularly present their choreography in national and international venues, giving University student performers the opportunity to further develop their performance skills. Periodic master classes with noted guest teachers, choreographers, and touring companies add diversity to the dance experience.

The department is one of four academic units that make up the Division of Performing Arts.

## Undergraduate Programs

The department offers a Bachelor of Arts, a Bachelor of Fine Arts, and a minor in dance. It also participates in offering the Certificate in Performing Arts Entrepreneurship, offered through the Division of Performing Arts.

Students must audition on campus in order to be admitted to a degree program or the minor in dance, as well as for placement in advanced dance classes.

### Bachelor of Arts

The Bachelor of Arts in dance requires a minimum of 120 s.h., including 53 s.h. of work for the major (50 s.h. in dance and 3 s.h. in a required anatomy course). The program is designed for students who want to acquire a strong liberal arts and sciences background while pursuing a comprehensive undergraduate dance education. The degree stresses performance and choreography as well as dance theory courses, including dance history, dance kinesiology, and dance production.

Students must audition on campus, during the semester before they enter the University, in order to be admitted to a degree program in dance. They must audition for placement in dance classes before they register for classes. Nonmajors and students minoring in dance may register only for beginning and continuing levels of ballet and modern dance, but they may register for all levels of jazz and Afro-Cuban dance. Contact the Department of Dance, the undergraduate program coordinator, or the Office of Admissions for additional information.

Students must complete the College of Liberal Arts and Sciences General Education Program.

All B.A. students must complete 027:053 Human Anatomy (3 s.h.). The required 50 s.h. in Department of Dance courses must include two semesters of 137:113 Major Ballet II or 137:114 Major Modern Dance II with a grade of B-minus or higher. Two semesters of 137:124 Major Modern Dance III, 137:123 Major Ballet III, or 137:130 Major Modern Dance IV also satisfy this requirement. At least half of all semester hours in the major must be earned at The University of Iowa. No more than 50 s.h. in Department of Dance courses may be counted toward the 120 s.h. required for the B.A.

Students who select cross-referenced, non-dance department courses to satisfy the core course requirements must take additional dance electives to complete the required 50 s.h. in Department of Dance courses.

### CORE COURSES

027:053 Human Anatomy	3 s.h.
137:040 Introduction to Dance Studies	1 s.h.
137:050 Dance Production	3 s.h.

137:051 Production Run Crew (2 s.h. required)	1-2 s.h.
137:060 Music Essentials for Dance	2 s.h.
137:080/188:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
137:147/049:108 Dance Kinesiology	3 s.h.
137:181 Dance History	3 s.h.

### STUDIO COURSES

137:070 Choreography I	2 s.h.
137:071 Choreography II	2 s.h.
137:134 Improvisation I	2 s.h.

### DANCE TECHNIQUE

Dance majors must take 6 s.h. each of ballet and of modern dance technique; students choose 20 s.h. from the following. All courses may be repeated.

137:022 Intermediate Jazz	2 s.h.
137:023 Intermediate Ballet	2 s.h.
137:024 Intermediate Modern	2 s.h.
137:103 Major Ballet I	1-3 s.h.
137:104 Major Modern Dance I	1-3 s.h.
137:113 Major Ballet II	1-3 s.h.
137:114 Major Modern Dance II	1-3 s.h.
137:123 Major Ballet III	1-3 s.h.
137:124 Major Modern Dance III	1-3 s.h.
137:130 Major Modern Dance IV	1-2 s.h.
137:133 Ballet Pointe II	1 s.h.

### DANCE ELECTIVES

Listed below are some recommended courses to fulfill the dance elective credits.

137:030 Ballet Pointe I	1 s.h.
137:133 Ballet Pointe II	1 s.h.
137:157 Brazilian Carnival	3 s.h.
137:160 Introduction to Laban Movement Studies	2-3 s.h.
137:174 Introduction to Afro-Cuban Dance	1 s.h.

Credit earned in Department of Dance courses (prefix 137) that is not used to satisfy core, studio, or dance technique degree requirements is counted toward the dance elective requirement. Dance electives complete the 50 s.h. of dance courses required for the Bachelor of Arts.

The required number of semester hours in dance electives varies depending on whether the student completes the core with dance courses or with cross-referenced courses from another department, or has a core requirement waived.

### Bachelor of Fine Arts

The Bachelor of Fine Arts in dance requires a minimum of 120 s.h., including 78 s.h. of work for the major (75 s.h. in dance and 3 s.h. in a required anatomy course). In contrast to the B.A., the B.F.A. emphasizes choreography and performance through an additional 25 s.h. of choreography, performance, and technique. Students may be admitted to the B.F.A. program after they have completed a minimum of 30 s.h. at The University of Iowa. Students who have achieved the equivalent of major II technique and who show academic and professional promise are selected by department faculty for admission to the program.

Students must complete the College of Liberal Arts and Sciences General Education Program.

All B.F.A. students must complete 027:053 Human Anatomy (3 s.h.). The required 75 s.h. in Department of Dance courses must include three semesters of 137:123 Major Ballet III or 137:130 Major Modern Dance IV with a grade of B-minus or higher. B.F.A. students are required to maintain a cumulative g.p.a. of at least 3.50 in dance department courses. They also must earn at least half of the semester hours in the major at The University of Iowa. No more than 75 s.h. in Department of Dance courses may be counted toward the 120 s.h. required for the B.F.A.

The department encourages B.F.A. students to register for cross-referenced core courses under the Department of Dance course number (prefix 137). Cross-referenced courses are those with more than one course number (e.g., 137:080/188:080 Dance and Society).

### CORE COURSES

B.F.A. students should register for cross-listed courses under the Department of Dance course number (prefix 137).

027:053 Human Anatomy	3 s.h.
137:040 Introduction to Dance Studies	1 s.h.
137:050 Dance Production	3 s.h.
137:051 Production Run Crew (2 s.h. required)	1-2 s.h.
137:060 Music Essentials for Dance	2 s.h.
137:080/188:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
137:147/049:108 Dance Kinesiology	3 s.h.
137:181 Dance History	3 s.h.

### STUDIO COURSES

137:070 Choreography I	2 s.h.
137:071 Choreography II	2 s.h.
137:106 Dance Performance (6 s.h. required)	1 s.h.
137:134 Improvisation I	2 s.h.
137:170 Choreography III	2 s.h.

### DANCE TECHNIQUE

Students are required to complete 14 s.h. each of ballet and modern dance courses and a total of 32 s.h. of technique, chosen from the following (all courses are repeatable).

137:103 Major Ballet I	1-3 s.h.
137:104 Major Modern Dance I	1-3 s.h.
137:113 Major Ballet II	1-3 s.h.
137:114 Major Modern Dance II	1-3 s.h.
137:123 Major Ballet III	1-3 s.h.
137:124 Major Modern Dance III	1-3 s.h.
137:130 Major Modern Dance IV	1-2 s.h.
137:133 Ballet Pointe II	1 s.h.
137:157 Brazilian Carnival	3 s.h.
137:160 Introduction to Laban Movement Studies	2-3 s.h.
137:174 Introduction to Afro-Cuban Dance	1 s.h.

### DANCE ELECTIVES

B.F.A. students choose advanced-level elective course work by selecting one of the following three options.

Option 1 (one pedagogy course):

137:143 Elementary Ballet Pedagogy	3 s.h.
or	
137:144 Teaching of Modern Dance	3 s.h.

Option 2 (one advanced history or theory course):

137:202 Theories of Dance and the Body	3 s.h.
or	
137:182 The Contemporary Dance Scene	3 s.h.

Option 3 (two choreography courses):

137:171 Choreography IV	2 s.h.
-------------------------	--------

**137:172 Independent Choreography**

1 s.h.

Credit earned in Department of Dance courses (prefix 137) that is not used to satisfy core, studio, or dance technique degree requirements is counted toward the dance elective requirement. Dance electives complete the 75 s.h. of dance courses required for the Bachelor of Fine Arts.

The required number of semester hours in dance electives varies depending on whether the student completes the core with dance courses or with cross-referenced courses from another department, or has a core requirement waived.

**SENIOR PROJECT**

B.F.A. students culminate their experience with senior projects in choreography or performance. The senior project also may be taken for honors credit.

**137:141 B.F.A. Senior Project in Dance**

arr.

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Department of Dance course work beyond 50 s.h. for a B.A. and 75 s.h. for a B.F.A. does not apply toward semester hours required for graduation.

**Bachelor of Arts**

**Before the third semester begins:** 12 s.h. of courses in the major and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 24-32 s.h. of courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** 36-48 s.h. of courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 42-50 s.h. of courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**Bachelor of Fine Arts**

**Before the third semester begins:** 16 s.h. of courses in the major and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 25-40 s.h. of courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** 45-60 s.h. of courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 57-75 s.h. of courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**Honors**

In order to pursue honors studies in the Department of Dance, a student must be a member of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Honors students in dance must maintain a g.p.a. of at least 3.50 in UI dance department courses.

The honors program in dance is designed to serve and recognize outstanding students in the areas of choreography, performance, and special projects. It requires 8-10 s.h. To complete the honors program in dance, students must take two courses for honors credit and complete an honors project. All honors projects must be approved by the dance department faculty.

**Minor**

The minor in dance requires a minimum of 15 s.h. in University of Iowa Department of Dance courses, including 12 s.h. in 100-level courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

The minor must include the following course work.

137:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts 3 s.h.

One of these:

137:134 Improvisation I 2 s.h.

137:147 Dance Kinesiology 3 s.h.

137:157 Brazilian Carnival 3 s.h.

137:160 Introduction to Laban Movement Studies 2-3 s.h.

137:174 Introduction to Afro-Cuban Dance 1 s.h.

137:181 Dance History 3 s.h.

Students must complete one of these six courses in order to be admitted to any 100-level dance technique class.

Students must audition on campus in order to be admitted to the minor and for placement in dance classes. Auditions are offered four times per year. For audition information, contact the department or visit the Department of Dance web site.

### Graduate Program

The department offers a Master of Fine Arts in dance, with a choice of choreography or performance track. Students must audition on campus in order to be admitted to the M.F.A. program.

### Master of Fine Arts

The Master of Fine Arts in dance requires a minimum of 60 s.h. of graduate credit. The program is designed to be completed in four to six semesters in residence. Students who demonstrate accomplishment in dance performance and/or choreography may apply for admission to the M.F.A. program. Applicants select the choreography or the performance track before they are admitted.

Admission is based on a review of videotaped choreographic and performance work; letters of recommendation; application materials; and an on-campus audition, in which applicants teach one or more classes and take advanced classes in ballet and modern technique.

Advanced technique (ballet and/or modern) and demonstrated accomplishment in performance or choreography are prerequisites for admission to the M.F.A. program.

The M.F.A. requires the following course work.

#### DANCE CORE

A total of 19 s.h. of core course work is required for both the performance and the choreography track.

137:143 Elementary Ballet Pedagogy 3 s.h.

or

137:144 Teaching of Modern Dance 3 s.h.

137:200 Graduate Seminar in Dance 2 s.h.

137:201 Graduate Production Practicum 1 s.h.

137:202 Theories of Dance and the Body 3 s.h.

137:234 Graduate Improvisation I 1-2 s.h.

or

137:235 Graduate Improvisation II 2 s.h.

137:277 Thesis (8 s.h. required) arr.

**DANCE TECHNIQUE**

The performance track requires 18 s.h. from the following, the choreography track requires 12 s.h.; courses may be repeated. Performance track students must take a minimum of 4 s.h. of modern dance and 4 s.h. of ballet.

137:103 Major Ballet I	1-3 s.h.
137:104 Major Modern Dance I	1-3 s.h.
137:213 Graduate Majors Ballet II	1-3 s.h.
137:214 Graduate Majors Modern II	1-3 s.h.
137:223 Graduate Majors Ballet III	1-3 s.h.
137:224 Graduate Majors Modern III	1-3 s.h.
137:230 Graduate Major Modern IV	1-2 s.h.

**EMPHASIS COURSES**

A total of 14 s.h. is required for both the choreography and the performance track.

**Choreography Track**

137:206 Graduate Dance Performance (1 s.h. each performance, 2 s.h. total)	1 s.h.
137:274 Graduate Independent Choreography (1 s.h. each project, 4 s.h. total)	1 s.h.

A total of 8 s.h. from these:

137:272 Graduate Choreography III	2 s.h.
137:273 Graduate Choreography IV	2 s.h.
137:275 Collaborative Performance	4 s.h.

**Performance Track**

M.F.A. performance track candidates must earn 12 s.h. in performance courses and 2 s.h. in choreography courses.

137:107 Repertory Dance Company (4 s.h. per year, 0-8 s.h. total)	0-4 s.h.
137:206 Graduate Dance Performance (1 s.h. each performance, 4-12 s.h. total)	1 s.h.
137:274 Graduate Independent Choreography (1 s.h. each project, 2 s.h. total)	1 s.h.
or	
A course from the choreography sequence (137:270-137:273)	2 s.h.

**ELECTIVES**

M.F.A. candidates in performance must earn a total of 9 s.h. in elective courses numbered 100 or above. A minimum of 6 s.h. must be earned in non-dance department courses. The remaining 3 s.h. must be earned in 137:147 Dance Kinesiology, 137:181 Dance History, or 137:182 The Contemporary Dance Scene.

M.F.A. candidates in choreography must earn a total of 15 s.h. in elective courses numbered 100 or above. A minimum of 6 s.h. must be earned in non-dance department courses; 6 s.h. must be earned in a course or courses that provide research material for the thesis. The remaining 3 s.h. must be earned in 137:147 Dance Kinesiology, 137:181 Dance History, or 137:182 The Contemporary Dance Scene.

**Facilities**

The Department of Dance houses six technique studios, a movement training lab, a media classroom and library, a media laboratory, an audio recording laboratory, and its own theater for dance concerts.

## Dance Courses

### Primarily for Undergraduates

**137:001 Beginning Tap** 1-2 s.h.  
Elementary techniques, steps, and performance skills for rhythm and show tap styles; enhancement of rhythmic ability through exercises, improvisation, creative activities; may include history of tap. Tap shoes required. GE: Fine Arts.

**137:002 Beginning Jazz** 1-2 s.h.  
Basic movement fundamentals, terminology, performance skills of jazz dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Fine Arts.

**137:003 Beginning Ballet** 1-2 s.h.  
Basic movement fundamentals, terminology, performance skills of ballet; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; barre and center combinations; terminology; may include history of ballet. GE: Fine Arts.

**137:004 Beginning Modern Dance** 1-2 s.h.  
Basic movement fundamentals, terminology, performance skills of modern dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of modern dance. GE: Fine Arts.

**137:011 Continuing Tap** 1-2 s.h.  
Continuation of 137:001. GE: Fine Arts.

**137:012 Continuing Jazz** 1-2 s.h.  
Continuation of 137:002; skills for technique and performance of jazz dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Fine Arts.

**137:013 Continuing Ballet** 1-2 s.h.  
Continuation of 137:003; skills necessary for technique and performance of ballet; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; barre and center combinations; terminology; may include history of ballet. GE: Fine Arts.

**137:014 Continuing Modern Dance** 1-2 s.h.  
Continuation of 137:004; skills necessary for the technique and performance of modern dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of modern dance. GE: Fine Arts.

**137:022 Intermediate Jazz** 1-2 s.h.  
Low intermediate technique and performance training in jazz dance; flexibility, strength, body alignment, and coordination as foundation for more advanced dance artistry, including mobility, musicality, style; warm-up, locomotion, center combinations; may include history of jazz dance. Requirements: audition. GE: Fine Arts.

**137:023 Intermediate Ballet** 1-2 s.h.  
Low intermediate technique and performance training in ballet; flexibility, strength, body alignment, and coordination as foundation for more advanced dance artistry, including more difficult steps, musicality, mobility, balance; basic ballet terminology, including steps, head, body, arm positions; variations in timing, changes of facing. GE: Fine Arts.

**137:024 Intermediate Modern** 1-2 s.h.  
Low intermediate technique and performance training in modern dance; flexibility, strength, body alignment, and breath as foundation for more advanced dance artistry, including musicality, mobility, balance, improvisation; variations in timing, changes of facing. GE: Fine Arts.

**137:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**137:030 Ballet Pointe I**

1 s.h.

Basic techniques and training for ballet pointe; repetition and analysis of steps and combinations, assimilation of new material; barre and center exercises, pirouettes and turns commonly performed *en pointe*, learning and performing variations drawn from repertory. Requirements: previous ballet training and experience.

**137:034 Beginning/Contact Improvisation**

1-2 s.h.

Concepts of dance improvisation and contact improvisation; cultivation of creative freedom through the use and invention of movement; range of expression broadened through personal movement capacity, spontaneity and imagination, ability to make and commit to movement choices; new approaches to moving and movement elements such as time, space, motion, qualities, dynamics; shared weight, support, counter-balancing, elementary partnering; studio course.

**137:040 Introduction to Dance Studies**

1 s.h.

Introduction to dance studies in the liberal arts; breadth and diversity of contemporary scholarship on dance; dance history, criticism, ethnography, theory, conditioning and injury prevention, improvisation, choreography, technology.

**137:047 Topics in Body Conditioning**

2 s.h.

Somatic training techniques that address conditioning needs of dancers--yoga for dancers, pilates, release techniques; other somatic studies related to injury prevention, concentration, flexibility, efficient movement, strength training. Requirements: dance major or minor.

**137:050 Dance Production**

3 s.h.

Scenic design, costuming, lighting, audio/video, publicity; visits by professional guest lecturers, field trips to creative shops; projects.

**137:051 Production Run Crew**

1-2 s.h.

Hands-on experience in production work for live dance performance. Prerequisites: 137:050.

**137:060 Music Essentials for Dance**

2 s.h.

Evolution of music and dance from prehistoric times to the present; rhythmic analysis and fundamental music theory for dance students.

**137:070 Choreography I**

2 s.h.

Introduction to theories and practices of creating choreography; locating varied sources for movement; elementary considerations of choreographic form; development of ideas, impulses, and initial inspirations into short works; fundamentals of giving and receiving critical feedback; articulation of thoughts and experience as composers and watchers of choreography; exposure to choreographic concerns supported by video and reading.

**137:071 Choreography II**

2 s.h.

Continuation of 137:070; development of intermediate choreographic skills; emphasis on cultivation of individual choreographic voice through expansion of vocabulary, discovery of complex ways to form and arrange, and use of widening range of methods and types of resources.

**137:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts**

3 s.h.

Dance and other physical endeavors as embodied forms of knowledge and culture; U.S. dance practices; European and African dance cultures; aesthetic and political issues raised by concert dance (i.e., performance, choreography, spectatorship, criticism); ethnographic methods to examine the function of dance in cultural formation (i.e., spiritual, celebratory, social, political contexts); lecture, discussion, viewing, movement workshops, formal and informal writing, field research, and WIKI construction. GE: Fine Arts, Humanities. Same as 188:080.

**137:103 Major Ballet I**

1-3 s.h.

Builds on 137:023; intermediate technical and performance training in ballet; flexibility, strength, body alignment, and coordination as foundation for introduction of more advanced aspects of dance artistry, including steps, musicality, mobility, balance; terminology related to barre and center vocabulary, including steps, head, body, and arm positions; practice of steps and combinations, variations in timing, changes of facing. GE: Fine Arts.

**137:104 Major Modern Dance I**

1-3 s.h.



Builds on 137:024; intermediate technical and performance training in modern dance; physical and mental skills for transition to more advanced dance--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing; basic physical concepts underlying clear and efficient movement; assimilation of new movement material; center of gravity and its role in body mobilization and control; personal movement choices, and expressive range. GE: Fine Arts.

### **137:106 Dance Performance**

0-1 s.h.

Credit for rehearsal hours and performance of dance works in produced dance concerts. Requirements: audition and/or concert adjudication. GE: Fine Arts.

### **137:107 Repertory Dance Company**

0-4 s.h.

Advanced repertory studies; learning and performing multiple works by professional guest artists, faculty, and invited graduate students; collaborative creation and performing in community outreach lecture-demonstration throughout Iowa and the region. Requirements: audition.

### **137:113 Major Ballet II**

1-3 s.h.

High intermediate training in ballet technique and performance; physical and mental skills necessary for more advanced work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. GE: Fine Arts.

### **137:114 Major Modern Dance II**

1-3 s.h.

High intermediate technical and performance training in modern dance; physical and mental skills necessary for more advanced work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range. GE: Fine Arts.

### **137:120 Floor Barre**

2 s.h.

Introduction to Beamish-based floor barre technique. Prerequisites: 137:023.

### **137:123 Major Ballet III**

1-3 s.h.

Advanced training in ballet technique and performance; physical and mental skills necessary for professional work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. GE: Fine Arts.

### **137:124 Major Modern Dance III**

1-3 s.h.

Advanced technical and performance training in modern dance; physical and mental skills necessary for professional work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range; may include partnering exercises for investigation of weight exchange, timing, expressivity. GE: Fine Arts.

### **137:130 Major Modern Dance IV**

1-2 s.h.

Professional technique and performance training in modern dance.

### **137:133 Ballet Pointe II**

1-2 s.h.

Intermediate/advanced techniques and training for ballet pointe work; repetition and analysis of steps and combinations, assimilation of new material; barre and center exercises, pirouettes and turns commonly performed *en pointe*, learning and performing variations drawn from repertory.

### **137:134 Improvisation I**

2 s.h.

Introduction to movement as research; experimental process as vehicle for invention, creative freedom, aesthetic range; development of kinesthetic imagination, awareness, creative problem solving; introduction to issues of artistic originality and authenticity; practical integration of improvisation and composition through spontaneous manipulation of time, space, and energy; knowledge of creative process supported by reading and individual research.

### **137:135 Improvisation II**

2 s.h.

Advanced concepts in compositional improvisation; in-depth individual exploration, spontaneous ensemble composition; increasing authenticity, depth, and range; integrity in relating to the whole ensemble; connecting creative process to other bodies of knowledge; making contact with emerging premise; reading and discussion as integration of conceptual and experiential; speaking and writing as improvisational process. Prerequisites: 137:134.

**137:137 Partnering Class** 1 s.h.

The art of partnering in dance, from salsa to Swan Lake; power sharing on the dance floor, including supported poses, balance, musical and physical timing, unity of movement, eloquence of gesture; for advanced dancers with strong coordination skills.

**137:139 Acting for Dancers** 3 s.h.

Beginning acting for dancers; spontaneity and expression, sources of action and reaction through theater games; emotional journey in effective drama and comedy; drama, comic structure, and tension through character and script analysis.

**137:140 Honors Project in Dance** arr.

Research, choreographic, reconstruction, or performance project under guidance of a faculty advisor. Requirements: senior standing.

**137:141 B.F.A. Senior Project in Dance** arr.

Senior year choreographic/performance capstone to complete B.F.A. in dance under supervision of faculty adviser; culminates in public showing or produced concert. Requirements: admitted to B.F.A. program in dance and senior standing.

**137:143 Elementary Ballet Pedagogy** 3 s.h.

Methods, materials, concepts for teaching ballet techniques.

**137:144 Teaching of Modern Dance** 3 s.h.

Practices of teaching modern dance; information and experience for developing an individualized approach to teaching; educational methodology for defining essential elements of a modern class, approaches for planning and structuring classes.

**137:147 Dance Kinesiology** 3 s.h.

Body science related to demands of dance; structural and muscular analysis for efficient, effective dance training and prevention of injuries; investigation of skeletal and ligamentous structure for working knowledge of how the body produces movement; joint actions and restrictions, common injuries to those sites; attachments of the voluntary muscles, pathways and potential actions; neuromuscular analysis of an action; functional skeletal alignment; how individual differences may affect movement performance. Prerequisites: 027:053. Same as 049:108.

**137:149 Honors Studies in Dance** arr.

Choreography, performance, production, Labanotation, dance history, or pedagogy. Requirements: g.p.a. of 3.33 or higher.

**137:157 Brazilian Carnival** 3 s.h.

Dance, music, historical, and social contents of Brazilian Carnival production, critical theories of performance, religious backgrounds, and theatre making in carnival parades.

**137:160 Introduction to Laban Movement Studies** 2-3 s.h.

Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically-efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as 025:167, 049:105, 188:167.

**137:161 The Arts in Performance** 3 s.h.

GE: Fine Arts, Humanities. Same as 033:161, 049:161, 188:161.

**137:170 Choreography III** 2 s.h.

Continuation of 137:071; increased emphasis on invention, clarity, sophistication, and development of complete works; creation of sharply defined mature movement worlds; increasingly thorough consideration of sources and methods, responsibility for applying course work to self-defined artistic concerns and emerging individual aesthetic; advanced theories and methods through video, reading, choreographic research.

**137:171 Choreography IV** 2 s.h.

Continuation of 137:170; advanced theories and practices of choreography; complex concepts, methods, applications; analytical and creative connections with bodies of knowledge across the liberal arts and sciences; complete development of multiple works; advanced practice in critical feedback and articulation of ideas about process and product; development through reading, video, extensive creative research.

**137:172 Independent Choreography** arr.

Credit for creation of independent choreographic project, developed under guidance of faculty advisor, that results in production of a dance work.

**137:173 Introduction to the Alexander Technique** 3 s.h.

The Alexander Technique and "self-use"--how our movement choices affect the results we achieve; improving physical skills and presence; principles from the Alexander Technique in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting) and applied to skills in daily life, addressing the underpinnings of movement; physical participation, including laying, rolling, sitting, standing, and locomotion. Same as 025:176, 049:170, 188:168.

**137:174 Introduction to Afro-Cuban Dance** 1 s.h.

Introduction to the dance, drumming, and songs of the Afro-Cuban folkloric traditions; emphasis on dance. May participate in UI Afro-Cuban Drum and Dance ensemble. Corequisites: 137:175 or 188:175, if not taken as a prerequisite. Same as 188:174.

**137:175 Afro-Cuban Drum and Dance Performance** 1 s.h.

Dance repertory for the UI Afro-Cuban Drum and Dance Ensemble. Performance pieces based on dance, drumming, songs of the Afro-Cuban folkloric traditions. May participate in UI Afro-Cuban Drum and Dance Ensemble. Prerequisites: 025:173 or 137:174 or 188:173 or 188:174. Requirements: audition. Same as 188:175.

**137:181 Dance History** 3 s.h.

Dance history in the 19th and 20th centuries; changes in dance training and technique, theory, composition, performance practices in context of broader social, political, and cultural trends; how dance and choreographic practices have changed over time, relationships between social ideas about embodiment and production of dance forms, precedents for contemporary dance practices in past forms.

**137:182 The Contemporary Dance Scene** 3 s.h.

Historical, theoretical, and practical elements of contemporary dance; the term "postmodern" and its associations with dance, performing arts, contemporary culture; relationships between process and product, identity and subjectivity, artistic intent and authorship, meaning and intertextuality; possibility of art as a form of dissent; theory and practice placed in a dialectic; analysis and synthesis of previous research. Same as 188:182.

**137:190 Independent Study** arr.

Credit for an individual student-designed project coordinated with a faculty advisor. Requirements: sophomore or higher standing.

## **Primarily for Graduate Students**

**137:200 Graduate Seminar in Dance** 2 s.h.

Research, careers, administrative, educational, professional, artistic topics.

**137:201 Graduate Production Practicum** 1 s.h.

Scenery and costume design, lighting, audio/video, publicity.

**137:202 Theories of Dance and the Body** 3 s.h.

Theoretical trends in studies of dance and physical bodies; performative and choreographic aspects of being. Same as 188:202.

- 137:206 Graduate Dance Performance** 0-1 s.h.  
Credit for rehearsal hours and performance of dance works in produced dance concerts. Repeatable. Requirements: audition and/or concert adjudication.
- 137:213 Graduate Majors Ballet II** 1-3 s.h.  
High intermediate technique and performance training; physical and mental skills necessary for more advanced work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. Repeatable.
- 137:214 Graduate Majors Modern II** 1-3 s.h.  
High intermediate technical and performance training in modern dance; physical and mental skills necessary for more advanced work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range. Repeatable.
- 137:223 Graduate Majors Ballet III** 1-3 s.h.  
Advanced ballet technique and performance training for proficient dancers; physical and mental skills necessary for professional work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, understanding of basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. Repeatable.
- 137:224 Graduate Majors Modern III** 1-3 s.h.  
Advanced technical and performance training in modern dance; physical and mental skills necessary for professional work--physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, understanding of basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range. Repeatable.
- 137:230 Graduate Major Modern IV** 1-2 s.h.  
Professional technique and performance training in modern dance.
- 137:234 Graduate Improvisation I** 1-2 s.h.  
Dance improvisation.
- 137:235 Graduate Improvisation II** 2 s.h.  
Advanced improvisation.
- 137:272 Graduate Choreography III** 2 s.h.  
Continuation of 137:271; advanced choreographic concepts, methods, and applications with focus on the creative mind and choreographic process; concepts and experiences that support development of advanced choreographic skills and innovative dances.
- 137:273 Graduate Choreography IV** 2 s.h.  
Advanced choreography concepts, methods, applications.
- 137:274 Graduate Independent Choreography** arr.  
Credit for creation of an independent choreographic project, developed under guidance of faculty advisor, that results in production of a dance work.
- 137:275 Collaborative Performance** 1-4 s.h.  
Collaborative experience with advanced artists from varied disciplines that culminates in a final performance; emphasis on sharing and investigating ideas, artistic intent, personal vision, and creating collaborative projects. Same as 049:275, 188:275.
- 137:277 Thesis** arr.

**137:290 Graduate Independent Study**

arr.

Credit for individually designed project coordinated with a faculty advisor.

## Division of Performing Arts

**Director:** Alan MacVey

**Undergraduate degree:** B.A. in Performing Arts Entrepreneurship

**Undergraduate nondegree program:** Certificate in Performing Arts Entrepreneurship

**Web site:** <http://performingarts.uiowa.edu>

The Division of Performing Arts includes the Department of Dance, the School of Music, and the Department of Theatre Arts. The division fosters interdisciplinary collaboration among these units, coordinates artistic and academic activities, and sponsors a full array of performances and symposia. Performances are supported by professional staff in the division's Performing Arts Production Unit.

The division's individual academic units offer undergraduate and graduate courses and degree programs in creative, performance, scholarly, and theoretical areas. They present an extensive schedule of dance productions, faculty and student recitals, ensemble concerts, and mainstage and gallery theater productions.

The division also partners with the John Pappajohn Entrepreneurial Center, in the Tippie College of Business, to offer the Certificate in Performing Arts Entrepreneurship. The certificate program combines courses in accounting, marketing, and financial management with those focused on arts management and leadership practices in commercial as well as nonprofit arts organizations.

The division also is home to an arts outreach program, Arts Share.

For information about the division and its programs and events, visit the Division of Performing Arts web site.

## Economics

**Chair:** John L. Solow

**Professors:** Gary C. Fethke (Leonard A. Hadley Professor of Leadership), John W. Fuller, Srihari Govindan (Lloyd J. and Thelma W. Palmer Research Fellow), Marlynn Beth Ingram (Henry B. Tippie Professor of Economics), Daniel J. Kovenock (J. Edward Lundy Professor), Forrest D. Nelson (Henry B. Tippie Research Fellow), George R. Neumann (George Daly Professor of Economics), B. Ravikumar (Henry B. Tippie Research Professor of Economics), Raymond G. Riezman (C. Woody Thompson Professor), Charles H. Whiteman (Leonard A. Hadley Chair in Leadership)

**Professors emeriti:** William P. Albrecht, Carol C. Fethke, John F. Geweke, Hyman Joseph, Gerald L. Nordquist, Thomas F. Pogue, N.E. Savin, Larry G. Sgontz, Calvin D. Siebert, S.Y. Wu

**Associate professors:** John L. Solow (Michael Sandler Research Fellow), Gustavo J. Ventura (Dore Research Fellow)

**Assistant professors:** Antonio Galvao Jr., Ayca Kaya, Kyungmin (Teddy) Kim, Elena Pastorino, Guillaume Vandenbroucke, Yuzhe Zhang

**Lecturers:** Stacey L. Brook, Jennifer L. Fuhrman, Blake Whitten

**Undergraduate degrees:** B.A., B.S., B.B.A. in Economics

**Undergraduate nondegree program:** Minor in Economics

**Graduate degrees:** M.A., Ph.D. in Economics

**Web site:** <http://www.tippie.uiowa.edu/economics>

Economics is the study of how societies allocate limited resources to achieve competing ends. Using both empirical and deductive methods, economics analyzes incentives, constraints, organizational forms, and market forces to understand patterns of production, exchange, and consumption of goods and services. It treats diverse issues such as wealth and poverty, government expenditures and taxation, prosperity and depression, inflation and unemployment, relations between management and labor, economic growth, environmental protection, health care delivery, the war on drug abuse, free trade versus protectionism, U.S. competitiveness in international markets, and the quality of American education.

The Department of Economics offers degree programs for undergraduates and for graduate students. It also partners with the Departments of Philosophy and Sociology to offer a Bachelor of Arts in ethics and public policy, an interdisciplinary major administered by the Department of Philosophy in the College of Liberal Arts and Sciences; see Ethics and Public Policy in the Catalog.

## Undergraduate Programs

The department offers three undergraduate degrees: a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) in economics awarded by the College of Liberal Arts and Sciences, and a Bachelor of Business Administration (B.B.A.) in economics awarded by the Tippie College of Business.

The department also partners with the Departments of Philosophy and Sociology to offer a Bachelor of Arts in ethics and public policy, an interdisciplinary major administered by the Department of Philosophy in the College of Liberal Arts and Sciences; see Ethics and Public Policy in the Catalog.

The B.A. in economics is designed to achieve a balance of economic theory, mathematical tools, and field applications. The B.S. maintains a similar balance but emphasizes development of analytical tools; it prepares students for graduate work in economics or related business and technical fields. The B.B.A. emphasizes economic foundations of business fields: accounting, finance, marketing, business law, and management.

Each program provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. Economics also provides excellent preparation for the study of law and for graduate study in fields such as business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

All students majoring in economics choose one of three tracks: business economics, policy economics, or analytical economics. The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

Each degree program (B.A., B.S., and B.B.A.) has three sets of requirements: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The applied field course requirement varies, depending on the student's choice of track.

### Bachelor of Arts

The Bachelor of Arts in economics requires a minimum of 120 s.h., including 32 s.h. of work for the major. The program provides a balance of economic theory, mathematical tools, and field applications. It offers good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The major requires a set of courses in mathematics and statistics (11 s.h.), a set in economic theory (6 s.h.), and a set

of applied field courses (15 s.h.). Students must choose one of three tracks: business economics, policy economics, or analytical economics. The applied field courses vary depending on the student's choice of track.

The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

All B.A. students in economics must complete the College of Liberal Arts and Sciences General Education Program.

Students may count a maximum of 6 s.h. of transfer or correspondence credit toward the required 21 s.h. in 100-level economics courses; additional transfer or correspondence credit must be approved by the director of undergraduate studies. Students should take the economic theory courses (06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics, and 06E:105 Macroeconomics) at The University of Iowa.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see "Prerequisites" below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.A.) requires the following courses.

#### **MATHEMATICS AND STATISTICS COURSES**

06E:071 Statistics for Strategy Problems	3 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

#### **ECONOMIC THEORY COURSES**

06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics	3 s.h.  3 s.h.
06E:105 Macroeconomics	3 s.h.

#### **APPLIED FIELD COURSES**

Five courses are required; course selection is determined by the student's choice of track.

##### **Business Economics Track**

Five of these:

06A:002 Managerial Accounting	3 s.h.
06E:111 Personnel Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:160 Household Finance	3 s.h.
06J:048 Introduction to Management	3 s.h.

##### **Policy Economics Track**

Four of these:

06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:145 Transportation Economics	3 s.h.



06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.
06E:172 Law and Economics	3 s.h.

One additional economics course numbered 06E:111 - 06E:189

#### **Analytical Economics Track**

Four of these:

06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

One additional economics course numbered 06E:111 - 06E:189

#### **Prerequisites**

Prerequisites for most 100-level courses in economics: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics

Prerequisites for 06E:104 Microeconomic Theory: 06E:001 Principles of Microeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for 06E:105 Macroeconomics: 06E:002 Principles of Macroeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisite for 06E:071 Statistics for Strategy Problems: 22S:008 Statistics for Business

Prerequisites for courses numbered 06E:171 and above: 06E:104 Microeconomic Theory or 06E:105 Macroeconomics, or both, depending on the course

#### **Bachelor of Science**

The Bachelor of Science in economics requires a minimum of 120 s.h., including 33-35 s.h. of work for the major. The program addresses economic theory, mathematical tools, and field applications, with an emphasis on developing skill using analytic tools. It offers good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The major requires a set of courses in mathematics and statistics (15-17 s.h.), a set in economic theory (6 s.h.), and a set of applied field courses (12 s.h.). Students must choose one of three tracks: business economics, policy economics, or analytical economics. The applied field courses vary depending on the student's choice of track.

The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

All B.S. students in economics must complete the College of Liberal Arts and Sciences General Education Program.

Students may count a maximum of 6 s.h. of transfer or correspondence credit toward the required 18 s.h. in 100-level economics courses; additional transfer or correspondence credit must be approved by the director of undergraduate studies. Students should take the economic theory courses (06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics, and 06E:105 Macroeconomics) at The University of Iowa.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see "Prerequisites" below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.S.) requires the following courses.

**MATHEMATICS AND STATISTICS COURSES**

06E:184 Introduction to Econometrics	3 s.h.
22M:025 Calculus I	4 s.h.
22M:026 Calculus II	4 s.h.
22S:120 Probability and Statistics	4 s.h.
or	
22S:130-22S:131 Introduction to Mathematical Statistics I-II	6 s.h.

The department recommends that students planning to pursue a graduate degree in economics take 22S:130 Introduction to Mathematical Statistics I and 22S:131 Introduction to Mathematical Statistics II in place of 22S:120 Probability and Statistics, and that they take additional courses in mathematics, including 22M:027 Introduction to Linear Algebra, 22M:028 Calculus III, and 22M:100 Introduction to Ordinary Differential Equations.

**ECONOMIC THEORY COURSES**

06E:104 Microeconomic Theory	3 s.h.
or	
06E:106 Advanced Microeconomics	3 s.h.
06E:105 Macroeconomics	3 s.h.

**APPLIED FIELD COURSES**

Four courses are required; course selection is determined by the student's choice of track.

**Business Economics Track**

Four of these:

06A:002 Managerial Accounting	3 s.h.
06E:111 Personnel Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:160 Household Finance	3 s.h.
06J:048 Introduction to Management	3 s.h.

**Policy Economics Track**

Three of these:

06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:145 Transportation Economics	3 s.h.
06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.
06E:172 Law and Economics	3 s.h.

One additional economics course numbered 06E:111 - 06E:189

**Analytical Economics Track**

Three of these:

06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

One additional economics course numbered 06E:111 - 06E:189

**Prerequisites**

Prerequisite for 22S:120 Probability and Statistics and 22S:130 Introduction to Mathematical Statistics I: 22M:026 Calculus II or 22M:032 Engineering Mathematics II: Multivariable Calculus

Prerequisites for most 100-level courses in economics: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics

Prerequisites for 06E:104 Microeconomic Theory: 06E:001 Principles of Microeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for 06E:105 Macroeconomics: 06E:002 Principles of Macroeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for courses numbered 06E:171 and above: 06E:104 Microeconomic Theory or 06E:105 Macroeconomics, or both, depending on the course

Prerequisite for 06E:184 Introduction to Econometrics: 22S:120 Probability and Statistics or 22S:131 Introduction to Mathematical Statistics II

**Bachelor of Business Administration**

The Bachelor of Business Administration in economics requires a minimum of 120 s.h., including 18 s.h. of work for the major. The program emphasizes economic foundations of business fields: accounting, finance, marketing, business law, and management. It provides good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

All students must complete the B.B.A. common requirements: the General Education courses, the prerequisites for admission to the Tippie College of Business, and the business core; see "Common Requirements" under Bachelor of Business Administration in the Tippie College of Business section of the Catalog.

The major requires a set of courses in mathematics and statistics, which students take as part of the B.B.A. common requirements; a set in economic theory (6 s.h.); and a set of applied field courses (12 s.h.). Students majoring in economics choose one of three tracks: business economics, policy economics, or analytical economics. The applied field courses vary depending on the student's choice of track.

The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

Students may request permission to apply a limited amount of transfer or correspondence credit toward requirements for the major, but they should take the economic theory courses (06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics, and 06E:105 Macroeconomics) at The University of Iowa.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see "Prerequisites" below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.B.A.) requires the following courses.

**MATHEMATICS AND STATISTICS COURSES**

Students take these courses as part of the B.B.A. common requirements.

06E:071 Statistics for Strategy Problems	3 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

#### **ECONOMIC THEORY COURSES**

06E:104 Microeconomic Theory	3 s.h.
or	
06E:106 Advanced Microeconomics	3 s.h.
06E:105 Macroeconomics	3 s.h.

#### **APPLIED FIELD COURSES**

Four courses are required; course selection is determined by the student's choice of track.

##### **Business Economics Track**

Four of these:

06E:111 Personnel Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:160 Household Finance	3 s.h.

##### **Policy Economics Track**

Three of these:

06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:145 Transportation Economics	3 s.h.
06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.
06E:172 Law and Economics	3 s.h.

One additional economics course numbered 06E:111 - 06E:189

##### **Analytical Economics Track**

Three of these:

06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

One additional economics course numbered 06E:111 - 06E:189

### **Prerequisites**

Prerequisites for most 100-level courses in economics: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics

Prerequisites for 06E:104 Microeconomic Theory: 06E:001 Principles of Microeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for 06E:105 Macroeconomics: 06E:002 Principles of Macroeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisite for 06E:071 Statistics for Strategy Problems: 22S:008 Statistics for Business

Prerequisites for courses numbered 06E:171 and above: 06E:104 Microeconomic Theory or 06E:105 Macroeconomics, or both, depending on the course

## **Four-Year Graduation Plan**

### **Bachelor of Arts, Bachelor of Science**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

These checkpoints apply to both the Bachelor of Arts and the Bachelor of Science.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least one-half of the semester hours required for graduation, 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics, and the math component of quantitative courses required for major

**Before the seventh semester begins:** three-quarters of the semester hours required for graduation, 06E:104 Microeconomic Theory and 06E:105 Macroeconomics, and one 100-level economics course

**Before the eighth semester begins:** three 100-level economics courses and the statistics component of the quantitative course requirement

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Bachelor of Business Administration**

The following checkpoints are designed for students who enter the University as first-year pre-business students. In order to stay on the plan, students must maintain the grade-point average required for guaranteed admission to the Tippie College of Business and must apply for admission to the college by the established deadline.

Students must take 06B:100 Business Communication and Protocol during their first year after admission to the Tippie College of Business.

**Before the third semester begins:** 06E:001 Principles of Microeconomics or 06E:002 Principles of Macroeconomics, 22M:017 Calculus and Matrix Algebra for Business, and 22S:008 Statistics for Business, or equivalents; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 06A:001 Introduction to Financial Accounting, 06A:002 Managerial Accounting, and 06E:001 Principles of Microeconomics or 06E:002 Principles of Macroeconomics (whichever has not already been taken), or equivalents; all General Education requirements; and at least half of the semester hours required for graduation

**Before the seventh semester begins:** business core requirements, approximately half of the course work in the major (varies by major), and three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** approximately three-quarters of course work in the major

**During the eighth semester:** all remaining course work in the major, and a sufficient number of semester hours to graduate

## **Honors**

## **Bachelor of Arts, Bachelor of Science**

Students in the College of Liberal Arts and Sciences working toward a B.A. or B.S. in economics are encouraged to take part in the honors program in economics, which provides opportunities for high-achieving students to pursue special research interests. Honors students in economics must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

To enter the honors program in economics, students must complete 06E:104 Microeconomic Theory and 06E:105 Macroeconomics before the senior year. Honors students typically register for 06E:194 Honors Seminar in the fall of the senior year. Then they define and complete a research project under the guidance of a supervising faculty member, earning up to 6 s.h. in 06E:195 Honors Thesis in Economics. The thesis is presented orally to a committee of three faculty members, typically the undergraduate honors advisor, the student's research supervisor, and a third faculty member agreed upon by the student and the honors advisor.

Interested students should consult the honors advisor by the second semester of their junior year.

## **Bachelor of Business Administration**

The Tippie College of Business offers qualified B.B.A. students the opportunity to pursue honors study. For more information, contact the Undergraduate Program Office or see "B.B.A. with Honors" in the Tippie College of Business section of the Catalog.

## **Minor**

The minor in economics requires a minimum of 15 s.h. in economics courses, including 12 s.h. taken at The University of Iowa in courses numbered above 06E:100. Students must maintain a g.p.a. of at least 2.00 in the minor.

## **Course Work for Nonmajors**

Students in the College of Liberal Arts and Sciences may wish to use economics courses as part of other majors or the General Education Program. The introductory courses 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics are approved for General Education in social sciences; they introduce the field of economics and the specialized topics of upper-division courses. The intermediate theory courses 06E:104 Microeconomic Theory and 06E:105 Macroeconomics provide a deeper foundation in the core theories and methods of the discipline. They serve as preparation for upper-division field courses or as terminal courses in an economics study plan.

Course work in economics can be related to majors in many other fields. For example, political science majors could elect 06E:119 Policy Analysis and 06E:125 Global Economics and Business; global studies majors, 06E:133 Environmental and Natural Resource Economics; pre-law students, 06E:171 Antitrust Economics and 06E:172 Law and Economics; mathematics and engineering majors, 06E:104 Microeconomic Theory and 06E:187 Mathematical Economics; and statistics majors, 06E:184 Introduction to Econometrics.

Some students combine related interests by pursuing double majors in economics and another field, such as computer science, geography, global studies, history, mathematics, political science, sociology, or statistics.

## **Undergraduate Economics Forum**

Students are invited to join the undergraduate Economics Forum. The group sponsors programs to help students plan for careers or graduate study and holds social events, special lectures, and round-table discussions. It provides opportunities for students to meet other economics majors and department faculty members.

## **Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in economics. It also offers a joint Doctor of Philosophy/Juris Doctor with the College of Law; see "Joint Ph.D./J.D." later in this section.

### **Master of Arts**

The Master of Arts is offered only to students working toward a Ph.D. in economics.

### **Doctor of Philosophy**

The Doctor of Philosophy in economics requires a minimum of 72 s.h. of graduate credit. The program provides rigorous training in economic theory, econometrics, and applied economics. It has six components: a coordinated

sequence of core courses, a qualifying examination, a research paper, a set of major field courses, a dissertation proposal and comprehensive examination, and a dissertation. Requirements are as follows.

## **CORE SEQUENCE**

### **First Semester**

06E:200 Economic Analysis I	3 s.h.
06E:203 Microeconomics I	3 s.h.
06E:204 Macroeconomics I	3 s.h.

### **Second Semester**

06E:201 Economic Analysis II	3 s.h.
06E:205 Microeconomics II	3 s.h.
06E:206 Macroeconomics II	3 s.h.

### **Third Semester**

06E:221 Econometrics	3 s.h.
----------------------	--------

### **Fourth Semester**

06E:222 Applied Econometrics	3 s.h.
------------------------------	--------

## **QUALIFYING EXAMINATION**

The qualifying examination is normally taken the summer after the first year.

## **RESEARCH PAPER**

The research paper is normally completed the summer after the second year.

## **MAJOR FIELD COURSES**

Each student chooses a major study area in addition to the core courses. The requirement for the major area is a minimum of 24 s.h. of intensive study in a field and in courses that enable students to understand the relationship between their specialty and related fields.

## **DISSERTATION PROPOSAL AND COMPREHENSIVE EXAMINATION**

Students must defend a dissertation proposal in a comprehensive examination within one year of completing the research paper requirement.

## **DISSERTATION**

Submission of the completed dissertation and an oral defense of the dissertation research completes the Ph.D. program.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Application deadline for admission and financial support is January 15 for fall semester entry.

Applicants must take the Graduate Record Examination (GRE) General Test and have their scores sent to the University. Those whose first language is not English and who do not hold a baccalaureate or advanced degree from

an accredited college or university in the United States must take the Test of English as a Foreign Language (TOEFL) and have their scores sent to the University.

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions. They may upload unofficial transcripts, statements of purpose, résumés, and reference information to the Tippie College of Business Ph.D. Applicant Portal.

### **Joint Ph.D./J.D.**

The Department of Economics and the College of Law offer a joint Ph.D./J.D. program; see Juris Doctor in the College of Law section of the Catalog. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

## **Special Seminar**

Each year the department offers a seminar program that brings eminent economists from other universities and from government agencies to The University of Iowa campus. Presentations by Department of Economics faculty members and students also are featured.

## **Economics Courses**

### **Primarily for Undergraduates**

Note: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics may be taken in either order or simultaneously. They are approved for General Education in social sciences for B.A. and B.S. students.

#### **06E:001 Principles of Microeconomics**

4 s.h.

Organization, workings of modern economic systems; role of markets, prices, competition in efficient allocation of resources and promotion of economic welfare; alternative systems; international trade. Requirements: B.B.A. students cannot use this course for General Education social sciences. GE: Social Sciences.

#### **06E:002 Principles of Macroeconomics**

4 s.h.

National income and output, employment and inflation; money, credit; government finance; monetary, fiscal policy; economic growth, development; international finance. Requirements: B.B.A. students cannot use this course for General Education social sciences. GE: Social Sciences.

#### **06E:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

#### **06E:071 Statistics for Strategy Problems**

3 s.h.

Continuation of 22S:008; working knowledge of statistical techniques, scientific data-based approach to problem formulation and solution, statistical techniques in the context of real data analysis, assessment of defects in statistical analyses, using data for making business decisions, choosing appropriate statistical procedures, developing skill in communicating statistical results to audiences without knowledge of statistics. Prerequisites: 22M:017 and 22S:008.

#### **06E:104 Microeconomic Theory**

3 s.h.

Economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity, conditions that markets require for efficient allocation of resources; market imperfections; strategic behavior of economic actors. Prerequisites: 06E:001 and 22M:017.

#### **06E:105 Macroeconomics**

3 s.h.

Measurement of macroeconomic indicators; economic growth and business cycles; use of macroeconomic models to study the role of government fiscal and monetary policies. Prerequisites: 06E:002 and 22M:017.

#### **06E:106 Advanced Microeconomics**

3 s.h.

Mathematical treatment of the economic theory of the behavior of consumers, producers, and other economic agents; the role of markets in coordinating economic activity and the conditions required by those markets for an efficient allocation of resources; market imperfections; and the strategic behavior of economic actors. Prerequisites: 06E:001, and 22M:017 or 22M:025. Recommendations: 22M:025.



**06E:111 Personnel Economics**

3 s.h.

Microeconomic analysis of labor markets, related institutions; labor supply decisions made by workers, labor demand decisions made by firms, market equilibrium; economic analysis of unions; returns to education; family decisions. Prerequisites: 06E:001 and 06E:002.

**06E:113 Health Economics**

3 s.h.

Structure of America's health care industry, economic analysis applied to its problems of production, pricing, distribution; cost-effectiveness, financing of medical costs, role of government. Prerequisites: 06E:001 and 06E:002.

**06E:117 Money, Banking, and Financial Markets**

3 s.h.

Role of money, institutions in determination of income, employment, prices in domestic and world economy. Prerequisites: 06E:001 and 06E:002.

**06E:119 Policy Analysis**

3 s.h.

Economic functions of government in modern economies; economic decision making; budgetary processes; effects of government expenditures, taxation on allocation of resources, distribution of income, economic growth, stability. Prerequisites: 06E:001 and 06E:002.

**06E:125 Global Economics and Business**

3 s.h.

Modern theories of international trade and investment; role of tariffs and other restrictions of international trade; foreign exchange markets, international monetary arrangements, international economic policy. Prerequisites: 06E:001 and 06E:002.

**06E:129 Economic Growth and Development**

3 s.h.

Determinants of rising living standards; accumulation of physical and human capital; predictions of economic growth models compared to observed changes in living standards. Prerequisites: 06E:001 and 06E:002.

**06E:133 Environmental and Natural Resource Economics**

3 s.h.

Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: 06E:001 and 06E:002.

**06E:135 Regional and Urban Economics**

3 s.h.

Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: 06E:001 and 06E:002.

**06E:141 Industry Analysis**

3 s.h.

Structural evolution; imperfect competition, resource allocation; development of public policy on monopoly; selected industries. Prerequisites: 06E:001 and 06E:002.

**06E:145 Transportation Economics**

3 s.h.

Overview of transportation markets--intercity, rural, urban; transportation modes--rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Prerequisites: 06E:001 and 06E:002. Same as 044:133, 102:133.

**06E:158 American Economic History**

3 s.h.

Emphasis on role of population and technology. Requirements: 06E:001 and 06E:002 for economics majors; 06E:001 and 16A:061 for non-economics majors. Same as 16A:144.

**06E:160 Household Finance**

3 s.h.

Micro- and macroeconomic theory applied to economic decisions of families, households; practical and theoretical issues in income generation, spending and saving decisions, risk management and asset allocation, investments, and intergenerational wealth transfers. Prerequisites: 06E:001 and 06E:002.

**06E:165 Sports Economics**

3 s.h.

Theory and literature of economic issues in professional sports; issues such as relative advantages of large-and small-market teams, city subsidies for baseball and football stadiums, star players' true value to their teams; ideas from introductory economics (such as demand and cost curves) combined with additional economic theory, statistical evidence, and information about particular sports. Prerequisites: 06E:001 and 06E:002.

**06E:169 Topics in Policy Economics**

arr.

Topics vary. Prerequisites: 06E:001 and 06E:002.

**06E:171 Antitrust Economics**

3 s.h.

Topics in federal antitrust policy; merger policy, monopolization, predatory pricing, collusion, vertical restrictions, resale price maintenance, enforcement; case law, economics literature. Prerequisites: 06E:104 or 091:208.

**06E:172 Law and Economics**

3 s.h.

Law examined through analytic tools of microeconomics; impact of legal rules on resource allocation, risk bearing, distribution of economic well-being. Prerequisites: 06E:001.

**06E:173 International Economics**

3 s.h.

Neoclassical model of international trade, imperfect competition and international trade and investment, role of trade barriers; regional trade agreements and the World Trade Organization. Requirements: 06E:104 and 06E:105, or graduate standing.

**06E:174 Monetary Economics**

3 s.h.

Demand for and supply of money; money's role in economy; empirical studies of money's impact; problems with monetary control. Prerequisites: 06E:104 and 06E:105.

**06E:175 Labor Economics**

3 s.h.

Labor supply and demand; investments in human capital, compensating wage differentials, discrimination, long-term contracts, occupational choice, family decisions, unions, immigration. Prerequisites: 06E:104.

**06E:176 Public Sector Economics**

3 s.h.

Economic functions of government; budgetary processes; effects of government expenditures, taxation on resource allocation, income distribution, economic growth and stability. Prerequisites: 06E:104 and 06E:105.

**06E:177 Industrial Organization**

3 s.h.

Market structure; effects of business practices, informational problems on market structure; appraisal of antitrust policies, government regulation of business. Prerequisites: 06E:104.

**06E:179 History of Economic Thought**

3 s.h.

Evolution of economics as a social science; ideas of Smith, Ricardo, Malthus, Marx, Marshall, Keynes, and their major critics. Prerequisites: 06E:104 and 06E:105.

**06E:183 Natural Resource Economics**

3 s.h.

Economics of natural resources; interaction between economic theory, empirical evidence, and public policy; land, water, fish, trees, minerals; externalities. Prerequisites: 06E:104.

**06E:184 Introduction to Econometrics**

3 s.h.

Single equation linear statistical models, estimation and hypothesis testing; serial correlation, heteroscedasticity, generalized least squares estimation; specification analysis; errors in variables; emphasis on interpretation, application of econometric models, methods, use of computers. Prerequisites: 22S:120.

**06E:187 Mathematical Economics**

3 s.h.

Mathematical structure of economic principles, problems, systems; may include constrained optimization, choice under uncertainty, general equilibrium and welfare economics, dynamical systems and control theory, game theory. Prerequisites: 06E:104 and 06E:105.

**06E:189 Topics in Analytical Economics**

arr.

Topics vary. Prerequisites: 06E:104 and 06E:105.

**06E:190 Federal Reserve Challenge**

3 s.h.

Experience doing what Federal Reserve economists do every day: study the real U.S. economy, make forecasts and policy recommendations, defend their views to academic and professional economists; development of analytical skills, teamwork, how to build presentations. Prerequisites: 06E:104 and 06E:105.

## For Advanced Undergraduates

- 06E:194 Honors Seminar** 1-3 s.h.  
Research topics and methods in business. Requirements: honors standing. Same as 06B:194.
- 06E:195 Honors Thesis in Economics** 3 s.h.  
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194, and admission to the Tippie College of Business honors program.
- 06E:196 Readings and Independent Study in Economics** arr.
- 06E:199 Academic Internship** arr.  
Participation in approved internship program (e.g., Washington Center Internships).

## Primarily for Graduate Students

With consent of the department chair, qualified undergraduates may enroll in courses listed for graduate students.

- 06E:200 Economic Analysis I** 3 s.h.  
Basic metric topology, convex analysis, function spaces, measure theory and integration.
- 06E:201 Economic Analysis II** 3 s.h.  
Behavior under uncertainty, macroeconomic models; dynamic programming, asset pricing, saving, consumption.
- 06E:203 Microeconomics I** 3 s.h.  
Consumer choice theory, producer theory, choice under uncertainty, basic game theory. Offered fall semesters.
- 06E:204 Macroeconomics I** 3 s.h.  
Economic growth, business cycles, money and inflation. Offered fall semesters. Prerequisites: 06E:201.
- 06E:205 Microeconomics II** 3 s.h.  
General equilibrium and welfare analysis, adverse selection, the principal-agent problem, social choice, mechanism design. Offered spring semesters. Prerequisites: 06E:203.
- 06E:206 Macroeconomics II** 3 s.h.  
Dynamic macroeconomic models; stochastic macroeconomics; time consistency equilibrium business cycle theory. Offered spring semesters. Prerequisites: 06E:204.
- 06E:211 Mathematical Economics I** 3 s.h.  
Convex analysis in economic theory; ordinal and cardinal preference relations; quasiconcave, concave numerical representations; separation principle for convex sets--linear programming, concave programming; Brouwer fixed point theorem; existence of competitive equilibrium. Prerequisites: 06E:205.
- 06E:221 Econometrics** 3 s.h.  
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests. Prerequisites: 22S:154.
- 06E:222 Applied Econometrics** 3 s.h.  
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms. Prerequisites: 06E:221.
- 06E:223 Econometric Theory I** 3 s.h.  
Inference from data and theory in economic models; emphasis on decision making and simulation methods. Prerequisites: 06E:222.

<b>06E:234 International Business-M.B.A.</b>	3 s.h.
Problems in international business; how to export, how to deal with import competition, international joint ventures; country studies.	
<b>06E:235 International Trade Theory</b>	3 s.h.
The theory of international trade, including basic models of international trade; capital and labor mobility and trade; protection of international trade; the political economy of international trade; empirical applications of international trade.	
<b>06E:241 Macroeconomics III</b>	3 s.h.
Current research in macroeconomics; development of research topics with emphasis on theoretical and empirical analysis. Prerequisites: 06E:205 and 06E:221.	
<b>06E:245 Monetary Theory</b>	3 s.h.
Research at the frontier of monetary theory and policy; overlapping generations models, search models of money, representative agent monetary models, intermediation and banking theory, and financial contracts.	
<b>06E:250 Labor Economics</b>	3 s.h.
Problems and models, including intertemporal models of labor markets; uncertainty and labor market activity; retirement decisions, economic theories of fertility; economics of discrimination; job search models; economic models of unions; bargaining and strikes, public sector labor markets; determinants of income distribution; emphasis on empirical verification of theory. Prerequisites: 06E:205, and 06E:184 or 06E:221.	
<b>06E:271 Industrial Organization</b>	3 s.h.
The firm, monopolistic competition, oligopoly and workable competition; industrial organization, nature of equilibrium under uncertainty. Prerequisites: 06E:205 and 06E:211.	
<b>06E:299 Contemporary Topics in Economics</b>	3 s.h.
Topics not offered in other courses. Repeatable.	
<b>06E:300 Readings in Economics</b>	arr.
<b>06E:301 Thesis in Economics</b>	arr.
<b>Advanced Graduate Seminars</b>	
<b>06E:310 Seminar in Economic Theory</b>	arr.
<b>06E:311 Seminar in Economic Theory II</b>	arr.
<b>06E:321 Workshop in Microeconomics</b>	1 s.h.
<b>06E:322 Workshop in Macro and Monetary Economics</b>	1 s.h.

# Elementary Education

**Web site:** <http://www.education.uiowa.edu/teach>

## Undergraduate Programs

The College of Liberal Arts and Sciences, in collaboration with the College of Education, offers a Bachelor of Arts and a Bachelor of Science with a major in elementary education. Both degrees are awarded by the College of Liberal Arts and Sciences. The two colleges also collaborate to offer an endorsement for instruction of middle school students.

The elementary education major prepares students to teach kindergarten through sixth grade. Students complete course work in education foundations and methods and in one of the following areas of specialization: art, English language arts, English as a Second Language (ESL), hearing impaired, mathematics, middle school, music, physical education, reading, science, social sciences (history, social studies), special education (Instructional Strategist I: Mild/Moderate), and speech communication/theater. Students must complete the College of Liberal Arts and Sciences General Education Program and must satisfy all other requirements for graduation with a bachelor's degree.

Students interested in pursuing a degree in elementary education must first be admitted to the College of Liberal Arts and Sciences and then must apply to the College of Education. Admission to the College of Education's elementary education program is not guaranteed. In order to be considered for admission to the elementary education program, undergraduates must complete a minimum of 33 s.h. of course work with a cumulative g.p.a. of at least 2.70. All students must submit Praxis I test scores with their application to the Teacher Education Program (TEP). Students should visit with an advisor or speak with Teacher Education Program staff about complete admission requirements.

For information about the elementary education curriculum, student teaching, and teacher licensure and certification, see "Teacher Education and Licensure/Certification" in the Teaching and Learning (College of Education) section of the Catalog.

## English

**Chair:** Claire Sponsler

**Professors:** Florence Boos, Ethan Canin, Lan Samantha Chang, Huston Diehl, Barbara Eckstein, Mary Lou Emery, Ed Folsom (Roy J. Carver Professor), Patricia Foster, James Galvin, Miriam Gilbert, David Hamilton, Robin Hemley, Cheryl T. Herr (English/Cinema and Comparative Literature), Kevin Kopelson, Stephen Kuusisto, Brooks Landon, Susan Lohafer, James Alan McPherson (F. Wendell Miller Professor), Christopher Merrill (English/Cinema and Comparative Literature), Adalaide Morris (John C. Gerber Professor of English), Peter Nazareth, Judith Pascoe, Horace Porter (F. Wendell Miller Professor of English and American Studies), Marilynne Robinson (Skorton-Miller Professor), Phillip Round, Claire Sponsler, Garrett Stewart (James O. Freedman Chair in Letters), Bonnie Sunstein (Teaching and Learning/English), Cole Swensen, Jonathan Wilcox

**Professors emeriti:** Sven M. Armens, Marvin Bell, Clark Blaise, David S. Chamberlain, Archibald C. Coolidge, Carol de Saint Victor, Stavros Deligiorgis, Hualing Nieh Engle, John E. Grant, Ray L. Heffner, John F. Huntley, Robert E. Kelley, Carl H. Klaus, Rudolf E. Kuenzli, William Kupersmith, John Leggett, Richard Lloyd-Jones, John C. McLaughlin, K.K. Merker, William Murray, Alan F. Nagel, William J. Paff, John Raeburn, Robert F. Sayre, Oliver Steele, Gerald Stern, Albert E. Stone, Daniel Weissbort

**Associate professors:** Bluford Adams (English/American Studies), Linda Bolton, Lori Branch, Matthew Brown (English/Center for the Book), Corey Creekmur (English/Cinema and Comparative Literature), John D'Agata, Kathleen Diffley, Claire Fox, Eric Gidal, Loren Glass, Priya Kumar, Kathryn Lavezzo, Mark Levine, Teresa Mangum, Jeff Porter, Laura Rigal (English/American Studies), Robyn Schiff, Thomas Simmons, Alvin Snider, Harilaos Stecopoulos (English/American Studies), Miriam Thaggert (English/African American Studies), Doris S. Witt, David Wittenberg

**Associate professors emeriti:** Paul Diehl, Robert F. Woerner, Fredrick Woodard

**Assistant professors:** Blaine Greteman, Naomi Greysier (Rhetoric/English), Lena Hill (English/African American Studies), Michael Hill (English/African American Studies), Adam Hooks, Marie Kruger, Lara Trubowitz

**Assistant professor emeritus:** John B. Harper

**Lecturers:** David Dowling, Mary Ann Rasmussen, Anne Stapleton

**Undergraduate degree:** B.A. in English

**Undergraduate nondegree program:** Minor in English

**Graduate degrees:** M.A., M.F.A., Ph.D. in English

**Web site:** <http://english.uiowa.edu/>

The Department of English offers courses in literature, cultural studies, language, and writing. In these courses, students read poetry, fiction, essays, criticism, and theory to acquire methods for understanding literature and culture. In addition to providing these essential elements of a liberal arts and sciences education, the department's courses can augment students' specialized interests in other fields. The department also participates in the interdisciplinary Departments of American Studies, Cinema and Comparative Literature, and Gender, Women's and Sexuality Studies, the African American Studies Program, the American Indian and Native Studies Program, the Center for the Book, and the Project on Rhetorics of Inquiry (POROI).

The department has a historic commitment to teaching creative and nonfiction writing. Its graduate programs in writing have earned long-standing renown, and in fall 2008, it added a new creative writing track to the English undergraduate major. Admission to the track is selective.

Although most students in the Ph.D. program are preparing for careers as teachers and scholars, and many in the M.F.A. nonfiction writing program and the Iowa Writers' Workshop are preparing for lives as storytellers, essayists, and poets, the B.A. and M.A. programs provide valuable training for careers in a variety of fields. Students who have earned English degrees from The University of Iowa write for advertising firms, newspapers, and book publishers; teach in primary and secondary schools; practice law and medicine; work in business and industry; and participate in state or federal government. As far as possible, a student's course of study is arranged to meet his or her individual needs and objectives.

## Undergraduate Programs

The Department of English offers a Bachelor of Arts and a minor in English.

The department offers courses in literature, film, critical theory, cultural studies, language, and writing. In these courses, students study poetry, fiction, essays, criticism, film, and theory to acquire methods for understanding the history and significance of texts in the cultures from which they emerge.

The program also challenges students to strive for excellence as writers. It offers several classes in creative writing as well as in nonfiction writing; see "Writing for Undergraduates" later in this Catalog section. It also offers a creative writing track in the undergraduate major (admission to the track is selective); see "Bachelor of Arts" below.

Students who plan to apply to the College of Education for a degree in secondary education (English) should consult with an advisor in that program as early as possible. The education degree demands that students choose particular courses in the English major in order to meet state requirements. See "B.A. with Teacher Licensure" later in this section.

Students interested in an English major should consult advisors in the English undergraduate advising office. Visit the Department of English web site for details about the program, faculty, courses, and upcoming events.

### Bachelor of Arts

The Bachelor of Arts in English requires a minimum of 120 s.h., including at least 33 s.h. (11 courses) of work for the major. Students may apply to enter the creative writing track in the English major; admission is selective (see "Creative Writing Track" below).

Students must earn at least 18 s.h. of credit for the major at The University of Iowa. Transfer students may count a maximum of 15 s.h. of approved transfer credit toward the major. Students also must complete the College of Liberal

## Arts and Sciences General Education Program.

The following English courses may not be counted toward the 33 s.h. required for the English major: all 08G and 08A courses, 08C:001 Creative Writing Studio Workshop, and 08N:020 Introduction to Creative Nonfiction.

All English majors must complete 008:005 Introduction to the English Major: Theory and Practice; students are encouraged to enroll in the course as soon as they declare the English major.

Other course work for the major is divided into six areas and three historical periods. Students must complete a total of eight area courses (see "Areas" below) and six historical period courses (see "Historical Periods" below). Since most courses (except those in creative writing and nonfiction writing) satisfy both an area and a historical period requirement, many students complete the historical period requirements as they complete the area requirements, which allows them to choose additional elective course work to complete the major.

The following course lists are organized by area and historical period. The course description for each course states that course's area and historical period designation (see "Courses" in this Catalog section or visit the University's ISIS web site). Information and course lists are also available on the Department of English web site and from advisors.

Undergraduate courses listed under the headings "Special Topics," "Linguistics and Language," and "Translation Studies" (see "Courses" in this Catalog section) do not fulfill area or period requirements for the English major, but they may be used to earn credit for the major.

## AREAS

Students must complete at least one course (3 s.h.) from each of the following six areas. Each student also must choose one of the six areas as a concentration area and take an additional two courses in that area, for a total of three courses (9 s.h.) in one area, and eight area courses in all.

### Literary Theory and Interdisciplinary Studies

008:001 Modern Fiction	3 s.h.
008:002 Postmodern Fiction	3 s.h.
008:011 Films and Screenplays	3 s.h.
008:030 Introduction to Cultural Studies	3 s.h.
008:031 Introduction to Postcolonial Studies (this course can be used in this area effective spring 2011)	3 s.h.
008:032 Introduction to the English Language	3 s.h.
008:033 Introduction to Criticism and Theory	3 s.h.
008:034 Introduction to the Novel	3 s.h.
008:035 Introduction to Poetry	3 s.h.
008:036 Introduction to the Short Story	3 s.h.
008:037 Introduction to Drama	3 s.h.
008:038 Introduction to the Essay	3 s.h.
008:052 Literature, Culture, and Women	3 s.h.
008:053 Lyric Structures	3 s.h.
008:081 Film and Literature	3 s.h.
008:128 London Performance Study	3 s.h.
008:129 Topics in Criticism and Theory	3 s.h.
008:130 Literature and the Book	3 s.h.
008:134 Introduction to Book Studies	3 s.h.
008:136 Topics in Popular Culture	3 s.h.
008:168 Topics in Poetry and Poetics	3 s.h.
008:169 Changing Concepts of Women in Literature	3 s.h.
008:170 Literary Genres and Modes	3 s.h.
008:171 Digital Media and Poetics	3 s.h.
008:172 Narrative and the Cinema	3 s.h.
008:173 Topics in Digital Media	3 s.h.
008:174 Topics in Law and Culture	3 s.h.
008:175 Topics in Film and Literature	3 s.h.
008:176 Literature and Philosophic Thought	3 s.h.
008:177 Literature and Art	3 s.h.
008:179 Literature and Society	3 s.h.
008:182 Science Fiction	3 s.h.

008:188 Prose by Women Writers	3 s.h.
008:189 Digital Cultures and Literacies	3 s.h.
008:190 Topics in Book History	3 s.h.
008:192 Seminar in Interdisciplinary Studies	3 s.h.
008:194 Introduction to Feminist Criticism	3 s.h.
08P:182 Language and Learning	2-3 s.h.
08P:198 Reading and Teaching Adolescent Literature	3 s.h.

#### **Medieval and Early Modern Literature and Culture**

008:008 Classical and Biblical Literature	3 s.h.
008:060 Selected Works of the Middle Ages	3 s.h.
008:076 Selected Early Authors	3 s.h.
008:100 Literature and Culture of Seventeenth-Century England	3 s.h.
008:101 Literature and Culture of the Middle Ages	3 s.h.
008:102 Literature and the Culture of the Renaissance	3 s.h.
008:111 Literature and Culture of the Restoration	3 s.h.
008:122 16th- and 17th-Century Poetry	3 s.h.
008:140 Elementary Old English	3 s.h.
008:141 Old English Beowulf	3 s.h.
008:142 Medieval Celtic Literature	3 s.h.
008:143 Medieval Norse Literature	3 s.h.
008:144 Medieval Drama	3 s.h.
008:145 English Renaissance Drama	3 s.h.
008:146 Chaucer	3 s.h.
008:147 Shakespeare	3 s.h.
008:148 Milton	3 s.h.
008:149 Spenser	3 s.h.
008:150 Topics in Medieval and Renaissance Literature	3 s.h.

#### **Modern British Literature and Culture**

008:062 Eighteenth-Century British Literature	3 s.h.
008:063 British Romanticism	3 s.h.
008:064 Victorian Literature	3 s.h.
008:065 Twentieth-Century British Literature	3 s.h.
008:066 Twenty-first-Century British Literature	3 s.h.
008:078 Selected British Authors Before 1900	3 s.h.
008:079 Selected British Authors After 1900	3 s.h.
008:090 Topics in Modern British Literature Before 1900	3 s.h.
008:091 Topics in Modern British Literature After 1900	3 s.h.
008:103 Literature and Culture of Eighteenth-Century Britain	3 s.h.
008:104 Literature and Culture of Nineteenth-Century Britain	3 s.h.
008:107 Literature and Culture of Nineteenth-Century Scotland	3 s.h.
008:110 Literature and Culture of 20th- and 21st-Century Britain	3 s.h.
008:112 Literature and Culture of the Romantic Period	3 s.h.
008:121 British Poetry	3 s.h.
008:131 European Literature of the Nineteenth Century	3 s.h.
008:178 Modern British Drama	3 s.h.

#### **American Literature and Culture**

008:055 American Poetry	3 s.h.
008:056 American Literary Classics	3 s.h.
008:057 American Novel Before 1900	3 s.h.
008:058 American Novel After 1900	3 s.h.
008:059 American Short Story	3 s.h.
008:069 Selected African American Authors	3 s.h.



008:082 Latina/o Studies	3 s.h.
008:083 Topics in African American Literature	3 s.h.
008:086 Topics in Asian American Literature	3 s.h.
008:087 Selected American Authors Before 1900	3 s.h.
008:088 Selected American Authors After 1900	3 s.h.
008:105 Literature and Culture of Nineteenth-Century America	3 s.h.
008:106 Literature and the Culture of Twentieth-Century America	3 s.h.
008:108 Literature and Culture of America Before 1800	3 s.h.
008:115 Literatures of the American Peoples	3 s.h.
008:116 African American Literature Before 1900	3 s.h.
008:117 African American Literature Since 1900	3 s.h.
008:118 Jewish American Literature	3 s.h.
008:123 American Literature and History	3 s.h.
008:135 Topics in American Literature Before 1900	3 s.h.
008:137 African American Autobiography	3 s.h.
008:139 Topics in American Literature After 1900	3 s.h.
008:153 Native American Literature	3 s.h.
008:154 American Regional Literatures	3 s.h.
008:162 Midwest African American Literature and Culture	3 s.h.
008:180 American Drama Before 1900	3 s.h.
008:186 African American Drama	3 s.h.
008:196 American Novel Since 1945	3 s.h.
008:197 American Drama Since 1900	3 s.h.

#### **Transnational Literature and Postcolonial Studies**

008:031 Introduction to Postcolonial Studies (this course can only be used in this area fall 2010)	3 s.h.
008:075 Selected Transnational Authors	3 s.h.
008:084 Topics in Culture and Identity	3 s.h.
008:109 Literature and Culture of the Twentieth Century	3 s.h.
008:113 Literature and Culture of the Americas	3 s.h.
008:114 Caribbean Literature and Culture	3 s.h.
008:119 African Literature	3 s.h.
008:127 Topics in Asian Cinema	3 s.h.
008:132 Literature of the Indian Subcontinent	3 s.h.
008:133 Inter-American Studies	3 s.h.
008:138 Topics in Postcolonial Studies	3 s.h.
008:157 Topics in African Cinema	3 s.h.
008:161 Transnational and Postcolonial Writing by Women	3 s.h.
008:163 Identity and Social Issues	3 s.h.
008:164 Topics in Transnational Literature	3 s.h.
008:165 Diaspora and Transnational Migrations	3 s.h.
008:167 Literature and Culture of Empire	3 s.h.
008:183 Modern Drama	3 s.h.
008:191 International Literature Today	1, 3 s.h.
008:193 Transcultural Modernism	3 s.h.
008:195 Modernist Women Writers	3 s.h.

#### **Nonfiction and Creative Writing**

08C:023 Creative Writing	3 s.h.
08C:097 Fiction Writing	3 s.h.
08C:098 Poetry Writing	3 s.h.
08C:107 Creative Writing for the Health Professions	3 s.h.
08C:108 Creative Writing for New Media	3 s.h.
08C:110 Creative Writing for the Ecologically Aware: Stories in the Land	3 s.h.
08C:163 Undergraduate Writers' Workshop: Fiction	arr.
08C:166 Undergraduate Writers' Workshop: Poetry	arr.

08C:167 Undergraduate Writers' Seminar	3 s.h.
08C:195 Undergraduate Project in Creative Writing	arr.
08N:080 Nonfiction Writing	3 s.h.
08N:090 Intermediate Nonfiction Writing	3 s.h.
08N:102 Prose Style	3 s.h.
08N:104 Personal Writing	3 s.h.
08N:113 Writing for Business and Industry	3 s.h.
08N:120 Advanced Nonfiction Writing	3 s.h.
08N:125 Freelance Reporting and Writing	4 s.h.
08N:130 Special Readings in Nonfiction	3 s.h.
08N:133 Team Writing for Business	3 s.h.
08N:140 Editing a Literary Magazine	3 s.h.
08N:141 Approaches to Teaching Writing	3 s.h.
08N:145 Multimedia Writing	3 s.h.
08N:146 Film and Writing	3 s.h.
08N:147 Graphic Writing	3 s.h.
08N:148 Radio and Writing	3 s.h.
08N:150 Undergraduate Essay Workshop	3 s.h.
08N:183 Invention	3 s.h.
08N:192 Dublin Writing Workshop	3 s.h.
08N:199 Undergraduate Project in Nonfiction Writing	1-2 s.h.
8WS:120 Writer's House Seminar	3 s.h.
8WS:121 Writers' Seminar: Fiction	2 s.h.
8WS:122 Writers' Seminar: Poetry	2 s.h.
8WS:123 Writers' Seminar: Nonfiction	2 s.h.
8WS:124 Writers' Seminar: Literary Translation	2 s.h.
8WS:125 Writers' Seminar: Playwriting	2 s.h.
8WS:170 Creative Writing Track: Advanced Topics	3 s.h.

## **HISTORICAL PERIODS**

Students must take at least two courses from each of the following three historical periods.

### **Early Literatures Through the 17th Century**

008:008 Classical and Biblical Literature	3 s.h.
008:060 Selected Works of the Middle Ages	3 s.h.
008:076 Selected Early Authors	3 s.h.
008:100 Literature and Culture of Seventeenth-Century England	3 s.h.
008:101 Literature and Culture of the Middle Ages	3 s.h.
008:102 Literature and the Culture of the Renaissance	3 s.h.
008:111 Literature and Culture of the Restoration	3 s.h.
008:122 16th- and 17th-Century Poetry	3 s.h.
008:140 Elementary Old English	3 s.h.
008:141 Old English Beowulf	3 s.h.
008:142 Medieval Celtic Literature	3 s.h.
008:143 Medieval Norse Literature	3 s.h.
008:144 Medieval Drama	3 s.h.
008:145 English Renaissance Drama	3 s.h.
008:146 Chaucer	3 s.h.
008:147 Shakespeare	3 s.h.
008:148 Milton	3 s.h.
008:149 Spenser	3 s.h.
008:150 Topics in Medieval and Renaissance Literature	3 s.h.

### **Literature of the 18th and/or 19th Century**

008:057 American Novel Before 1900	3 s.h.
------------------------------------	--------

008:062 Eighteenth-Century British Literature	3 s.h.
008:063 British Romanticism	3 s.h.
008:064 Victorian Literature	3 s.h.
008:078 Selected British Authors Before 1900	3 s.h.
008:087 Selected American Authors Before 1900	3 s.h.
008:090 Topics in Modern British Literature Before 1900	3 s.h.
008:103 Literature and Culture of Eighteenth-Century Britain	3 s.h.
008:104 Literature and Culture of Nineteenth-Century Britain	3 s.h.
008:105 Literature and Culture of Nineteenth-Century America	3 s.h.
008:107 Literature and Culture of Nineteenth-Century Scotland	3 s.h.
008:108 Literature and Culture of America Before 1800	3 s.h.
008:112 Literature and Culture of the Romantic Period	3 s.h.
008:116 African American Literature Before 1900	3 s.h.
008:131 European Literature of the Nineteenth Century	3 s.h.
008:135 Topics in American Literature Before 1900	3 s.h.
008:180 American Drama Before 1900	3 s.h.

#### **Literature of the 20th and/or 21st Century**

008:001 Modern Fiction	3 s.h.
008:002 Postmodern Fiction	3 s.h.
008:011 Films and Screenplays	3 s.h.
008:030 Introduction to Cultural Studies	3 s.h.
008:031 Introduction to Postcolonial Studies	3 s.h.
008:032 Introduction to the English Language	3 s.h.
008:033 Introduction to Criticism and Theory	3 s.h.
008:036 Introduction to the Short Story	3 s.h.
008:037 Introduction to Drama	3 s.h.
008:038 Introduction to the Essay	3 s.h.
008:053 Lyric Structures	3 s.h.
008:058 American Novel After 1900	3 s.h.
008:065 Twentieth-Century British Literature	3 s.h.
008:066 Twenty-first-Century British Literature	3 s.h.
008:069 Selected African American Authors	3 s.h.
008:075 Selected Transnational Authors	3 s.h.
008:079 Selected British Authors After 1900	3 s.h.
008:081 Film and Literature	3 s.h.
008:082 Latina/o Studies	3 s.h.
008:083 Topics in African American Literature	3 s.h.
008:086 Topics in Asian American Literature	3 s.h.
008:088 Selected American Authors After 1900	3 s.h.
008:091 Topics in Modern British Literature After 1900	3 s.h.
008:106 Literature and the Culture of Twentieth-Century America	3 s.h.
008:109 Literature and Culture of the Twentieth Century	3 s.h.
008:110 Literature and Culture of 20th- and 21st-Century Britain	3 s.h.
008:113 Literature and Culture of the Americas	3 s.h.
008:114 Caribbean Literature and Culture	3 s.h.
008:117 African American Literature Since 1900	3 s.h.
008:118 Jewish American Literature	3 s.h.
008:119 African Literature	3 s.h.
008:127 Topics in Asian Cinema	3 s.h.
008:128 London Performance Study	3 s.h.
008:129 Topics in Criticism and Theory	3 s.h.
008:132 Literature of the Indian Subcontinent	3 s.h.
008:133 Inter-American Studies	3 s.h.
008:134 Introduction to Book Studies	3 s.h.
008:136 Topics in Popular Culture	3 s.h.
008:137 African American Autobiography	3 s.h.
008:138 Topics in Postcolonial Studies	3 s.h.

008:139 Topics in American Literature After 1900	3 s.h.
008:153 Native American Literature	3 s.h.
008:157 Topics in African Cinema	3 s.h.
008:161 Transnational and Postcolonial Writing by Women	3 s.h.
008:162 Midwest African American Literature and Culture	3 s.h.
008:163 Identity and Social Issues	3 s.h.
008:164 Topics in Transnational Literature	3 s.h.
008:165 Diaspora and Transnational Migrations	3 s.h.
008:169 Changing Concepts of Women in Literature	3 s.h.
008:170 Literary Genres and Modes	3 s.h.
008:171 Digital Media and Poetics	3 s.h.
008:172 Narrative and the Cinema	3 s.h.
008:173 Topics in Digital Media	3 s.h.
008:174 Topics in Law and Culture	3 s.h.
008:175 Topics in Film and Literature	3 s.h.
008:176 Literature and Philosophic Thought	3 s.h.
008:179 Literature and Society	3 s.h.
008:182 Science Fiction	3 s.h.
008:183 Modern Drama	3 s.h.
008:189 Digital Cultures and Literacies	3 s.h.
008:191 International Literature Today	1, 3 s.h.
008:192 Seminar in Interdisciplinary Studies	3 s.h.
008:193 Transcultural Modernism	3 s.h.
008:194 Introduction to Feminist Criticism	3 s.h.
008:195 Modernist Women Writers	3 s.h.
008:196 American Novel Since 1945	3 s.h.
008:197 American Drama Since 1900	3 s.h.

#### Historical Period Determined by Course Content

The historical period of each of the following courses is designated as either 18th- and/or 19th-century literature, or as 20th- and/or 21st-century literature.

008:035 Introduction to Poetry	3 s.h.
008:052 Literature, Culture, and Women	3 s.h.
008:055 American Poetry	3 s.h.
008:056 American Literary Classics	3 s.h.
008:059 American Short Story	3 s.h.
008:084 Topics in Culture and Identity	3 s.h.
008:115 Literatures of the American Peoples	3 s.h.
008:121 British Poetry	3 s.h.
008:123 American Literature and History	3 s.h.
008:154 American Regional Literatures	3 s.h.
008:167 Literature and Culture of Empire	3 s.h.
008:168 Topics in Poetry and Poetics	3 s.h.
008:177 Literature and Art	3 s.h.
008:178 Modern British Drama	3 s.h.
008:186 African American Drama	3 s.h.
008:188 Prose by Women Writers	3 s.h.

The historical period of each of the following courses is designated as early literatures through the 17th century, or as 18th- and/or 19th-century literature, or as 20th- and/or 21st-century literature.

008:098 Honors Proseminar	3 s.h.
008:130 Literature and the Book	3 s.h.
008:190 Topics in Book History	3 s.h.

## COURSES APPROVED FOR GENERAL EDUCATION

Courses numbered 08G cannot be counted toward the 33 s.h. required for the English major, so students majoring in English should not use 08G courses to complete the College of Liberal Arts and Sciences General Education Program. Although 08G:001 The Interpretation of Literature is a part of the General Education Program, English majors should substitute a course approved for General Education in the humanities area for 08G:001 The Interpretation of Literature.

### Creative Writing Track

Students majoring in English may be eligible to enter the creative writing track. The track places the same emphasis on training creative and intelligent readers as does the English major.

The creative writing track requires a minimum of 13 s.h. In addition to fulfilling requirements for the track, students must complete the two prerequisite courses required for admission to the track and satisfy all other admission requirements (see "Selective Admission" below). They also must fulfill all requirements for the English major as stated under "Bachelor of Arts" above, including 008:005 Introduction to the English Major: Theory and Practice, and they must complete the College of Liberal Arts and Sciences General Education Program.

### SELECTIVE ADMISSION

Admission to the creative writing track is selective; students must apply and be admitted to the track. To apply, students must:

- have junior or senior standing;

- have a cumulative g.p.a. of at least 3.33 in English (based on all English courses taken, including creative writing courses); and

- have completed at least 9 s.h. in University of Iowa English courses, excluding those with prefixes 08N and 08C.

Applicants also must have completed two prerequisites for admission to the creative writing track (6 s.h.), chosen from the following list of University of Iowa introductory-level writing courses.

08C:023 Creative Writing	3 s.h.
08C:097 Fiction Writing	3 s.h.
08C:098 Poetry Writing	3 s.h.
08C:108 Creative Writing for New Media	3 s.h.
08C:110 Creative Writing for the Ecologically Aware: Stories in the Land	3 s.h.
08C:167 Undergraduate Writers' Seminar	3 s.h.
08N:080 Nonfiction Writing	3 s.h.
08N:090 Intermediate Nonfiction Writing	3 s.h.
048:078 Undergraduate Translation Seminar (section 1)	3 s.h.
048:079 Undergraduate Translation Workshop	3 s.h.
049:062 Playwriting I	3 s.h.
049:063 Playwriting II	3 s.h.

Students may count either 08C:108 Creative Writing for New Media or 08C:110 Creative Writing for the Ecologically Aware: Stories in the Land, but not both, toward the required prerequisites for admission to the creative writing track.

Exceptions may be made for students who have not taken an introductory course but who have taken 08C:166 Undergraduate Writers' Workshop: Poetry or 08C:163 Undergraduate Writers' Workshop: Fiction.

Students may apply to the creative writing track during preregistration each semester. For information and application forms, visit the Department of English web site.

Registration in creative writing track courses requires admission to the track.

### CREATIVE WRITING TRACK REQUIREMENTS

The creative writing track requires 13 s.h. Students must successfully complete 8WS:120 Writer's House Seminar (3 s.h.), earn 4 s.h. in genre-based writing seminars, and earn 6 s.h. in advanced courses, as follows.

#### Writer's House Seminar

8WS:120 Writer's House Seminar	3 s.h.
--------------------------------	--------

The Writer's House Seminar draws on Iowa's creative writing tradition. It provides a common experience of readings, talks, performances, master classes, and class discussions, preparing students for participation at events led by visiting writers. Its curriculum also includes works by or about the visiting writers, literature that helps contextualize the readings, and exercises designed to heighten students' involvement at events.

#### Genre-Based Seminars

Two of these (4 s.h.):

8WS:121 Writers' Seminar: Fiction	2 s.h.
8WS:122 Writers' Seminar: Poetry	2 s.h.
8WS:123 Writers' Seminar: Nonfiction	2 s.h.
8WS:124 Writers' Seminar: Literary Translation	2 s.h.
8WS:125 Writers' Seminar: Playwriting	2 s.h.

#### Advanced Courses

A minimum of 6 s.h. chosen from these:

008:198 Undergraduate Honors Project	1-3 s.h.
08C:163 Undergraduate Writers' Workshop: Fiction	3 s.h.
08C:166 Undergraduate Writers' Workshop: Poetry	3 s.h.
08N:104 Personal Writing	3 s.h.
08N:120 Advanced Nonfiction Writing	3 s.h.
08N:130 Special Readings in Nonfiction	3 s.h.
08N:145 Multimedia Writing	3 s.h.
08N:150 Undergraduate Essay Workshop	3 s.h.
8WS:170 Creative Writing Track: Advanced Topics	3 s.h.
049:165 Advanced Playwriting	3 s.h.
049:169 Undergraduate Playwriting Workshop	1-3 s.h.

In order to take 008:198 Undergraduate Honors Project (an honors thesis in creative writing), students must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33. They also must have completed all required writers' seminars, must be on course to complete all requirements for the English major, and must have departmental approval.

### B.A. with Teacher Licensure

Students planning to teach English in secondary schools must complete the requirements for the major in English and gain admission to the Teacher Education Program. Contact the College of Education Office of Teacher Education and Student Services for application forms and information.

By the end of the program, students must have completed the following courses.

#### ENGLISH (PART OF THE ENGLISH MAJOR)

A Shakespeare course

Three American literature courses

A British literature course

08N:141/07S:155 Approaches to Teaching Writing (area: nonfiction and creative writing)	3 s.h.
08P:182/07S:182 Language and Learning (area: literary theory and interdisciplinary studies)	2-3 s.h.
08P:198/07S:193 Reading and Teaching Adolescent Literature (area: literary theory and interdisciplinary studies)	3 s.h.
One nonfiction or creative writing course in addition to 08N:141	

#### EDUCATION

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.

07E:102 Technology in the Classroom	2 s.h.
07P:075 Educational Psychology and Measurement	3 s.h.
07S:114 Introduction and Practicum: Secondary English	3 s.h.
07S:115 Methods: Secondary English	3 s.h.
07S:187 Seminar: Curriculum and Student Teaching	1-3 s.h.
07S:190 Orientation to Secondary Education	0-1 s.h.
07S:191 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:192 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:194 Methods: Secondary Reading	2-3 s.h.
07U:100 Foundations of Special Education	3 s.h.
One college-level mathematics or statistics course	

## Admission

Applicants to the Teacher Education Program in English must have completed a minimum of 40 s.h., including 008:005 Introduction to the English Major: Theory and Practice and an additional 12 s.h. in English courses, before they may be admitted to the program. The following courses do not count toward the additional 12 s.h.: all 08G courses, 08N:141 Approaches to Teaching Writing, 08P:182 Language and Learning, and 08P:198 Reading and Teaching Adolescent Literature. Applicants also must have a University of Iowa g.p.a. and a cumulative g.p.a. of at least 2.70 as well as an English major g.p.a. of at least 3.00. Applicants must submit an application to the College of Education, including PRAXIS I scores, an Iowa criminal history check, letters of recommendation, and proof of a 10-hour preadmission volunteer field experience.

## Minor Licensure in English

Students who seek licensure for secondary teaching in fields other than English may seek minor licensure in English. First-year courses in rhetoric, speech, or writing do not count toward this requirement.

The English minor licensure program includes the following course work.

An American literature course	
A British literature course	
A course in creative or nonfiction writing	
An additional English course	
07S:115 Methods: Secondary English	3 s.h.
07S:194 Methods: Secondary Reading	2-3 s.h.
08N:141/07S:155 Approaches to Teaching Writing	3 s.h.
08P:182/07S:182 Language and Learning	2-3 s.h.
08P:198/07S:193 Reading and Teaching Adolescent Literature	3 s.h.

While this program meets minimum requirements for licensure, the department recommends that students who want to teach English have considerably more training in the field.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least eight courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

The English major with honors gives talented students the opportunity to enhance their course of study through honors proseminars and thesis writing. Each year the department offers four honors proseminars covering a wide range of

subject areas and historical periods. Honors proseminars are limited to 18 students, carry 3 s.h. credit, and meet three hours each week. These courses require substantial reading and research and culminate in a 15-20 page essay. Students register for 008:098 Honors Proseminar.

To register for a proseminar, students must have a University of Iowa g.p.a. of at least 3.33 and must have completed three English courses (not including introductory courses in nonfiction or creative writing) with a g.p.a. of at least 3.33 in English. The department also recommends that students complete 008:005 Introduction to the English Major: Theory and Practice before taking an honors proseminar. To enroll in a proseminar, students must obtain a special permission code number from the honors director.

All students interested in taking honors course work are encouraged to join the English Honors Program as soon as they qualify. Students may join online; visit English Honors Program.

Students who wish to graduate with honors in English must take two honors proseminars, complete a two-semester thesis project, and maintain a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in English.

The two-semester thesis project includes 008:120 Honors Thesis Workshop (fall) and 008:198 Undergraduate Honors Project (independent study) for a total of 6 s.h. To enroll in 008:120 Honors Thesis Workshop, students must have completed one honors proseminar with a grade of A- or better and must have a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in English.

The English Honors Program has established careful guidelines for each of the six types of honors theses accepted by the department: literary and cultural studies; nonfiction writing; electronic writing and multimedia production; English education; creative writing; and the interdisciplinary thesis for double honors, which allows a student to earn honors in two departments with one longer project. Information on thesis guidelines is available on the English Honors Program web site and in the handout *A Guide to the English Honors Program*, available in the Department of English office.

Students who qualify for honors in English also qualify for membership in the University of Iowa Honors Program, which requires a cumulative University of Iowa g.p.a. of at least 3.33. Contact the University of Iowa Honors Program for more information about honors study at Iowa.

## Minor

The minor in English requires a minimum of 15 s.h. in English courses, including 12 s.h. in courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 3 s.h. of approved transfer credit toward the minor. Before taking courses for the minor, students must complete the General Education Program requirement 08G:001 The Interpretation of Literature.

The minor must include at least 6 s.h. in literature (prefix 008); the remaining 9 s.h. may be selected from additional courses in literature, from most courses in writing (prefixes 08C and 08N), or from courses in linguistics (prefix 08L). The following courses do not count toward the minor: all 08A and 08G courses, 08C:001 Creative Writing Studio Workshop, and 08N:020 Introduction to Creative Nonfiction.

Students may declare the English minor on ISIS. In order for the minor to be recorded, students must indicate completion of the minor on their Application for Degree.

Students who would like help declaring the minor or in planning how to meet its requirements may stop by the advising office or schedule an appointment with an advisor by contacting the undergraduate English secretary.

## Writing for Undergraduates

Many undergraduate students come to The University of Iowa because of the Iowa Writers' Workshop (see "Writing Programs" later in this section). The workshop is a graduate program, but any student may take the undergraduate courses taught there, including 08C:023 Creative Writing, 08C:097 Fiction Writing, 08C:098 Poetry Writing, and 08C:001 Creative Writing Studio Workshop. However, 08C:001 Creative Writing Studio Workshop does not fulfill requirements for the English major or minor.

Visit Creative Writing Program (Iowa Writers' Workshop) for a list of undergraduate courses offered by the workshop.

Admission to the undergraduate workshops in fiction and poetry (08C:163 Undergraduate Writers' Workshop: Fiction and 08C:166 Undergraduate Writers' Workshop: Poetry) requires the instructor's consent. Students who wish to participate in these workshops must submit samples of their poetry or fiction to the Iowa Writers' Workshop office no earlier than a week before registration and no later than the last day of registration for that semester.

Students majoring in English may apply to the major's Creative Writing Track; see "Bachelor of Arts"/"Creative Writing Track" earlier in this Catalog section.

Nonfiction writing is also a major area of interest for faculty and students in the department of English. Students may enroll for courses that stress practice in forms of nonfiction writing and for courses that focus on nonfiction literature.



Students who wish to participate in 08N:150 Undergraduate Essay Workshop and other courses with special permission requirements should check with the instructor of the course before registering. Introduction to Creative Nonfiction (08N:020) does not fulfill requirements for the English major or minor.

Undergraduate majors may concentrate in nonfiction and creative writing with any combination of 08N or 08C courses (except 08C:001 Creative Writing Studio Workshop and 08N:020 Introduction to Creative Nonfiction).

## Graduate Programs

The department offers an M.A., an M.F.A., and a Ph.D. in English. The M.A. introduces students to the professional study of literature, and the Ph.D. prepares them to serve as faculty members at colleges and universities.

The M.F.A. is offered in creative writing and in nonfiction writing. The M.F.A. in creative writing features advanced courses in writing fiction and poetry. Students in creative writing study at the Iowa Writers' Workshop, renowned as a pioneer in teaching writers since its founding in 1936. The M.F.A. in nonfiction writing is one of the few programs in the nation that offers a full range of graduate courses in the area.

Direct application to the Ph.D. program is generally encouraged for prospective M.A. students. But some consider the M.A. an appropriate step in their professional training. These students may have had an undergraduate major in a different field or may want more preparation for other reasons. Some may intend to complete their studies elsewhere. Students interested in careers in any area of book studies (professional writing, editing, web design, or publishing) may wish to pursue the M.A. as a terminal degree, as may teachers seeking to enhance their credentials or students pursuing intellectual growth unrelated to a specific career.

M.A. and Ph.D. students in English mix freely in graduate courses, share the same access to faculty, and meet the same standards of quality in their work.

### Exam for the Master of Arts in Teaching

The department administers the English component of the exam for the Master of Arts in Teaching (M.A.T.) in coordination with the College of Education. M.A.T. students should contact the Department of Teaching and Learning or visit the College of Education web site for information.

### Master of Arts

The Master of Arts in English requires a minimum of 30 s.h. of graduate credit. The program's focus is literary studies. The required 30 s.h. includes 24 s.h. earned in residence at The University of Iowa with a g.p.a. of at least 3.25. Students who wish to transfer to Iowa's Ph.D. program must complete two semesters or 15 s.h. of course work in literature (whichever comes first) before applying for admission to the doctoral program.

#### COURSE WORK

Each student must take the following courses at the 200 level or above. Applicable transfer courses must be approved by the director of graduate study in English.

One course in criticism and theory

Four courses from the following five areas:

British or American literature and culture before 1500  
British or American literature and culture 1500-1660  
British or American literature and culture 1660-1800  
British or American literature and culture 1800-1900  
British or American literature and culture of the 20th Century

Elective courses constitute half of the total credit for the degree and may be chosen from graduate courses both in and outside the English department. Students may wish to explore opportunities for interdisciplinary study, language study, experience in theory and practice of writing, or specialization in a field of literary scholarship.

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

Completion of the M.A. requires either a thesis or a portfolio. Students submit a written description of their choice to the director of the program before the semester in which they plan to graduate.

#### M.A. THESIS

Students who choose to write an M.A. thesis must submit a brief prospectus approved by a thesis director before they register for thesis credit and at least one semester before they submit the thesis. The thesis committee consists of the thesis director, the director of the M.A. program, and one other faculty member. The thesis is evaluated by the committee as either satisfactory or unsatisfactory.

A copy of the thesis must be presented to the Graduate College for approval. For detailed information about Graduate College deadlines and policies, see the Manual of Rules and Regulations of the Graduate College.

## **PORTFOLIO**

Near the end of their course work, students who do not choose the thesis option must submit a portfolio of work to the M.A. examination committee, which consists of the director of the M.A. program and two other English faculty members. All three read the full portfolio. To pass, the candidate must win a majority vote of the committee members.

Students take the first step toward preparing to submit a portfolio by meeting with the director of the M.A. program to discuss the portfolio, early during the semester in which they plan to graduate. After fulfilling all distribution and eligibility requirements and clearing all incomplete grades, students present the director with a draft of the portfolio's introductory statement. Students planning to graduate at the end of fall semester should present the statement by the first week of October; those who plan to graduate at the end of spring semester should present the statement by the first week of March. Once the director approves the statement, the student must submit three copies of the full portfolio; the submission deadline is November 1 for students planning to graduate at the end of fall semester and April 1 for those who will graduate at the end of spring semester.

The work in the portfolio should demonstrate the student's knowledge of literature as a broad historical and theoretical inquiry. Students submit approximately 50 pages (12,500 words) of their best work, along with a self-reflective introductory statement of five to seven pages. The body of the portfolio should contain papers originally produced for classes, revised for a broader audience unfamiliar with the original classes. The introduction should detail the student's trajectory in the program and the literary-critical or methodological skills he or she has gained. It also should explain the contents of the portfolio; contextualize each paper; and give a brief overview of the writing. Students are expected to describe the research methods used in assembling their portfolios and the critical practices that ground their work.

## **Master of Fine Arts (Nonfiction Writing)**

The Master of Fine Arts in nonfiction writing requires 48 s.h. of graduate credit; a thesis is required. The program is broadly devoted to literary nonfiction. It is designed primarily for persons who wish to become nonfiction writers, but it also may be appropriate for those who wish to teach, edit, or pursue other activities in the field of nonfiction. Normally, the program takes three years to complete.

The required 48 s.h. includes at least 30 s.h. earned in residence at The University of Iowa and 30 s.h. of work in program-designated courses. Electives may be chosen widely, from courses in the English department as well as any other University departments.

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

In addition to the course work, students are required to enroll for at least 2 s.h. and no more than 8 s.h. of thesis credit. The thesis may be a single extended piece of nonfiction, a collection of shorter nonfiction pieces, or a collection of essays. Whatever the project, the thesis is expected to be of publishable quality.

For more information, consult the director of the Nonfiction Writing Program.

## **Master of Fine Arts (Creative Writing)**

The Master of Fine Arts in creative writing requires a minimum of 48 s.h. of graduate credit. The degree is offered through the Creative Writing Program (Iowa Writers' Workshop), a two-year residency program that culminates in a creative thesis, such as a novel, a collection of stories, or a book of poetry.

Throughout the program, workshop students craft their manuscripts and engage in an exchange of ideas about writing and reading with each other and with the renowned teacher-authors who make up the workshop's faculty.

Admission to the program is competitive.

For details about the M.F.A. in creative writing and about the Iowa Writers' Workshop, see Creative Writing (Iowa Writers' Workshop) in the Catalog.

## **Doctor of Philosophy**

The Doctor of Philosophy in English requires a minimum of 72 s.h. of graduate credit. The program is designed as preparation for the teaching, publishing, and administrative service required of college and university faculty members.

Concentrations are offered in areas such as literary history and critical theory, as well as interdisciplinary areas such as cultural studies and transnational studies.

Of the required 72 s.h., at least 30 s.h. must be earned in residence at The University of Iowa with a g.p.a. of at least 3.50.

Ph.D. requirements include the following.

Formal admission to candidacy by a vote of the Graduate Steering Committee, usually during the third semester of doctoral study

Course work in any four of the following historical periods, as expressed in texts of the English-speaking and -writing world (usually but not always British or American):

Literature and culture before 1500

Literature and culture 1500-1660

Literature and culture 1660-1800

Literature and culture 1800-1900

Literature and culture of the 20th century

Three English department seminars taken at The University of Iowa

Fulfillment of the language requirement, usually by completion of an advanced undergraduate course (100-level or above) in a language other than English

A comprehensive examination that consists of the following: a portfolio of five scholarly questions based on a period of literary history (usually British or American); a review essay and annotated bibliography in a special area of interest; two course syllabi; an article to be submitted for publication; and an introduction to the portfolio that synthesizes its parts in preparation for a two-hour oral exam

A dissertation, beginning with a formal presentation of the prospectus to a faculty committee

A final examination in defense of the dissertation

All doctoral candidates are required to gain some teaching experience, preferably in the College of Liberal Arts and Sciences Department of Rhetoric and in General Education Program literature courses.

For application forms and a complete description of the Ph.D. program, contact the department's graduate program associate.

## **Admission**

For information about admission requirements, see Admissions Guidelines for Graduate Students in English on the department's web site. Applications for admission must be postmarked by the following deadlines:

M.A. and Ph.D.: postmark deadline is January 7.

M.F.A. (creative writing): postmark deadline is January 3.

M.F.A. (nonfiction writing): postmark deadline is December 15.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## **Financial Support**

Graduate scholarships, fellowships, and teaching and research assistantships are awarded on a competitive basis. The department strives to provide six years of support for all doctoral students who are in good standing, which requires a University of Iowa g.p.a. of at least 3.50 and full-time student standing.

Financial aid applications are considered only from students who have applied or been admitted to a degree program in the Graduate College. Applications and all necessary supporting material must be submitted by the end of January for the following academic year. Forms are available from the Department of English and the University's Office of Admissions.

## **Writing Programs**

For the past 70 years, The University of Iowa has been a national leader in virtually all areas of teaching writing.

Today it offers graduate degrees in both creative and nonfiction writing, gives undergraduate English majors the opportunity to pursue a track in creative writing or a concentration in nonfiction writing, and makes writing courses available to qualified undergraduate non-English majors.

The Creative Writing Program is conducted at the Iowa Writers' Workshop. Founded in 1936, the workshop counts scores of distinguished poets and novelists among its alumni. Writers compete for admission to the program, where they work with the outstanding teacher-authors that make up the workshop's faculty.

The workshop also brings numerous prominent authors to campus each year for lectures and readings.

The University of Iowa M.F.A. program in nonfiction writing is one of the few programs in the nation that offers a full range of graduate course work in the area. It also gives undergraduates the opportunity to pursue a concentration in nonfiction writing.

For information about the graduate degrees and about undergraduate opportunities in creative writing and in nonfiction writing, see "Master of Fine Arts (Nonfiction Writing)," "Master of Fine Arts (Creative Writing)," and "Writing for Undergraduates" earlier in this section of the Catalog. To learn more about the creative and nonfiction writing programs, visit Iowa Writers' Workshop and Nonfiction Writing Program.

## Facilities, Resources

The University of Iowa Libraries collection is strong in all areas of English and American literature. Partly because of the influence of the Iowa Writers' Workshop, University Libraries has particular strengths in 20th-century fiction and poetry, including manuscript collections of 20th-century authors.

Several periodicals are published under the department's aegis. The Iowa Review, Walt Whitman Quarterly Review, and Philological Quarterly offer opportunities for especially qualified graduate students to work as research assistants or editorial associates. The Iowa Journal of Cultural Studies, edited by English department graduate students, features creative and scholarly work by students in English and related areas.

The Department of English and the Iowa Writers' Workshop sponsor a rich and extensive series of readings and lectures by poets, fiction writers, and scholars, all open to students in the department.

The Association of Graduate Students in English sponsors social and intellectual events during the year and provides a forum for student opinion. All graduate students in the department are members.

## English Courses

Individual descriptions for most English courses are not included because content and emphasis may vary considerably from one semester to the next. For detailed descriptions of each semester's courses, visit the University's ISIS web site.

### Courses for Non-English Majors

<b>08A:080 Nonfiction Writing for Non-English Majors</b>	3 s.h.
<b>08A:104 Personal Writing for Non-English Majors</b>	3 s.h.
<b>08A:106 Literature and Culture of 20th-Century America for Non-English Majors</b>	3 s.h.
<b>08A:113 Writing for Business and Industry for Non-English Majors</b>	3 s.h.
<b>08A:133 British Novel: Scott to Conrad for Non-English Majors</b>	3 s.h.
<b>08A:135 Forms of the Essay for Non-English Majors</b>	3 s.h.
<b>08A:142 Popular Literature for Non-English Majors</b>	3 s.h.
<b>08A:188 Prose by Women Writers for Non-English Majors</b>	3 s.h.

## General Education

Note: 08C:001 Creative Writing Studio Workshop and 08N:020 Introduction to Creative Nonfiction do not count toward the English major or minor.

### 08C:001 Creative Writing Studio Workshop

3 s.h.

Experience reading and writing fiction, poetry, and personal narrative in a workshop setting; study of published work and critical discussion from a writer's standpoint; critique of class members' work. GE: Fine Arts, Humanities.

### 08N:020 Introduction to Creative Nonfiction

3 s.h.

Creative nonfiction genres explored through readings, discussion, and writing exercises; introduction to the workshop environment; for English nonmajors. GE: Fine Arts.

## Literature, General Education

All students who seek a degree from the College of Liberal Arts and Sciences, except English majors, must take 08G:001 08G:001 The Interpretation of Literature as part of the General Education Program. English majors should substitute any course that is approved for General Education in the humanities, except those numbered 08G.

Course 08G:001 (or its equivalent by examination or transfer) is a prerequisite for courses 08G:002 Biblical and Classical Literature through 08G:015 Women and Literature. The pass/nonpass option is available only for students in the Colleges of Nursing and Engineering with consent of the student's advisor and the instructor. Students must successfully complete the rhetoric requirement before they take 08G courses.

### 08G:001 The Interpretation of Literature

3 s.h.

Ways of reading; focus on reader, text, contexts; poetry, short fiction, drama, novels. Requirements: successful completion of the rhetoric requirement. GE: Interpretation of Literature.

### 08G:002 Biblical and Classical Literature

3 s.h.

Literatures of ancient cultures--Jewish and Christian, Greek and Roman--that have deeply affected later civilizations. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

### 08G:003 Medieval and Renaissance Literature

3 s.h.

English and European poetry, prose, drama circa 400-1700 in dialogue with contemporary concerns. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

### 08G:004 Heroes and Villains

3 s.h.

Heroes, heroines, and villains as products of the imagination; literary representations of heroes, heroines, and villains in varied social and historical situations; how their representation shapes our understanding of heroism and of villainy. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. Recommendations: closed to students who have taken 08G:012. GE: Humanities.

### 08G:005 Literatures of Native American Peoples

3 s.h.

Genres of Native American literature, including oral literature; focus on written literature (fiction, essays, poetry, drama). Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Cultural Diversity, Humanities. Same as 149:005.

### 08G:006 Fictions

3 s.h.

Selected masterpieces and recent developments in the art of storytelling in poetry and prose. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

### 08G:007 Poetry

3 s.h.

Poetry from major periods of development as well as contemporary verse; emphasis on distinctive language, major formal patterns of poetry. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

**08G:008 Drama**

3 s.h.

Plays from a wide range of periods; relationship of text to performance. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

**08G:009 American Lives**

3 s.h.

Major works of American literature. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

**08G:011 Literature and Sexualities**

3 s.h.

Works from various genres, time periods, cultures that reflect and construct a wide range of sexual identities. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Cultural Diversity, Humanities.

**08G:012 Comic and Tragic Literature**

3 s.h.

Interrelations of comic and tragic literature, including film and other popular media, and their connection with human experience; comic and tragic forms and their uses in different social and historical situations. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. Recommendations: closed to students who have taken 08G:004. GE: Humanities.

**08G:014 Literatures of the African Peoples**

3 s.h.

Works in English by authors of African descent from America, continental Africa, the Caribbean. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Foreign Civilization & Culture, Humanities. Same as 129:008.

**08G:015 Women and Literature**

3 s.h.

Works from various genres and time periods focusing on a wide range of women's experiences. Prerequisites: 010:002 or 010:003, and 08G:001. Requirements: successful completion of the rhetoric requirement and then 08G:001. GE: Humanities.

**Literature, Primarily for Undergraduates**

English department courses are open to all undergraduates who have satisfied the rhetoric requirement. Undergraduates are encouraged to complete the required course 008:005 Introduction to the English Major: Theory and Practice as soon as they declare the English major. Students also are encouraged to take one or more introductory departmental courses (008:030 Introduction to Cultural Studies through 008:038 Introduction to the Essay) before attempting 100-level courses.

Courses 008:098 Honors Proseminar, 008:198 Undergraduate Honors Project, and 008:199 Special Project for Undergraduates may be repeated. Most courses with the 008 prefix may not be repeated. Occasionally, with written consent from the department's Undergraduate Advising Office, a student may repeat a course if the course's subject matter is different from that of a course the student already has taken.

**008:001 Modern Fiction**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:002 Postmodern Fiction**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:004 Literary Readings Attendance**

1 s.h.

Attendance at diverse literary readings and scholarly presentations on The University of Iowa campus and in Iowa City, featuring visiting, local, and University of Iowa writers and scholars.

**008:005 Introduction to the English Major: Theory and Practice**

3 s.h.

History and practice of English as a discipline; four central aspects of literary study.

**008:008 Classical and Biblical Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:011 Films and Screenplays** 3 s.h.

Films and their origins in original screenplays or adaptations; the screenplay as a distinct form of creative writing. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 048:011.

**008:030 Introduction to Cultural Studies** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st Century Literature.

**008:031 Introduction to Postcolonial Studies** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA (fall 2010 only): Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st Century Literature. AREA (spring 2011 and after): Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and 21st Century Literature.

**008:032 Introduction to the English Language** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st Century Literature.

**008:033 Introduction to Criticism and Theory** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:034 Introduction to the Novel** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:035 Introduction to Poetry** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:036 Introduction to the Short Story** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:037 Introduction to Drama** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:038 Introduction to the Essay** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:052 Literature, Culture, and Women** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 131:052.

**008:053 Lyric Structures** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:055 American Poetry** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:056 American Literary Classics** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:057 American Novel Before 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:058 American Novel After 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th and/or 21st-Century Literature.

**008:059 American Short Story** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:060 Selected Works of the Middle Ages** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:062 Eighteenth-Century British Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:063 British Romanticism** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:064 Victorian Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:065 Twentieth-Century British Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:066 Twenty-first-Century British Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:069 Selected African American Authors** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 129:069.

**008:075 Selected Transnational Authors** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:076 Selected Early Authors** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:078 Selected British Authors Before 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:079 Selected British Authors After 1900** 3 s.h.

English majors may apply the following course to the area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:081 Film and Literature** 3 s.h.



Relationships among films, novels, plays, adaptations; shared and distinct formal elements of cinematic and literary texts, their cultural functions. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 048:081.

**008:082 Latina/o Studies** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:083 Topics in African American Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:084 Topics in Culture and Identity** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:085 Topics in British Culture and Identity** 3 s.h.

How culture and identity of British society are created and reflected through literature and other discursive systems; focus on a specific topic and area. English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:086 Topics in Asian American Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:087 Selected American Authors Before 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:088 Selected American Authors After 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:090 Topics in Modern British Literature Before 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:091 Topics in Modern British Literature After 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:100 Literature and Culture of Seventeenth-Century England** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:101 Literature and Culture of the Middle Ages** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 162:101.

**008:102 Literature and the Culture of the Renaissance** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:103 Literature and Culture of Eighteenth-Century Britain** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:104 Literature and Culture of Nineteenth-Century Britain** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:105 Literature and Culture of Nineteenth-Century America** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:106 Literature and the Culture of Twentieth-Century America** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:107 Literature and Culture of Nineteenth-Century Scotland** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:108 Literature and Culture of America Before 1800** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:109 Literature and Culture of the Twentieth Century** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:110 Literature and Culture of 20th- and 21st-Century Britain** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:111 Literature and Culture of the Restoration** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:112 Literature and Culture of the Romantic Period** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:113 Literature and Culture of the Americas** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:114 Caribbean Literature and Culture** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:115 Literatures of the American Peoples** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:116 African American Literature Before 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature. Same as 129:116.

**008:117 African American Literature Since 1900** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 129:117.

**008:118 Jewish American Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:119 African Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 129:119.

**008:121 British Poetry**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:122 16th- and 17th-Century Poetry**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:123 American Literature and History**

3 s.h.

Examination of fictional histories (novels about history), their relationship to historical interpretation. English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 045:123.

**008:127 Topics in Asian Cinema**

3 s.h.

Issues or topics in East or South Asian cinemas. English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 039:145, 048:106.

**008:128 London Performance Study**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 049:177.

**008:129 Topics in Criticism and Theory**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:130 Literature and the Book**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Early Literatures through 17th-Century, 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 108:181.

**008:131 European Literature of the Nineteenth Century**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature. Same as 048:109.

**008:132 Literature of the Indian Subcontinent**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:133 Inter-American Studies**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:134 Introduction to Book Studies**

3 s.h.

Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 108:185.

**008:135 Topics in American Literature Before 1900**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:136 Topics in Popular Culture**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:137 African American Autobiography**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 129:181.

**008:138 Topics in Postcolonial Studies**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:139 Topics in American Literature After 1900**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:140 Elementary Old English**

3 s.h.

Reading knowledge of Old English; introduction to Anglo-Saxon literature and culture. English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 103:132.

**008:141 Old English Beowulf**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:142 Medieval Celtic Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:143 Medieval Norse Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:144 Medieval Drama**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 049:181.

**008:145 English Renaissance Drama**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 049:184.

**008:146 Chaucer**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:147 Shakespeare**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 049:072.

**008:148 Milton**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:149 Spenser**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:150 Topics in Medieval and Renaissance Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

**008:153 Native American Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 149:113.

- 008:154 American Regional Literatures** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.
- 008:157 Topics in African Cinema** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 129:158.
- 008:161 Transnational and Postcolonial Writing by Women** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 048:161.
- 008:162 Midwest African American Literature and Culture** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 129:162.
- 008:163 Identity and Social Issues** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.
- 008:164 Topics in Transnational Literature** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.
- 008:165 Diaspora and Transnational Migrations** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.
- 008:167 Literature and Culture of Empire** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.
- 008:168 Topics in Poetry and Poetics** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.
- 008:169 Changing Concepts of Women in Literature** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 131:169.
- 008:170 Literary Genres and Modes** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.
- 008:171 Digital Media and Poetics** 3 s.h.  
Theory and practice of one or more varieties of digital composition; digital art analyzed and created in specific forms--radio drama, interactive fiction, procedural and constructivist poetics. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.
- 008:172 Narrative and the Cinema** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 048:172.
- 008:173 Topics in Digital Media** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 049:174.
- 008:174 Topics in Law and Culture** 3 s.h.

Cultural studies methodologies adapted to examining the relationship between law and culture; area focus and topics vary. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:175 Topics in Film and Literature** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 048:175.

**008:176 Literature and Philosophic Thought** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:177 Literature and Art** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 048:177.

**008:178 Modern British Drama** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature.

**008:179 Literature and Society** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 048:179.

**008:180 American Drama Before 1900** 3 s.h.

American playwrights and plays before 1900. English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature.

**008:182 Science Fiction** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:183 Modern Drama** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:186 African American Drama** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 049:186, 129:186.

**008:188 Prose by Women Writers** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 131:188.

**008:189 Digital Cultures and Literacies** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:190 Topics in Book History** 3 s.h.

Authorship, publishing, and so forth within specific historical and cultural contexts. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Early Literatures Through 17th Century, 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 108:186.

**008:191 International Literature Today** 1-3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 181:191.

**008:192 Seminar in Interdisciplinary Studies**

3 s.h.

Exploration of how readings of theory can be evaluated through discussions and readings in literature; seminar. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:193 Transcultural Modernism**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:194 Introduction to Feminist Criticism**

3 s.h.

Introduction to feminist interpretation of literature, feminist literature, feminist theories, and uses of literature in forming feminist politics. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 131:194.

**008:195 Modernist Women Writers**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th- and/or 21st-Century Literature.

**008:196 American Novel Since 1945**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature.

**008:197 American Drama Since 1900**

3 s.h.

American playwrights and plays after 1900. English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 049:117.

**Nonfiction and Creative Writing**

Courses 08C:023 Creative Writing, 08C:097 Fiction Writing, 08C:098 Poetry Writing, 08C:163 Undergraduate Writers' Workshop: Fiction, 08C:166 Undergraduate Writers' Workshop: Poetry, 08C:167 Undergraduate Writers' Seminar, 08C:195 Undergraduate Project in Creative Writing, 08N:120 Advanced Nonfiction Writing, 08N:130 Special Readings in Nonfiction, 08N:145 Multimedia Writing, 08N:150 Undergraduate Essay Workshop, and 08N:199 Undergraduate Project in Nonfiction Writing may be repeated. Others may be repeated with consent of the instructor. Courses 08N:090 Intermediate Nonfiction Writing, 08N:120 Advanced Nonfiction Writing, and 08N:130 Special Readings in Nonfiction have prerequisites. Course 08N:150 Undergraduate Essay Workshop requires consent of instructor (see course description on ISIS). Creative Writing Studio Workshop (08C:001) and Introduction to Creative Nonfiction (08N:020) cannot be counted toward the English major or minor.

**08C:023 Creative Writing**

3 s.h.

Guidance in the process of writing fiction and poetry; writing as exploration; development of students' critical skills as readers; application of new knowledge and skills to students' own writing. English majors may apply this course (except EX sections) to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**08C:097 Fiction Writing**

3 s.h.

Analysis of works of accomplished fiction writers; critique of class members' short stories, in writing and in class; discussion of how class members use language, characterization, point of view, other elements of fiction in their work. English majors may apply this course (except EX sections) to the following area and/or period requirement. PERIOD: 20th- and/or 21st-Century Literature.

**08C:098 Poetry Writing**

3 s.h.

Careful writing of poems, reading of poetry by class members as well as established poets; supportive workshop context.

**08C:101 Creative Writing for Business**

3 s.h.

Opportunity to broaden understanding of literature, improve writing, and enhance ability to approach business problems in a creative and inspired manner; close reading and creative writing exercises used to develop appreciation of the written word, improve ability to express thoughts and ideas, and become more conscious of the quality of students' own written work. Requirements: rhetoric. Same as 145:101.

<b>08C:107 Creative Writing for the Health Professions</b> Same as 145:107.	3 s.h.
<b>08C:108 Creative Writing for New Media</b> Prepares creative writers for evolving marketplace of electronic text, media; experience writing in varied media such as the Internet, e-books, video games, mobile devices, emergent social narratives. Same as 145:108.	3 s.h.
<b>08C:110 Creative Writing for the Ecologically Aware: Stories in the Land</b> How humans tether to their environment through stories; students write stories and through writing explore if there is a new tie to sustainable history. Same as 145:110.	3 s.h.
<b>08C:115 Creative Writing and Popular Culture</b> Creative writing through the lens of popular culture; topics include television, film writing, adaptations, commercials, advertising, magazines, newspapers, comic books, song lyrics, billboards, and backs of cereal boxes. Same as 145:115.	3 s.h.
<b>08C:163 Undergraduate Writers' Workshop: Fiction</b>	arr.
<b>08C:166 Undergraduate Writers' Workshop: Poetry</b>	arr.
<b>08C:167 Undergraduate Writers' Seminar</b> Exploration of literature to develop substance and craft; class sessions designed around topic chosen by instructor; modeled after Writers' Workshop graduate reading seminars. Requirements: completion of rhetoric requirement.	3 s.h.
<b>08C:195 Undergraduate Project in Creative Writing</b>	arr.
<b>08N:080 Nonfiction Writing</b> Forms of nonfiction explored in workshop environment; experience in all stages of the writing process; portfolio.	3 s.h.
<b>08N:090 Intermediate Nonfiction Writing</b> Nonfiction writing and reading; exploration of subjects, styles, and forms of the essay. Prerequisites: 08N:080. Requirements: undergraduate standing.	3 s.h.
<b>08N:102 Prose Style</b> Sentences: how they work, what they do; how sentences can help writing, expand understanding of prose style, stretch options.	3 s.h.
<b>08N:104 Personal Writing</b>	3 s.h.
<b>08N:113 Writing for Business and Industry</b>	3 s.h.
<b>08N:120 Advanced Nonfiction Writing</b> Essay writing; focus on workshop environment. Prerequisites: 08N:080. Requirements: undergraduate standing.	3 s.h.
<b>08N:125 Freelance Reporting and Writing</b> Approaches to writing and marketing articles to magazines, newspapers, other publications; developing ideas, researching periodical markets, writing queries, writing and rewriting articles for publication. Prerequisites: 019:098. Requirements: journalism major. Same as 019:125.	4 s.h.
<b>08N:130 Special Readings in Nonfiction</b> A particular author, genre, or structure in nonfiction; close readings of published essays; focus on students' writing in relation to the special topic. Prerequisites: 08N:080 or 08N:090. Requirements: undergraduate standing.	3 s.h.
<b>08N:133 Team Writing for Business</b>	3 s.h.
<b>08N:140 Editing a Literary Magazine</b> Introduction to literary magazines; hands-on experience. Requirements: successful completion of four English courses.	3 s.h.
<b>08N:141 Approaches to Teaching Writing</b>	3 s.h.



Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. PERIOD: 20th- and/or 21st-Century Literature. Same as 07S:155.

**08N:145 Multimedia Writing** 3 s.h.

Multidisciplinary sessions mixing media production, creative nonfiction, and literary theory; topics ranging from hypertext authoring and electronic magazine publishing to sound art and digital video; principles and practices of writing for alternative media, theoretical understanding of how various media frame the situation; radio essay, video essay, interactive animation, web authoring, electronic magazine publishing.

**08N:146 Film and Writing** 3 s.h.

Writers' introduction to digital video; compelling forms of nonfiction filmmaking from the film essay to the environmental documentary; how to convert texts into film, conduct interviews, and shoot and edit digital video; emphasis on careful analysis and making of whitely films.

**08N:147 Graphic Writing** 3 s.h.

The photo essay and the graphic memoir, two modes of nonfiction that have steadily increased in prominence and popularity; key texts in both genres (i.e., Dorothea Lange's *American Exodus*, Marjane Satrapi's *Persepolis*, or Art Spiegelman's *Maus*); writing and producing photo essays and short graphic memoirs.

**08N:148 Radio and Writing** 3 s.h.

Writing with sound; introduction to radio essays and documentaries with focus on digital audio; analyze key radio works and essayists; produce voiceovers, record interviews, mix music, edit sound and spoken texts in making radio art.

**08N:150 Undergraduate Essay Workshop** 3 s.h.

Experience working on new nonfiction projects, drafting and preparing one piece throughout a semester; individualized work to promote understanding of and creation in genres of nonfiction writing. Requirements: undergraduate standing, successful completion of two 08N courses, and submission of manuscript.

**08N:183 Invention** 3 s.h.

How to get writing going, keep it going, and write in an authentic meaningful way. English majors may apply this course to the following area and/or period requirement. PERIOD: 20th- and/or 21st-Century Literature. Same as 160:183.

**08N:192 Dublin Writing Workshop** 3 s.h.

Intensive writing workshops for aspiring creative writers; study abroad in Dublin, Ireland. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**08N:199 Undergraduate Project in Nonfiction Writing** arr.

**Writers' Seminars**

**8WS:120 Writer's House Seminar** 3 s.h.

In-depth focus on works by and about visiting writers and literature that contextualizes their work; multiple genres; seminar. Requirements: English major and admission to Undergraduate Creative Writing track.

**8WS:121 Writers' Seminar: Fiction** 2 s.h.

In-depth exploration and analysis of creative works in fiction. Requirements: English major and admission to Undergraduate Creative Writing track.

**8WS:122 Writers' Seminar: Poetry** 2 s.h.

Indepth exploration and analysis of creative works in poetry. Requirements: English major and admission to Undergraduate Creative Writing track.

**8WS:123 Writers' Seminar: Nonfiction** 2 s.h.

Rigorous exploration and analysis of a range of nonfiction creative works. Requirements: English major and admission to Undergraduate Creative Writing track.

**8WS:124 Writers' Seminar: Literary Translation**

2 s.h.

Rigorous exploration and analysis of a range of creative works in literary translation. Requirements: English major and admission to Undergraduate Creative Writing track.

**8WS:125 Writers' Seminar: Playwriting**

2 s.h.

Rigorous exploration and analysis of a range of creative works in drama. Corequisites: 8WS:120. Requirements: admission to Undergraduate Creative Writing track.

**8WS:170 Creative Writing Track: Advanced Topics**

3 s.h.

Advanced writing and reading for undergraduate creative writing track; topics vary. Requirements: admission to Undergraduate Creative Writing track.

**Special Topics**

These courses do not fulfill area or period requirements for the English major. They may be used to earn elective credit in the major.

**008:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**008:151 Literature and Anthropology**

3 s.h.

Topics vary. Same as 048:151, 113:109.

**008:155 Tolstoy and Dostoevsky**

3-4 s.h.

Tolstoy's *War and Peace*, *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Brothers Karamazov*, and short stories. Taught in English. Same as 041:155.

**008:156 Invitation to Nabokov**

3 s.h.

Nabokov's works and his writings on Russian literature. Same as 041:156, 048:156.

**008:159 African Literature Today**

3 s.h.

Contemporary written and oral African literary texts, literary theories relevant to study of African literatures. Same as 048:159, 187:159.

**008:199 Special Project for Undergraduates**

arr.

**Honors****008:098 Honors Proseminar**

3 s.h.

English majors may apply this course to varied area and/or period requirements. Requirements: 3.20 cumulative g.p.a.

**008:120 Honors Thesis Workshop**

3 s.h.

Prerequisites: 008:098. Requirements: English major g.p.a. of 3.33.

**008:198 Undergraduate Honors Project**

1-3 s.h.

Requirements: admission to English honors program.

**Literature for Graduate Students**

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

**Introductory Course****008:201 Introduction to Graduate Study**

1 s.h.

## Graduate Reading Courses

<b>008:210 Doctoral Workshop in English</b>	arr.
<b>008:212 Bible and Literature</b>	3 s.h.
<b>008:216 Medieval Authors</b>	3 s.h.
<b>008:218 Readings in Medieval Literature and Culture</b>	3 s.h.
<b>008:219 Sixteenth- and Seventeenth-Century Authors</b>	3 s.h.
<b>008:220 Readings in Sixteenth- and Seventeenth-Century Genres</b>	3 s.h.
<b>008:222 Restoration and Eighteenth-Century Literature</b>	3 s.h.
<b>008:223 Romantic Literature</b> Same as 048:223.	3 s.h.
<b>008:224 Victorian Literature</b>	3 s.h.
<b>008:225 Late Victorian and Edwardian Literature</b>	3 s.h.
<b>008:228 Studies in African American Literature</b>	3 s.h.
<b>008:229 Introduction to Contemporary Theory</b>	3 s.h.
<b>008:235 Readings in Twentieth-Century Literatures I</b>	3 s.h.
<b>008:236 Readings in Twentieth-Century Literatures II</b>	3 s.h.
<b>008:238 Readings in American Indian Literature</b>	3 s.h.
<b>008:239 Queer Theory</b> Same as 048:239.	3 s.h.
<b>008:240 Readings in American Literary Genres</b>	3 s.h.
<b>008:241 Topics in Contemporary Literature</b>	3 s.h.
<b>008:242 African American Cultural and Literary Criticism 1900-Present</b> Diverse range of African American cultural and literary criticism from 1900 to the present; the new negro; racial integration; race, gender, and sexuality; Black public intellectuals. Same as 045:242.	3 s.h.
<b>008:243 Feminist Cultural Studies</b> Same as 010:243, 036:222, 131:243, 160:243.	3 s.h.
<b>008:247 American Literary Magazines</b> Aspects of American literary magazines, from city journals to monthly periodicals; from historical moment to marketplace demand.	3 s.h.
<b>008:249 Modernist Studies</b>	3 s.h.
<b>008:250 Readings in American Literature</b> American literature of the 18th century. Repeatable.	3 s.h.

- 008:251 Inter-American Cultural Studies** 3 s.h.  
Key literary and critical texts in the emerging fields of inter-American hemispheric, and Latina/Latino American studies.
- 008:252 Readings in Latina/o Literary and Cultural Studies** 3 s.h.  
Survey of Latina/o literature and criticism to prepare for comprehensive exam; organized by thematic units that stress canonical and emerging research areas in Latina/o literary and cultural studies.
- 008:253 Shakespeare** 3 s.h.  
Same as 049:213.
- 008:254 Readings in American Literature II** 3 s.h.  
Nineteenth-century American literature. Repeatable.
- 008:258 Readings in American Literature III** 3 s.h.  
Twentieth- and 21st-century American literature. Repeatable.
- 008:260 Modes of Critical Analysis** 3 s.h.  
Critical practice applicable to English language and literature.
- 008:261 Studies in Postmodernism** 3 s.h.  
Aspects of postmodernism as aesthetic practice and critical theory in literary and cultural studies.
- 008:270 Introduction to Cultural Studies** 3 s.h.
- 008:271 Studies in Sentimentalism** 3 s.h.  
Readings in sentimentalism as literary genre, rhetorical practice, cultural mode, and psycho-social phenomenon; focus on attendant theories of affect; integration of literature and culture with work on the politics of affect in postcolonial and transnational studies, critical race and ethnic studies, American studies, and gender and sexuality studies. Same as 010:271.
- 008:272 Topics in Interdisciplinary Studies** 3 s.h.  
Interdisciplinary approaches to literature and culture.
- 008:274 Postcolonial Women's Writing** 3 s.h.  
Same as 131:274.
- 008:275 Literature as Letters** 3 s.h.
- 008:276 Writing and Revolution** 3 s.h.
- 008:280 Reading the Image** 3 s.h.  
Assessment and preparation of strategies for interdisciplinary discussion of image textualization.
- 008:283 New Media Poetics** 3 s.h.

### Graduate Special Topics

- 008:313 Digital Rhetoric** 3 s.h.  
Current discourse (utopic, dystopic, other strands) about the Internet as it shapes and is shaped by competing forces. Repeatable. Same as 160:313, 650:313.

### Seminars

Advanced work in literary history, criticism, and theory; concentration varies from semester to semester.

- 008:231 Crossing Borders Seminar** 2-3 s.h.

Repeatable. Same as 013:262, 016:247, 01H:247, 030:242, 035:273, 044:286, 048:247, 113:247, 129:231, 160:247, 181:247.

**008:402 Seminar: Medieval Literature and Culture** arr.  
Same as 048:402.

**008:407 Seminar: Renaissance Literature** arr.  
Same as 048:407.

**008:418 Seminar: Bodies Politic** 3 s.h.

**008:421 Seminar: Restoration and Eighteenth-Century Literature** arr.

**008:431 Seminar: Romantic Literatures** arr.

**008:432 Seminar: Victorian Literature** arr.

**008:440 Seminar: Studies in the Twentieth Century** arr.

**008:450 Seminar: Postcolonial Studies** 3 s.h.  
Same as 048:454.

**008:452 Walt Whitman** 3 s.h.  
Walt Whitman's writings and career.

**008:458 Seminar: American Literature and Culture** arr.

**008:460 Seminar: Problems in Aesthetics and Literary Theory** arr.  
Same as 048:460.

**008:461 Seminar: Literary Criticism and Theory** 3 s.h.  
Analysis of issues in current literary criticism and theory and of texts from related fields, such as aesthetics, cultural studies, political science, psychology, and philosophy.

**008:462 Seminar: Cultural Studies** arr.

### Independent Study

**008:500 Advanced Studies in an Author** arr.

**008:505 Advanced Studies in a Literary Period** arr.

**008:510 Advanced Studies in a Literary Form** arr.

**008:515 Advanced Studies in a Literary Genre** arr.

**008:520 Advanced Studies in a Literary Mode** arr.

**008:525 Advanced Studies in a Literary Movement** arr.

**008:530 Advanced Studies in a Literary Theme** arr.

**008:535 Advanced Studies in Literary Criticism** arr.

**008:550 Advanced Studies in an Interdisciplinary Subject** arr.

<b>008:585 M.A. Thesis in Literary Studies</b>	arr.
<b>008:590 Special Project for Graduate Students</b>	arr.
<b>008:595 Ph.D. Thesis</b>	arr.

## Linguistics and Language

The undergraduate courses below do not fulfill area or period requirements for the English major but may be used to earn elective credit for the major.

**08L:100 Introduction to Linguistics** 3 s.h.  
Introduction to the study of human language: sounds and their contrasts and variation, words and meaningful subunits, sentence structure, historical change. Same as 103:100.

**08L:131 History of the English Language** 3 s.h.  
Development of phonological and grammatical structure of English, from Old to Modern English; dialectal differentiation in English. Prerequisites: 103:100. Same as 103:131.

## Professional Training

The following courses offer theoretical and practical training for those who plan to teach.

**08P:182 Language and Learning** 2-3 s.h.  
How language reflects and constructs learners' identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as 07S:182.

**08P:190 Methods: Secondary English** 3 s.h.  
Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: 07S:114. Same as 07S:115.

**08P:198 Reading and Teaching Adolescent Literature** 3 s.h.  
Reading and evaluation of literature suitable for junior and senior high school students. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as 07S:193.

**08P:204 Literature for Children II** 3 s.h.  
Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as 07E:204.

**08P:300 Introduction to Qualitative Methods in Literacy Research** 3 s.h.  
Conceptual and practical exploration of qualitative research design methods, including data collection, analysis, and reporting; understanding proposal writing. Same as 07S:370.

**08P:405 M.A. Seminar: English Education** arr.  
Significant developments in English education; primary and collateral readings. Same as 07S:315.

**08P:425 Ph.D. Seminar in Language, Literacy, and Culture** arr.  
Historical, recent research and theory in literacy education; topics vary. Same as 07S:415.

## Nonfiction Writing

Courses 08N:250 Forms of Nonfiction, 08N:255 Forms of the Essay, 08N:262 Readings in Nonfiction, 08N:350 Essay Writing Workshop, and 08N:355 Nonfiction Writing Workshop may be repeated. Others may be repeated with consent of the instructor and the director of graduate studies.

### Practice in Writing

These courses give intensive attention to composition and exposition and to formal and thematic problems, both in the meditative essay and in extended works of nonfiction.

**08N:250 Forms of Nonfiction** arr.

**08N:255 Forms of the Essay** arr.

**08N:340 Writing for Learned Journals** 1-4 s.h.

Help for graduate students in bringing written work to publishable form; analysis of target journals' audiences and interests; submission, response to criticism. Same as 160:300, 650:300.

**08N:350 Essay Writing Workshop** 4 s.h.

**08N:355 Nonfiction Writing Workshop** arr.  
Repeatable.

### Theory and Practice of Writing

These courses combine theory and analysis of nonfiction writing with practical experimentation in writing. They are intended for people who want to practice, criticize, and/or teach nonfiction writing.

**08N:202 Teaching Nonfiction** 3 s.h.

Theories and practices of teaching nonfiction writing; writing workshop approaches, strategies to encourage response and revision, connections between reading and writing, diversity of form, language, and assessment.

**08N:262 Readings in Nonfiction** 3 s.h.  
Same as 160:262.

**08N:270 Twenty-first-Century Nonfiction** arr.

**08N:365 Overseas Writing Workshop** arr.

**08N:375 Teaching in a Writing Center** 3 s.h.

Seminar/practicum to prepare graduate students to teach in the University of Iowa Writing Center or similar settings; seminar component on writing and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in the Writing Center. Same as 010:375.

### Independent Study

**08N:550 Special Project in Nonfiction Writing** arr.

**08N:580 Thesis in Nonfiction Writing** arr.

## Creative Writing

All may be repeated.

### Workshops and Seminars

Open only to Iowa Writers' Workshop students or to others with consent of instructor.

**08C:251 Fiction Workshop** arr.

**08C:252 Poetry Workshop** arr.

**08C:270 Form of Fiction** 3 s.h.

**08C:275 Form of Poetry** 3 s.h.

**08C:297 Fiction Writing** 3 s.h.

Reading and discussion of published stories and those written by class members, with the aim of improving writing through careful reading and reflection, spirited discussion, and written comments. Repeatable.

**08C:298 Poetry Writing** 3 s.h.

Careful writing and reading of poems by students as well as by established poets; thorough discussion in a supportive context. Repeatable.

**08C:490 Seminar: Problems in Modern Fiction** arr.

**08C:495 Seminar: Problems in Modern Poetry** arr.

### Independent Study

**08C:555 Graduate Project in Creative Writing** arr.

**08C:590 M.F.A. Thesis** arr.

## Translation Studies

The undergraduate courses below do not fulfill area or period requirements for the English major but may be used to earn elective credit for the major.

**08W:079 Undergraduate Translation Workshop** 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Requirements: working knowledge of a language other than English. Same as 048:079.

**08W:260 Translation Workshop** 3 s.h.

Requirements: at least one foreign language. Same as 048:260, 181:260.

**08W:265 Seminar Issues in the History of Translation** 3 s.h.

Selected readings, current debate on translation's history and theory. Same as 048:270.



# English as a Second Language

**Chair:** Linda Maxson

**Director:** Maureen Burke

**Web site:** <http://www.uiowa.edu/~iiepesl/ESL/eslindex.html>

The University of Iowa offers English as a Second Language (ESL) instruction in three distinct, but related, programs: ESL credit classes, the Iowa Intensive English Program (IIEP), and the Teaching Assistant Preparation in English program (TAPE). These programs meet the needs of students whose first language is not English. ESL credit classes help students raise their English proficiency so they can complete a degree successfully. IIEP provides intensive instruction for students who must raise their English proficiency to gain admission to a university or college. TAPE helps students improve their oral competence in English so they may assume classroom teaching responsibilities.

## ESL Credit Classes

English as a Second Language Credit Classes bridge the gap between full-time language instruction and full-time academic work, serving students who score 530-599 (paper-based) or 71-100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). ESL courses are offered to increase proficiency in four skill areas: reading, writing, speaking, and listening. Courses also are offered in grammar and pronunciation. Each course carries 3 s.h. of credit, which undergraduates may count as elective credit toward graduation. Courses are taught by teaching assistants pursuing advanced degrees in linguistics.

Courses taken to meet the College of Liberal Arts and Sciences English proficiency requirement may not be taken P/N. ESL courses may not be taken S/U. All required ESL courses must be completed before registration in rhetoric courses. Once enrolled, students may not drop ESL courses.

## Iowa Intensive English Program (IIEP)

The IIEP primarily serves students on conditional admission and persons who have not yet been admitted to the University and who score below 530 (paper-based) or 71 (Internet-based) on the Test of English as a Foreign Language (TOEFL). The program offers intensive English instruction and a cultural, social, and academic orientation to the United States. Instruction emphasizes proficiency in spoken and written English, which is crucial to college and university work. Grammar and the basic language skills of writing, reading, listening comprehension, and speaking are taught each day at all levels, beginning through advanced.

Each student receives 20 hours of classroom instruction each week plus individual work in the language laboratory. Field trips and cultural and social experiences are an integral part of the program. Students enrolled in the IIEP have full access to all University facilities. The program welcomes international students preparing to enter universities and colleges as well as other adults who want to improve their English skills. Instruction is by full-time professional ESL instructors.

International students admitted to the IIEP receive a certificate of eligibility (Form I-20), which enables them to apply for a student visa at the nearest U.S. consulate or embassy. Application materials are available from the ESL Programs Office and on the Iowa Intensive English Program web site.

## Teaching Assistant Preparation in English (TAPE)

The Teaching Assistant Preparation in English program (TAPE) is designed for graduate students whose first language is not English, who need additional work on English communication, and who will hold teaching assistantships while at The University of Iowa. Only students who need the program and who have sufficient competence in English to profit from it are eligible. TAPE courses are open to graduate students who have been evaluated for TA certification and to others if space is available. Students are taught by full-time professional ESL instructors.

# English as a Second Language Courses

## ESL Credit Classes

The following courses are for students whose first language is not English. Courses taken to meet the College of Liberal Arts and Sciences English proficiency requirement may not be taken P/N. English as a Second Language (ESL) courses may not be taken S/U. In order to enroll in ESL courses, undergraduates must score 530 (paper-based), 197 (computer-based), or 71 (Internet-based) or higher on the Test of English as a Foreign Language (TOEFL), or the equivalent; graduate students must score 550 (paper-based), 215 (computer-based), or 81 (Internet-based) or higher on TOEFL, or the equivalent. Consent of ESL coordinator is required for all courses.

### 212:184 English as a Second Language: Conversation Skills

3 s.h.

Speaking skills for the U.S. academic setting and society; pronunciation, grammar, vocabulary; structured opportunity to develop fluency.

**212:185 English as a Second Language: Pronunciation and Oral Skills** 3 s.h.

Development of skills appropriate to formal speaking; diagnosis and correction of persistent pronunciation problems; correct stress, intonation.

**212:186 English as a Second Language: Grammar** 3 s.h.

English structure; troublesome grammar patterns.

**212:187 English as a Second Language: Writing** 3 s.h.

Complex grammatical constructions, discourse considerations, formal vocabulary use expected of university students; organization styles, types of argumentation, analytic methods used in academic writing. Requirements: undergraduate standing.

**212:188 English as a Second Language: Oral Skills for M.B.A. Students** 3 s.h.

Improvement of M.B.A. students' oral skills; focus on career-oriented situations (interviews, presentations, discussions, meetings). Requirements: full-time M.B.A. study and enrollment by test.

**212:189 English as a Second Language: Reading Skills** 3 s.h.

Increasing reading speed and comprehension of university-level writing and vocabulary; exercises, discussion, and note-taking assignments to develop critical analysis skills.

**212:190 English as a Second Language: Writing Skills for Graduate Students** 3 s.h.

Discourse considerations; styles of organization, types of argumentation, methods of analysis expected of graduate students. Requirements: TOEFL score of at least 550 (paper-based) or 213 (computer-based) or 81 (Internet-based), and graduate standing.

**Iowa Intensive English Program (IIEP)**

These courses are for students whose first language is not English. The Iowa Intensive English Program primarily serves students on conditional admission, those who have not yet been admitted to the University, and those who score below 530 (paper-based), 197 (computer-based), or 71 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

**212:002 Iowa Intensive English: Communication Skills for Professionals** 0 s.h.

Listening and speaking skills for international professionals; conversational fluency, language for professional interactions (e.g., discussions and presentations).

**212:010 TOEFL Prep** 0 s.h.

Development of students' test-taking skills for the TOEFL examination; emphasis on listening comprehension, grammar, and reading comprehension; test taking skills developed through exercises and practice TOEFL tests. Requirements: IIEP high-intermediate or advanced-level standing.

**212:011 Iowa Intensive English Communication Skills: Beginning** 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**212:012 Iowa Intensive English Communication Skills: Low Intermediate** 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**212:013 Iowa Intensive English Communication Skills: Intermediate** 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**212:014 Iowa Intensive English Communication Skills: High Intermediate** 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**212:015 Iowa Intensive English Communication Skills: Advanced** 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**212:031 Iowa Intensive English Reading: Beginning** 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**212:032 Iowa Intensive English Reading: Low Intermediate** 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**212:033 Iowa Intensive English Reading: Intermediate** 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**212:034 Iowa Intensive English Reading: High Intermediate** 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**212:035 Iowa Intensive English Reading: Advanced** 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**212:041 Iowa Intensive English Grammar: Beginning** 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**212:042 Iowa Intensive English Grammar: Low Intermediate** 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**212:043 Iowa Intensive English Grammar: Intermediate** 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**212:044 Iowa Intensive English Grammar: High Intermediate** 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**212:045 Iowa Intensive English Grammar: Advanced**

0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**212:051 Iowa Intensive English Writing: Beginning**

0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**212:052 Iowa Intensive English Writing: Low Intermediate**

0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**212:053 Iowa Intensive English Writing: Intermediate**

0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**212:054 Iowa Intensive English Writing: High Intermediate**

0 s.h.

Personal and formal writing; varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**212:055 Iowa Intensive English Writing: Advanced**

0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**Teaching Assistant Preparation in English (TAPE)**

The TAPE program is designed for prospective teaching assistants whose first language is not English and who need additional work on English communication skills. Entry to the program is determined by a test.

**212:006 TA Preparation in English: Fluency Building**

0 s.h.

Pronunciation, fluency building, knowledge of the University of Iowa classroom.

**212:007 TA Preparation in English: Pronunciation**

0 s.h.

Intensive work toward maximum intelligibility; emphasis on stress, timing, intonation.

**212:008 TA Preparation in English: Presentation Skills**

0 s.h.

Intelligibility of speech and clarity of expression in presenting and responding; practice in videotaped lectures.

**212:009 TA Preparation in English: Orientation**

0 s.h.

Student expectations, typical teacher/student relationships, basic classroom management at the University.

## Environmental Sciences

**Coordinator:** Stephen D. Hendrix

**Executive committee chair:** Mark K. Reagan

**Advisory committee:** E. Arthur Bettis III, Christopher A. Brochu, Jeffrey A. Dorale, Vicki H. Grassian, Stephen D. Hendrix, Diana G. Horton, George P. Malanson, William C. McClelland, Michelle M. Scherer

**Affiliated faculty:** Jonathan M. Adrain (Geoscience), Marc P. Armstrong (Geography), David A. Bennett (Geography), E. Arthur Bettis III (Geoscience), Christopher A. Brochu (Geoscience), Ann F. Budd (Geoscience), Gregory R. Carmichael (Chemical and Biochemical Engineering), Josep Comeron (Biology), Jeffrey Dorale (Geoscience), C. Thomas Foster Jr. (Geoscience), Jane A. Gilotti (Geoscience), Vicki H. Grassian (Chemistry), Philip H. Heckel (Geoscience), Diana G. Horton (Biology), Naresh Kumar (Geography), Sarah C. Larsen (Chemistry), Johna Leddy (Chemistry), Marc A. Linderman (Geography), John Logsdon (Biology), Bryant F. MacAllister (Biology), Leonard R. MacGillivray (Chemistry), George P. Malanson (Geography), William C. McClelland (Geoscience), Maurine Neiman (Biology), David W. Peate (Geoscience), R. Rajagopal (Geography), Mark K. Reagan (Geoscience), Michelle M. Scherer (Civil and Environmental Engineering), Jerald L. Schnoor (Civil and Environmental Engineering), Holmes A. Semken (Geoscience), Hallie J. Sims (Geoscience), Nelson Ting (Anthropology), Ingrid Ukstins Peate (Geoscience), Larry J. Weber (Civil and Environmental Engineering), Frank Weirich (Geoscience), You-kuan Zhang (Geoscience)

**Undergraduate degrees:** B.S., BA in Environmental Sciences

**Undergraduate nondegree program:** Minor in Environmental Sciences

**Web site:** <http://www.uiowa.edu/~envsci>

The Environmental Sciences Program provides rigorous interdisciplinary training in the scientific study of the environment. It promotes an understanding of the earth as a complex network of interacting organic and inorganic systems. The program's undergraduate curricula reflect the diversity in the broad field of environmental sciences and draw upon the College of Liberal Arts and Sciences' disciplinary strengths, giving students the opportunity to develop particular areas of expertise.

Hands-on field experience is a crucial component of the program. Students are strongly encouraged to engage in research and study abroad.

The Department of Geoscience is the administrative home for the Environmental Sciences Program.

## Undergraduate Programs

The program offers a Bachelor of Science, a Bachelor of Arts, and a minor in environmental sciences.

### Bachelor of Science

The Bachelor of Science in environmental sciences requires a minimum of 120 s.h., including 80-85 s.h. of work for the major. Students must complete the College of Liberal Arts and Sciences General Education Program; courses required for the major in environmental sciences also may be used to satisfy General Education Program requirements.

Students earning a B.S. in environmental sciences must complete requirements in three areas: the science and mathematics foundation, the environmental sciences foundation, and one of four environmental sciences tracks. Each student is assigned an advisor who specializes in his or her track.

The science and mathematics foundation develops fundamental skills and comprehension in biology, chemistry, geology, mathematics, and statistics. The environmental sciences foundation includes an introductory course in environmental science and additional courses that focus on remote sensing techniques, design and use of geographic information technologies, the geomorphic and environmental processes that shape the earth's surface, and ecological factors that influence the distribution and abundance of organisms.

Each of the program's four tracks focuses on one aspect of environmental sciences:

- biosciences (green) track--biological systems and ecological approaches;
- chemical sciences (yellow) track--environmental systems and chemistry;
- geosciences (brown) track--earth materials and surficial geologic processes; and
- hydrosciences (blue) track--hydrogeology and hydrogeologic systems, and water chemistry.

The tracks aim to prepare scientists who can tackle problems that require particular areas of expertise, and to help students develop the skills needed for future employment or graduate study.

The Bachelor of Science major in environmental sciences requires the following course work.

### SCIENCE AND MATHEMATICS FOUNDATION

Students must complete at least 31 s.h. of course work for the science and mathematics foundation, as follows.

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
012:005 Introduction to Geology	4 s.h.

22M:025-22M:026 Calculus I-II 8 s.h.

One of these:

22S:039 Probability and Statistics for the Engineering and Physical Sciences 3 s.h.

22S:101 Biostatistics 3 s.h.

22S:105 Statistical Methods and Computing 3 s.h.

#### ENVIRONMENTAL SCIENCES FOUNDATION

Students must complete at least 19 s.h. of course work for the environmental sciences foundation, as follows.

All of these:

159:008 Introduction to Environmental Science 4 s.h.

159:100 Environmental Sciences Seminar (taken twice; section 1 for 0 s.h. and section 2 for 1 s.h.) 1 s.h.

159:102 Earth Surface Processes 3 s.h.

159:110 Introduction to Applied Remote Sensing 4 s.h.

159:134 Ecology 4 s.h.

044:005 Foundations of GIS 3 s.h.

#### Tracks

Environmental sciences students must choose one of the following four tracks. Each track includes required general sciences courses, track foundation courses, field study courses, and elective courses.

#### BIOSCIENCES (GREEN) TRACK

The environmental biosciences track provides the essential skills for entry-level positions that require a good knowledge of biotic systems and the ability to inventory biologic resources. The track's aim is to produce scientists who are capable of tackling environmental problems in which links and interactions with life sciences are crucial and in which a substantial knowledge of biological/ecological sciences is required. The track also provides a strong foundation for graduate or professional training in disciplines such as ecology, wildlife management, and natural resource management.

Students must complete at least 33 s.h. of environmental biosciences track course work, including one 4 s.h. field course at Iowa Lakeside Laboratory.

#### General Sciences

004:121 Organic Chemistry I 3 s.h.

Students are encouraged to take at least one semester of physics.

#### Environmental Biosciences Foundation

Both of these:

002:128 Fundamental Genetics 4 s.h.

002:131 Evolution 4 s.h.

At least 7 s.h. from these:

002:108 Vertebrate Zoology 4 s.h.

012:107 Marine Ecosystems and Conservation 3 s.h.

012:122 Evolution of the Vertebrates 3 s.h.

012:170 Evolution of Ecosystems 3 s.h.

012:171 Evolution of Plants 3 s.h.

044:103 Biogeography 3 s.h.

00L:105 Plant Taxonomy 4 s.h.

00L:115 Field Mycology	4 s.h.
00L:117 Ecology and Systematics of Diatoms	4 s.h.
00L:128 Fish Ecology	4 s.h.
00L:129 Vertebrate Ecology and Evolution	4 s.h.

#### **Environmental Biosciences Field Study**

At least 4 s.h. from these Iowa Lakeside Laboratory courses:

00L:103 Aquatic Ecology	4 s.h.
00L:105 Plant Taxonomy	4 s.h.
00L:109 Freshwater Algae	4 s.h.
00L:115 Field Mycology	4 s.h.
00L:117 Ecology and Systematics of Diatoms	4 s.h.
00L:121 Plant Ecology	4 s.h.
00L:122 Prairie Ecology	4 s.h.
00L:126 Ornithology	4 s.h.
00L:128 Fish Ecology	4 s.h.
00L:129 Vertebrate Ecology and Evolution	4 s.h.
00L:160 Restoration Ecology	4 s.h.
00L:163 Conservation Biology	4 s.h.

#### **Environmental Biosciences Electives**

Students must complete at least 11 s.h. of elective course work, with at least 7 s.h. from the following list. An additional field study course (see "Environmental Biosciences Field Study" above) may be used for 4 s.h. of the 11 s.h. of elective course work. A maximum of one policy course may be included in the 11 s.h. of electives (06E:133 Environmental and Natural Resource Economics, 044:019 Contemporary Environmental Issues, 044:122 Environmental Conservation in the United States, and 044:125 Environmental Impact Analysis).

002:124 Animal Physiology	3 s.h.
002:143 Animal Behavior	4 s.h.
002:162 Population Genetics and Molecular Evolution	3 s.h.
002:196 Honors Investigations	arr.
002:199 Introduction to Research	3 s.h.
004:111 Analytical Chemistry I	3 s.h.
004:112 Analytical Chemistry II	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:121 Principles of Paleontology	3 s.h.
22S:148 Intermediate Statistical Methods	4 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:101 Climatology	3 s.h.
044:122 Environmental Conservation in the United States	3 s.h.
044:123 Landscape Ecology	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:126 Wetlands: Function, Geography, and Management	3 s.h.
213:152 Primate Conservation Biology	3 s.h.

#### **CHEMICAL SCIENCES (YELLOW) TRACK**

The environmental chemical sciences track provides the essential skills for entry-level positions that require a basic understanding of chemical principles and a working knowledge of basic chemical concepts as applied in the environment. The track's aim is to produce scientists who are capable of tackling environmental problems in which chemical and molecular processes play an important role. The track also provides a strong foundation for graduate or professional training in environmental chemistry.

Students must complete at least 35 s.h. of environmental chemical sciences track course work.

**General Sciences**

One of these sequences:

029:011-029:012 College Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.

**Environmental Chemical Sciences Foundation**

004:111-004:112 Analytical Chemistry I-II	6 s.h.
---	--------

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors	6 s.h.

One of these:

004:131 Physical Chemistry I	3 s.h.
004:132 Physical Chemistry II	3 s.h.

**StudyChemical Sciences Lab and Field**

Both of these:

004:141 Organic Chemistry Laboratory	3 s.h.
004:143 Analytical Measurements	3 s.h.

**Environmental Chemical Sciences Electives**

Students must complete at least 6 s.h. of elective courses, chosen from the following list. (Students may petition the chemistry department's environmental sciences advisor to use appropriate 100- and 200-level courses taught in the chemistry department as electives.) A maximum of one policy course may be included in the 6 s.h. of electives (06E:133 Environmental and Natural Resource Economics, 044:019 Contemporary Environmental Issues, 044:122 Environmental Conservation in the United States, and 044:125 Environmental Impact Analysis).

004:125 Inorganic Chemistry	2 s.h.
004:162 Undergraduate Research	1-3 s.h.
004:173 Atmospheric and Environmental Chemistry	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:101 Climatology	3 s.h.
044:122 Environmental Conservation in the United States	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
053:152 Environmental Chemistry I	3 s.h.
053:153 Environmental Chemistry Laboratory	3 s.h.
099:110 Biochemistry	3 s.h.
004:131 Physical Chemistry I (if not taken as a foundation course)	3 s.h.
or	
004:132 Physical Chemistry II (if not taken as a foundation course)	3 s.h.



**GEOSCIENCES (BROWN) TRACK**

The environmental geosciences track provides the essential skills for entry-level positions that require a basic understanding of geologic principles and a working knowledge of basic geologic concepts applied in the environmental industry. The track's aim is to produce scientists who are capable of tackling environmental problems in which earth materials and surficial geologic processes are of primary importance. The track also lays a strong foundation for graduate study in environmental geology, engineering geology, and natural hazards assessment.

Students must complete at least 30 s.h. of environmental geosciences track course work.

**General Sciences**

029:008 Basic Physics	4 s.h.
-----------------------	--------

Students are strongly encouraged to take additional course work in physics.

**Environmental Geosciences Foundation**

All of these:

012:041 Mineralogy	4 s.h.
012:130 Sedimentary Geology	3 s.h.
012:132 Structural Geology	4 s.h.
012:136 Soil Genesis and Geomorphology	3 s.h.
012:179 Engineering Geology	3 s.h.

**Environmental Geosciences Field Study**

One of these:

00L:142 Watershed Hydrology and Surficial Processes	4 s.h.
012:113 Geologic Field Analysis	3 s.h.
044:180 Field Methods in Physical Geography	3 s.h.

**Environmental Geosciences Electives**

Students must complete at least 6 s.h. of elective courses, chosen from the following list. A maximum of one policy course may be included in the 6 s.h. of electives (06E:133 Environmental and Natural Resource Economics, 044:019 Contemporary Environmental Issues, 044:122 Environmental Conservation in the United States, and 044:125 Environmental Impact Analysis).

06E:133 Environmental and Natural Resource Economics	3 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:114 Energy and the Environment	3 s.h.
012:119 Directed Study	arr.
012:130 Sedimentary Geology	3 s.h.
012:138 Fluvial Geomorphology	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.
012:140 Natural Hazards	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:150 Igneous and Metamorphic Petrology	4 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:166 Hydrogeology	3 s.h.
012:172 Glacial and Pleistocene Geology	3 s.h.
012:178 Applied Geostatistics	3 s.h.
012:180 Survey of Geophysical Methods	3 s.h.
012:191 Geotectonics	3 s.h.

044:019 Contemporary Environmental Issues	3 s.h.
044:101 Climatology	3 s.h.
044:122 Environmental Conservation in the United States	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
053:050 Natural Environmental Systems	3 s.h.
053:158 Solid and Hazardous Wastes	3 s.h.

#### **HYDROSCIENCES (BLUE) TRACK**

The environmental hydrosciences track provides the essential skills for entry-level positions that require a basic understanding of geologic principles and a working knowledge of hydrogeology and hydrogeochemistry. The track's aim is to produce scientists who are capable of tackling environmental problems that emphasize hydrogeologic systems and for which substantial knowledge of hydrogeology and water chemistry are essential. The track also lays a strong foundation for graduate education in hydrogeology, hydrology, geochemistry, and aqueous chemistry.

Students must complete at least 34 s.h. of environmental hydrosciences track course work.

#### **General Sciences**

029:011-029:012 College Physics I-II	8 s.h.
--------------------------------------	--------

#### **Environmental Hydrosciences Foundation**

Both of these:

012:166 Hydrogeology	3 s.h.
012:179 Engineering Geology	3 s.h.

One of these:

012:138 Fluvial Geomorphology	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.

One of these:

012:149 Elements of Geochemistry	3 s.h.
053:152 Environmental Chemistry I	3 s.h.

#### **Environmental Hydrosciences Field Study**

One of these:

044:180 Field Methods in Physical Geography	3 s.h.
00L:142 Watershed Hydrology and Surficial Processes	4 s.h.

#### **Environmental Hydrosciences Electives**

Students must complete at least 11 s.h. of elective courses, chosen from the following list. A maximum of one policy course may be included in the 11 s.h. of electives (06E:133 Environmental and Natural Resource Economics, 044:019 Contemporary Environmental Issues, 044:122 Environmental Conservation in the United States and 044:125 Environmental Impact Analysis).

06E:133 Environmental and Natural Resource Economics	3 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:119 Directed Study	arr.
012:130 Sedimentary Geology	3 s.h.
012:178 Applied Geostatistics	3 s.h.

012:180 Survey of Geophysical Methods	3 s.h.
012:184 Groundwater Modeling	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:101 Climatology	3 s.h.
044:122 Environmental Conservation in the United States	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:126 Wetlands: Function, Geography, and Management	3 s.h.
053:050 Natural Environmental Systems	3 s.h.
053:071 Principles of Hydraulics and Hydrology	3 s.h.
053:152 Environmental Chemistry I	3 s.h.
053:153 Environmental Chemistry Laboratory	3 s.h.
053:154 Environmental Microbiology	3 s.h.

## Bachelor of Arts

The Bachelor of Arts in environmental sciences requires a minimum of 120 s.h., including 61-67 s.h. of work for the major. Students must complete the College of Liberal Arts and Sciences General Education Program; courses required for the major in environmental sciences also may be used to satisfy General Education Program requirements.

Students complete requirements in four areas: the science and mathematics foundation, the environmental sciences foundation, environmental sciences field study, and the environmental sciences tracks.

The science and mathematics foundation develops fundamental skills and comprehension in biology, chemistry, geology, mathematics, and statistics. The environmental sciences foundation includes an introductory course in environmental science and additional courses that focus on the geomorphic and environmental processes that shape the Earth's surface, the ecological factors that influence the distribution and abundance of organisms, and a choice of one course that deals with remote sensing techniques or with the use of geographic information technologies. The environmental sciences field study gives students hands-on experience with methods of analysis and interpretation of natural systems/organisms.

The four environmental sciences tracks represent areas of specialization within environmental sciences:

biosciences (green) track--biological systems and ecological approaches;

chemical sciences (yellow) track--environmental systems and chemistry;

geosciences (brown) track--earth materials and surficial geologic processes; and

hydrosciences (blue) track--hydrogeology and hydrogeologic systems, and water chemistry.

Students select one course from each of three of the four tracks in order to develop breadth of understanding and skill in these areas.

The Bachelor of Arts major in environmental sciences requires the following course work.

### SCIENCE AND MATHEMATICS FOUNDATION

Students must complete at least 31 s.h. of course work for the sciences and mathematics foundation, as follows.

All of these:

002:010 Principles of Biology I	4 s.h.
002:011 Principles of Biology II	4 s.h.
004:011 Principles of Chemistry I	4 s.h.
004:012 Principles of Chemistry II	4 s.h.
012:005 Introduction to Geology	4 s.h.

First semester math and calculus—one of these:

22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:025 Calculus I	4 s.h.

Second semester math and calculus—one of these:

22M:016 Calculus for the Biological Sciences	4 s.h.
22M:026 Calculus II	4 s.h.

One semester of statistics—one of these:

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:105 Statistical Methods and Computing	3 s.h.

#### **ENVIRONMENTAL SCIENCES FOUNDATION**

Students must complete at least 18-20 s.h. of course work for the environmental sciences foundation, as follows.

All of these:

159:008 Introduction to Environmental Science	4 s.h.
159:100 Environmental Sciences Seminar (taken twice; section 1 for 0 s.h. and section 2 for 1 s.h.)	1 s.h.
159:102 Earth Surface Processes	3 s.h.
159:134 Ecology	3-4 s.h.

One of these:

044:005 Foundations of GIS	3 s.h.
044:105 Introduction to Environmental Remote Sensing	3 s.h.
159:110 Introduction to Applied Remote Sensing	4 s.h.

One of these:

06E:133 Environmental and Natural Resource Economics	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:030 The Global Economy	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:177 Environmental Justice	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.
113:139 Religion and Environmental Ethics	3 s.h.

#### **ENVIRONMENTAL SCIENCES FIELD STUDY**

Students must complete at least one field study course (at least 3 s.h.) chosen from the following.

012:112 Geologic Field Methods	3 s.h.
044:180 Field Methods in Physical Geography	2-4 s.h.
053:103 Water Quality	3 s.h.
00L:103 Aquatic Ecology	4 s.h.
00L:105 Plant Taxonomy	4 s.h.
00L:117 Ecology and Systematics of Diatoms	4 s.h.
00L:126 Ornithology	4 s.h.
00L:142 Watershed Hydrology and Surficial Processes	4 s.h.
00L:163 Conservation Biology	4 s.h.

#### **ENVIRONMENTAL SCIENCES TRACKS**

Students must complete 9-12 s.h. (three courses), choosing one course from each of three of the following four environmental sciences tracks.

##### **Biosciences (Green) Track**

002:108 Vertebrate Zoology	4 s.h.
012:107 Marine Ecosystems and Conservation	3 s.h.
012:122 Evolution of the Vertebrates	3 s.h.
012:170 Evolution of Ecosystems	3 s.h.
012:171 Evolution of Plants	3 s.h.
044:103 Biogeography	3 s.h.
00L:105 Plant Taxonomy	4 s.h.
00L:117 Ecology and Systematics of Diatoms	4 s.h.

**Chemical Sciences (Yellow) Track**

004:111 Analytical Chemistry I	3 s.h.
004:121 Organic Chemistry I	3 s.h.
004:131 Physical Chemistry I	3 s.h.
053:152 Environmental Chemistry I	3 s.h.
099:110 Biochemistry	3 s.h.

**Geosciences (Brown) Track**

012:041 Mineralogy	4 s.h.
012:114 Energy and the Environment	3 s.h.
012:130 Sedimentary Geology	3 s.h.
012:132 Structural Geology	4 s.h.
012:136 Soil Genesis and Geomorphology	3 s.h.
012:138/053:128 Fluvial Geomorphology	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.
012:140 Natural Hazards	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:172 Glacial and Pleistocene Geology	3 s.h.
012:179 Engineering Geology	3 s.h.
012:180 Survey of Geophysical Methods	3 s.h.

**Hydrosciences (Blue) Track**

012:130 Sedimentary Geology	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:166 Hydrogeology	3 s.h.
044:126 Wetlands: Function, Geography, and Management	3 s.h.
053:050 Natural Environmental Systems	3-4 s.h.
053:071 Principles of Hydraulics and Hydrology	3 s.h.
053:152 Environmental Chemistry I	3 s.h.

**Four-Year Graduation Plan**

The Four-Year Graduation Plan is not available for the environmental sciences major. Students work with their advisors on individual graduation plans.

**Honors**

Qualified students are encouraged to pursue an honors degree in environmental sciences. Honors study offers students an opportunity to engage in independent research under the guidance of a faculty sponsor chosen from affiliated faculty of the Environmental Sciences Program; the program draws faculty members from the Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Geography, and Geoscience. Students also learn how to write the results of their research in the format of a scientific paper, and they have the experience of formally presenting their research as either a short seminar or a poster.

Environmental sciences students who wish to graduate with honors must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

To graduate with honors in environmental sciences, students must fulfill the following requirements:

complete a B.S. or B.A. in environmental sciences with a g.p.a. of at least 3.33 in all work for the major;

submit a research proposal to the honors director within two months of the beginning of the semester in which the research is initiated;

complete a minimum of 6 s.h. of honors research taken over two semesters (002:196 Honors Investigations, 004:162 Undergraduate Research, 012:119 Directed Study, or 044:195 Undergraduate Research, depending on the departmental affiliation of the faculty sponsor);

prepare a thesis presenting the research in the format of a scientific paper with abstract, introduction, methods, results, discussion, and conclusions; the thesis must include a title page and an abstract formatted according to the specifications of the Honors Program and must be submitted to the honors director at least one week before the Honors Program deadline for submission; and

present either a short seminar or a poster about the research at a professional meeting and/or at The University of Iowa.

Beginning in their sophomore or junior year, students should identify potential faculty sponsors by conducting a web-based survey of the research interests of the program's affiliated faculty. The student should contact potential sponsors to determine who would be willing to sponsor an honors student and what research projects the student might undertake. Students who choose a sponsor whose faculty appointment is not in the College of Liberal Arts and Sciences must choose a cosponsor who does have a faculty appointment in CLAS.

After the student has identified a sponsor and the two have agreed on a project, the sponsor guides the student in the preparation of a research proposal that identifies the background, goals, methods, and significance of the research project. The proposal serves as the foundation of the honors thesis, which the student prepares under the sponsor's supervision upon completion of the research. Once the thesis is nearing completion or is completed, the student presents a short seminar or a poster detailing the purpose of the research.

## Minor

The minor in Environmental Sciences requires a minimum of 16 s.h. in University of Iowa environmental sciences courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The following courses are required.

159:008/012:008 Introduction to Environmental Science (with lab) 4 s.h.

One environmental sciences foundation course, chosen from these:

044:005 Foundations of GIS 3 s.h.

159:102/012:102 Earth Surface Processes 3 s.h.

159:110/012:110 Introduction to Applied Remote Sensing 4 s.h.

159:134/002:134 Ecology 3-4 s.h.

Students also choose 8 s.h. of course work in one of the four environmental sciences tracks (environmental biosciences, environmental chemical sciences, environmental geosciences, and environmental hydrosciences; see "Tracks" earlier in this Catalog section). The courses must include one track foundation course (3-4 s.h.) and one track field study course (2-4 s.h.).

## Environmental Sciences Courses

**159:008 Introduction to Environmental Science** 3-4 s.h.

Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Natural Sciences. Same as 012:008.

**159:009 Introduction to Environmental Sciences Laboratory** 1 s.h.

Laboratory component of 012:008. Requirements: environmental sciences or geoscience major; and 012:008 or 159:008 for 3 s.h. GE: Natural Sciences. Same as 012:009.

**159:100 Environmental Sciences Seminar** 0-1 s.h.

Role of sciences in environmental issues and problems; progression from observation to evaluation to design of better questions and experiments. Requirements: environmental sciences major.

**159:102 Earth Surface Processes** 3 s.h.

Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Prerequisites: 012:005 or 012:008 or 044:003 or 159:008. Same as 012:102.

**159:110 Introduction to Applied Remote Sensing** 4 s.h.

Remote sensing of the earth's surface from aircraft, satellites; aerial photograph interpretation; remote sensing systems, methods, data analysis using electromagnetic spectrum and digital processing techniques, including visible, infrared, microwave radiation; remote sensing applied to geologic and environmental problems. Requirements: college physics or physical geology. Same as 012:110.

**159:134 Ecology**

3-4 s.h.

Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems.

Prerequisites: 002:010, 002:011, and 22M:016 or 22M:025 or 22M:031. Recommendations: a basic statistics course. Same as 002:134.

# Ethics and Public Policy

**Codirectors:** Diane Jeske, Richard Fumerton

**Affiliated faculty:** Celesta Albonetti (Sociology), Richard Fumerton (Philosophy), Diane Jeske (Philosophy), John Solow (Economics)

**Undergraduate degree:** B.A. in Ethics and Public Policy

**Web site:** <http://www.uiowa.edu/~ethics/>

Ethics and public policy is an interdisciplinary major that presents perspectives on intersecting issues connecting the study of philosophy, economics, law, and sociology. All of these disciplines involve a focus on practical questions concerning how individuals ought to behave and how they ought to regulate the behavior of others.

For example, law exists in order to regulate human behavior, enforce human ideals, and resolve human conflict; most people agree that what society should do depends in part on the actual or potential consequences of its actions; and some of the most important consequences of actions and policies are economic. So it is folly to try to reason clearly about how to rectify injustice without thinking long and hard about the economic impact of one's plans. But law and social policy affect more than economics; they have a role in constructing the very fabric of society and the nature of the political state in which we want to live.

The major in ethics and public policy provides an ideal background for law school. The study of reasoning, an important component of the major, is useful in preparing for the LSAT, GMAT, and MCAT. The major also prepares students to bring a sophisticated, cross-disciplinary perspective to diverse fields such as government, urban and regional planning, social work, and business.

Students choose two fields of specialization for the major and may find it easy to pursue a second major in one of their specialization fields, thus broadening their prospects for choosing graduate schools or beginning professional careers.

The Departments of Economics, Philosophy, and Sociology collaborate to present the major in ethics and public policy; the major is administered by the Department of Philosophy.

## Undergraduate Program

The program offers a Bachelor of Arts in ethics and public policy.

### Bachelor of Arts

The Bachelor of Arts in ethics and public policy requires a minimum of 120 s.h., including at least 37 s.h. of work for the major. Students must complete the College of Liberal Arts and Sciences General Education Program.

Work for the major includes six foundation courses and three courses from each of two fields of specialization.

#### FOUNDATION COURSES

Foundation courses introduce students to each of the disciplines that participate in the major—philosophy, economics, and sociology; provide them with the basic reasoning skills they will need for advanced study; and help them make an informed selection of two specialization fields.

All students are required to take 026:036 Principles of Reasoning: Argument and Debate or 026:103 Introduction to Symbolic Logic in order to gain facility with abstract, formal reasoning.

Some courses may be listed in more than one foundation area and/or specialization field; students may use a course to fulfill only one requirement for the major.

#### Philosophy Foundation

Reasoning—one of these:

026:036 Principles of Reasoning: Argument and Debate	3 s.h.
--	--------

026:103 Introduction to Symbolic Logic	3 s.h.
--	--------

Value theory—one of these:

026:034 Philosophy and the Just Society	3 s.h.
---	--------

026:102 Introduction to Ethics	3 s.h.
--------------------------------	--------

026:132 Introduction to Political Philosophy	3 s.h.
--	--------

026:135 Philosophy of Law	3 s.h.
---------------------------	--------



**Economics Foundation**

Both of these:

06E:001 Principles of Microeconomics	4 s.h.
06E:172 Law and Economics	3 s.h.

**Sociology Foundation**

Theory—one of these:

034:001 Introduction to Sociology Principles	3-4 s.h.
034:002 Social Problems	3-4 s.h.

Law and sociology—one of these:

034:149 Sociology of Criminal Punishment	3 s.h.
034:182 Sociology of Law	3 s.h.
034:186 Criminal Legal System	3 s.h.

**FIELDS OF SPECIALIZATION**

Students select two of the following four fields of specialization and must complete three courses in each of their two chosen fields.

Some courses may be listed in more than one foundation area and/or specialization field; students may use a course to fulfill only one requirement for the major.

**Philosophy**

026:102 Introduction to Ethics	3 s.h.
026:104 Introduction to Philosophy of Science	3 s.h.
026:132 Introduction to Political Philosophy	3 s.h.
026:133 Philosophy of History	3 s.h.
026:135 Philosophy of Law	3 s.h.
026:180 Analytic Ethics	3 s.h.
026:182 History of Ethics	3 s.h.
026:185 Political Philosophy	3 s.h.
026:196 Philosophy of the Human Sciences	3 s.h.

**Economics**

06E:104 Microeconomic Theory	3 s.h.
06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:171 Antitrust Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:179 History of Economic Thought	3 s.h.

**Sociology**

034:040 Criminology	3 s.h.
034:126 Social Movements in the U.S.	3 s.h.
034:141 Juvenile Delinquency	3 s.h.
034:146 Deviance and Control	3 s.h.
034:149 Sociology of Criminal Punishment	3 s.h.

034:150 Political Sociology	3 s.h.
034:156 Gender Inequality	3 s.h.
034:158 Economy and Society	3 s.h.
034:175 Community and Urban Sociology	3 s.h.
034:182 Sociology of Law	3 s.h.
034:186 Criminal Legal System	3 s.h.

#### Student-Designed Field

Students may design their own custom specialization field, in consultation with their advisors and with the approval of the ethics and public policy steering committee. The custom field must consist of three courses that are selected from across the curriculum and that bear on issues relevant to the major in an interconnected, coherent way. A custom specialization field may not include a course that the student has used to fulfill another requirement for the major.

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major.)

**Before the third semester begins:** at least one course in the major and one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least three courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least seven courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least nine courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

#### Honors

Qualified students may earn a bachelor's degree with honors in ethics and public policy. In order to be admitted to honors in the major, students must be members of the University of Iowa Honors Program, which requires that they maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). They also must have completed at least three courses in the major. In order to graduate with honors in ethics and public policy, students must complete all requirements for the major, must maintain a g.p.a. of at least 3.40 in work for the major, and must write an acceptable honors thesis on a significant topic related to the major. Contact the Ethics and Public Policy Program coordinator for more information.

## French and Italian

**Chair:** Roland Racevskis

**General education language coordinators:** Deborah Contrada (Italian), Geoffrey R. Hope (French)

**Professors:** Cinzia Blum, Wendelin Guentner, Geoffrey R. Hope, Michel Laronde, Roland Racevskis, Steven Ungar (French and Italian/Cinema and Comparative Literature)

**Professors emeriti:** Jacques A. Bourgeacq, Florindo Cerreta, Simone Delaty, John T. Nothnagle

**Associate professors:** Deborah L. Contrada, Anny Dominique Curtius, Rosemarie Scullion (French and Italian/Gender, Women's, and Sexuality Studies)

**Visiting assistant professor:** Peter Eubanks

**Lecturers:** Denes Gazsi, Blandina Giblin, Jack Johnson, Katja Liimatta, John Njue

**Undergraduate degrees:** B.A. in French, Italian

**Undergraduate nondegree programs:** Minor in Arabic, French, Italian

**Graduate degrees:** M.A., Ph.D. in French

**Web site:** <http://www.uiowa.edu/~frenchit>

The department introduces students to the cultures of France, the Francophone world, Italy, and parts of the Middle East, providing an understanding of those countries' historical and contemporary importance. It also facilitates development of proficiency in the French, Italian, Arabic, and Swahili languages and fosters critical appreciation of French, Francophone, Italian, and Arabic literature and culture.

## Undergraduate Programs

The department offers a Bachelor of Arts in French and in Italian, and minors in Arabic, French, and Italian. It also offers a variety of electives for nonmajors and provides flexible means to complete the College of Liberal Arts and Sciences General Education Program foreign language requirement and to satisfy individual needs and interests.

Students majoring in French or Italian may combine their studies with courses in education to prepare for jobs in high school teaching. They may go on to graduate study in areas such as French, Italian, comparative literature, and other interdisciplinary areas as preparation for college-level teaching. Or they may combine other skills and studies with their major in French or Italian to prepare for challenging career opportunities in international government, business, finance, travel, communications, and other fields where the knowledge of a foreign language is essential.

### Bachelor of Arts in French

The Bachelor of Arts in French requires a minimum of 120 s.h., including 31-35 s.h. of work for the major. Students complete a set of four foundation courses (10 s.h.) plus the requirements for one of four tracks (21-25 s.h.): the French and Arabic track; the language track; the literature and culture track; or the teaching track. Students also must complete the College of Liberal Arts and Sciences General Education Program.

#### FOUNDATION COURSES

009:111 Introduction to Reading and Writing in Literature	3 s.h.
009:112 French Grammar	3 s.h.
009:106 Oral Expression in French II	2 s.h.
009:136 Oral Expression in French III	2 s.h.

Students must maintain a g.p.a. of at least 2.00 in all major course work, including all University of Iowa course work in the major. Majors must maintain portfolios documenting their progress toward attaining the objectives of the French major.

Transfer course work is acceptable, and students are encouraged to participate in study abroad, but the last two courses in the major ordinarily must be completed at The University of Iowa. Transfer work for application to the major is evaluated on an individual basis by the faculty in charge of study abroad.

Upon declaring the major (or later, but before the senior year), students choose an emphasis in one of the following four tracks.

### French and Arabic Track

The French and Arabic track is designed for students interested in combining study of the French and Arabic languages with history, politics, and religions of Middle Eastern cultures and with a major in another area, such as comparative studies, political science, geography, or history.

Requirements for the French and Arabic track include the following seven or eight courses (25 s.h.) in addition to the 10 s.h. of foundation course work in French.

Three courses in French language, or literature and culture, taught in French, with at least one numbered above 009:150

9 s.h.

Two or three courses in Arabic language beyond first year	10 s.h.
Two courses on Middle East cultures (prefix 009), taught in French or English, or approved courses from other departments	6 s.h.

### Language Track

The language track is designed for students with an interest in language and translation, as well as literature and culture. Students work in specific areas such as international business, comparative stylistics, and translation.

Requirements for the language track include the following seven courses (21 s.h.) in addition to the 10 s.h. of foundation course work in French.

009:115 Business French	3 s.h.
009:197 Techniques of Translation	3 s.h.
Five courses in French language, or literature and culture	

All language track students take 009:115 Business French and 009:197 Techniques of Translation. Of the remaining five courses, only one may be taught in English under the French department prefix (009). This restriction does not apply to courses taught in English with an additional semester hour in French. Students must complete at least two courses numbered above 009:150, including the required course 009:197 Techniques of Translation.

Courses in French stylistics and textual analysis, another language, economics, political science, and/or business administration are recommended as adjunct electives.

### Literature and Culture Track

The literature and culture track is designed for students who are interested in combining study of French and Francophone literatures and cultures with a major in another area, such as cinema, communication studies, comparative literature, history, international studies, political science, or journalism.

Requirements for the literature and culture track include the following seven courses (21 s.h.) in addition to the 10 s.h. of foundation course work in French.

Five courses in literature and culture  
Two courses in language, or literature and culture

Only one of these courses may be taught in English under the French department prefix (009). This restriction does not apply to courses taught in English with an additional semester hour in French. At least two courses must be numbered above 009:150.

### Teaching Track

French majors interested in obtaining licensure to teach in elementary and/or secondary schools must successfully complete the requirements for a major in French in the teaching track and must be admitted to the College of Education's foreign language Teacher Education Program (TEP). Several courses in the College of Education are required, as is one semester of student teaching. Contact the Department of Teaching and Learning for details.

Requirements for the teaching track include the following seven courses (21 s.h.) in addition to the 10 s.h. of foundation course work in French.

Four courses in literature and culture  
Three courses from these areas: language, literature and culture, or pedagogy

Only one of these courses may be taught in English under the French department prefix (009). This restriction does not apply to courses taught in English with an additional semester hour in French. At least two courses must be numbered above 009:150.

Students who plan to use a French minor to teach at the elementary and/or secondary level must contact the College of Education concerning requirements. See College of Education in the Catalog.

### Bachelor of Arts in Italian

The B.A. in Italian requires a minimum of 120 s.h., including 31 s.h. of work for the major. Students must complete the College of Liberal Arts and Sciences General Education Program. Requirements for the major are as follows.

018:011 Intermediate Italian	4 s.h.
018:012 Intermediate Italian II	4 s.h.

018:105 Modern Italian Fiction	3 s.h.
018:106 Modern Italian Poetry and Drama	3 s.h.
018:111 Advanced Italian	4 s.h.
018:112 Advanced Italian II	4 s.h.
018:119 Medieval Italian Literature	3 s.h.
018:120 Medieval and Renaissance Italian Literature	3 s.h.
An additional course taught in Italian, numbered above 018:103	3 s.h.

## B.A. with Teacher Licensure

French majors seeking licensure to teach in elementary and/or secondary schools should choose the French teaching track. See "Teaching Track" under "Bachelor of Arts in French" above.

Italian majors interested in licensure to teach in elementary and/or secondary schools must successfully complete the requirements for a major in Italian, including an additional 2 s.h. in either 018:013 Everyday Italian I or 018:014 Everyday Italian II, and must be admitted to the College of Education's foreign language Teacher Education Program. Several courses in the College of Education are required, as is one semester of student teaching. Contact the Department of Teaching and Learning for details.

Students who plan to use an Italian minor to teach at the elementary and/or secondary level must contact the College of Education concerning requirements. See College of Education in the Catalog.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

### B.A. in French

**Before the third semester begins:** competence in first-year French and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** second-year Intermediate French II (009:012) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** two semesters of third-year French (009:111 Introduction to Reading and Writing in Literature and 009:112 French Grammar), one or two other courses in the major, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 009:106 Oral Expression in French II and three more courses in the major; for students in the French language track, 009:115 Business French and 009:197 Techniques of Translation

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### B.A. in Italian

**Before the third semester begins:** competence in first-year Italian and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** competence in second-year Intermediate Italian II (018:012) and at least one-half of the semester hours required for graduation.

**Before the seventh semester begins:** four courses in the major numbered above 018:103 and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** a total of at least five courses in the major numbered above 018:103

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

The department participates in the University of Iowa Honors Program. To gain admission to honors in French or Italian, a student must have a University of Iowa g.p.a. of at least 3.33 and a department g.p.a. of at least 3.50, and must be a member of the University of Iowa Honors Program. Students register for 009:198 Honors Research and Thesis (in French)/018:198 Honors Research and Thesis (in Italian), and one honors-designated course numbered above 009:160 (in French) or 018:103 (in Italian). Students must complete an honors thesis or equivalent (for example,

translation, comparative stylistics, cultural studies, or research paper) in French or Italian and must present their work to a faculty committee.

### Minor in Arabic

The minor in Arabic requires a minimum of 15 s.h. of intermediate or advanced Arabic language courses, including 12 s.h. taken at The University of Iowa. For the minor, intermediate and advanced courses are numbered 195:111 and above, excluding 195:115 Study Abroad: Language (Elementary), 195:125 Topics in Middle East/Muslim World Studies II, and 195:126 Study Abroad: Culture and Society. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Credit from the Iowa Regents Summer in Fez, Morocco, counts as University of Iowa credit. All courses for the minor must be taught in Arabic.

### Minor in French

The minor in French requires a minimum of 15 s.h., including 12 s.h. in advanced courses; 9 s.h. of the 12 s.h. in advanced courses must be taken at The University of Iowa. For the minor, courses numbered 009:105 and above are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Credit from the University Studies Abroad Consortium (USAC) program in Pau and the Study in Montpellier program counts as University of Iowa credit; 6 s.h. earned in other programs abroad may be counted toward the minor. All courses for the minor must be taught in French.

### Minor in Italian

The minor in Italian requires a minimum of 15 s.h., including 12 s.h. in courses numbered 018:105 and above taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students who wish to count 018:132 Images of Modern Italy toward the minor must enroll in the 4 s.h. section, which includes discussion in Italian. All courses for the minor must be taught in Italian.

### Language for Nonmajors

The department provides course sequences in four languages—Arabic, French, Italian, and Swahili—that students may use to fulfill the foreign language requirement of the College of Liberal Arts and Sciences General Education Program. It also offers a variety of language courses that nonmajors may take to satisfy their own educational goals and interests.

#### ARABIC

The Department of French and Italian is the administrative home for Arabic language and literature courses. It offers elementary and intermediate Arabic as well as conversational Arabic, for which intermediate Arabic is prerequisite. See "Courses" at the end of this Catalog section.

Students without a background in Arabic should begin with 195:101 Elementary Modern Standard Arabic I.

Students who wish to fulfill the General Education Program foreign language requirement with Arabic should complete the following course sequence.

195:101 Elementary Modern Standard Arabic I	5 s.h.
195:102 Elementary Modern Standard Arabic II	5 s.h.
195:111 Intermediate Modern Standard Arabic I	5 s.h.
195:112 Intermediate Modern Standard Arabic II	5 s.h.

#### FRENCH

Nonmajors who wish to study French and who have a background in the language should take the French Foreign Language Placement Test, offered online through Evaluation and Examination Service. The test helps determine the level at which a student should begin French language study at The University of Iowa.

Students without a background in French should begin with 009:001 Elementary French I.

Students who wish to fulfill the General Education Program foreign language requirement with French should complete the following sequence.

009:001 Elementary French I	5 s.h.
009:002 Elementary French II	5 s.h.
009:011 Intermediate French I	4 s.h.
009:012 Intermediate French II	4 s.h.

Those with strong language-learning abilities or background in another romance language may fulfill the foreign language requirement with the following sequence.

009:010 First-Year French Review	5 s.h.
009:011 Intermediate French I	4 s.h.
009:012 Intermediate French II	4 s.h.

## ITALIAN

Nonmajors who wish to study Italian and who have a background in the language should consult with the department before the beginning of classes to determine the level at which they should begin Italian language study at The University of Iowa.

Students without a background in Italian should begin with 018:001 Elementary Italian.

Students who wish to fulfill the General Education Program foreign language requirement with Italian should complete the following course sequence.

018:001 Elementary Italian	5 s.h.
018:002 Elementary Italian II	5 s.h.
018:011 Intermediate Italian	4 s.h.
018:012 Intermediate Italian II	4 s.h.

Those with strong language-learning abilities or background in another romance language may fulfill the foreign language requirement with the following sequence.

018:103 Intensive Elementary Italian	4, 6 s.h.
018:011 Intermediate Italian	4 s.h.
018:012 Intermediate Italian II	4 s.h.

## SWAHILI

The department also is the administrative home for Swahili courses. Students may fulfill the foreign language requirement of the General Education Program by taking the following four-semester sequence.

211:125 Elementary Swahili I	3-4 s.h.
211:126 Elementary Swahili II	3-4 s.h.
211:127 Intermediate Swahili I	3-4 s.h.
211:128 Intermediate Swahili II	3-4 s.h.

## Study Abroad

The department participates in the Committee on Institutional Cooperation (CIC) Summer French Program in Quebec at the Université de Laval. The CIC is a nonprofit organization whose purpose is to foster cooperative educational opportunities among the Big Ten universities and the University of Chicago. Affiliated with the Cours d'été pour non-francophones of the Université de Laval, the program is designed to offer qualified students the opportunity to increase their command of French in a French-speaking environment and to introduce them to the heritage and cultural traditions of a unique and vital segment of North American culture. To participate in the program, students must have taken at least two semesters of French.

For information about other programs abroad, contact the Office for Study Abroad.

## Graduate Programs

The department offers the Master of Arts and the Doctor of Philosophy in French. The M.A. is offered with and without thesis; it also is offered with a French education emphasis.

The faculty's expertise allows for courses in the traditionally recognized historical periods of French literature, various literary genres, and critical theories as well as the francophone literatures of Canada, North and Sub-Saharan Africa, and the Caribbean. The department has particular strengths in interdisciplinary studies, notably in the areas of comparative arts, film studies, history, and second language acquisition.

For more detailed information on graduate degrees in French, contact the Department of French and Italian or visit its web site. The department also publishes the Guide for Graduate Students and Assistants.

## Master of Arts

The Master of Arts in French requires a minimum of 30 s.h. of graduate credit and is offered with or without thesis.

Thesis students may earn up to 6 s.h. of the required 30 s.h. for thesis work. They must take a written and oral examination on their areas of study and must defend their thesis at the time of the comprehensive examination. A thesis prospectus must be accepted one year before the student defends the thesis.

Nonthesis students must pass a written and oral examination. With permission of the director of graduate studies and the department chair, nonthesis students may take up to 6 s.h. of the required 30 s.h. outside the department or transfer up to 6 s.h. of course work taken at another institution.

All M.A. students must complete the following course work.

009:208 Introduction to Graduate Study in French	1 s.h.
009:210 Comparative Stylistics	3 s.h.
009:234 Principles of Teaching and Learning Foreign Languages	3 s.h.
At least four graduate-level literature or culture courses numbered 200 and above	

## M.A. with French Education Emphasis

The Master of Arts with French education emphasis requires a minimum of 38 s.h. of graduate credit in French. The program is intended primarily for prospective secondary school and junior college teachers. Candidates must pass a final written and oral examination.

All M.A. in French education students must complete the following course work.

009:208 Introduction to Graduate Study in French	1 s.h.
009:210 Comparative Stylistics	3 s.h.
009:234 Principles of Teaching and Learning Foreign Languages	3 s.h.
Courses in French literature numbered 200 and above (minimum requirement)	9 s.h.

## Doctor of Philosophy

The Doctor of Philosophy in French requires a minimum of 72 s.h. of graduate credit, including credit earned for the M.A. The program is designed to prepare students for research, teaching, and professional service normally required of college and university faculty members.

The Ph.D. takes at least three years of graduate study, including at least one year spent in residence at The University of Iowa. Students must pass a comprehensive examination and make a successful oral defense of their dissertation.

Requirements include the following.

009:208 Introduction to Graduate Study in French	1 s.h.
009:260 Critical Theory and Practice	3 s.h.
009:277 Thesis (6 s.h. minimum)	6 s.h.
Three graduate courses in a related field, such as another literature, history, or philosophy (8 s.h. minimum)	8 s.h.

Ph.D. students must possess fifth-semester or equivalent proficiency in a foreign language other than French.

Students working toward the Ph.D. are required to spend at least one year teaching as graduate assistants in the department.

## Admission

Applicants to the M.A. program in French must have completed the equivalent of The University of Iowa undergraduate major in French. The M.A. in French is prerequisite to admission to the Ph.D. program in French. Successful completion of the M.A. program, however, does not necessarily qualify a student for doctoral study.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants for fall semester whose application materials are received in the department by January 15 have the best chance to be admitted and receive financial aid. They must submit academic transcripts, letters of recommendation from three persons familiar with their past academic work, Graduate Record Examination (GRE) General Test results, a statement of purpose in taking graduate work, and one or more samples of original writing, one of which should be in



French, that show their ability to pursue graduate work in French (an honors thesis, term paper, seminar paper, or other course papers).

## Financial Support

Teaching assistantships are offered through the department, and University fellowships and scholarships are available through the Graduate College. Contact the Department of French and Italian for details.

Teaching assistants in the department must take 009:234 Principles of Teaching and Learning Foreign Languages.

Exchange assistantship agreements with the University of Pau and the University of Poitiers provide one year of residence at these Universities in France for graduate students.

## French and Italian Courses

The department offers courses in French, Italian, Arabic, and Swahili. For a detailed description of courses offered each semester, contact the Department of French and Italian. French courses are conducted in French and Italian courses are conducted in Italian, unless otherwise indicated. Students may not receive credit for a course that is prerequisite to, or whose equivalent is prerequisite to, a higher-level course they have already completed.

French courses numbered 150-199 are intended primarily for advanced undergraduates; graduate students should consult with their advisor before registering for these courses.

Only one course in English may be used to fulfill requirements for the undergraduate major in French. This restriction does not apply to courses taught in English with an additional semester hour in French. Students should consult with their advisor before registering.

Students who have had significant experience with French through study or foreign residence should consult with the department before enrolling in any French course.

### French, Primarily for Undergraduates

#### **009:001 Elementary French I** 5 s.h.

For students who have no knowledge of French. Offered fall semesters. GE: Foreign Language First Level Proficiency.

#### **009:002 Elementary French II** 5 s.h.

Offered spring semesters. Prerequisites: 009:001. GE: Foreign Language Second Level Proficiency.

#### **009:005 Texts and Contexts: French-Speaking World** 3 s.h.

Development of skills in reading, understanding, and critically engaging with literary texts, and of research skills for informed inquiry; sense of oneself as a situated reader; range of texts reflecting diversity of French and Francophone writers. GE: Interpretation of Literature.

#### **009:007 Nature/Ecology French Philosophy and Fiction** 3 s.h.

Representations of the natural world in literary works from the 16th to the 20th centuries and in film; readings in English translation. GE: Interpretation of Literature.

#### **009:010 First-Year French Review** 5 s.h.

A year in one semester. GE: Foreign Language Second Level Proficiency.

#### **009:011 Intermediate French I** 4 s.h.

Prerequisites: 009:002 or 009:010. GE: Foreign Language Second Level Proficiency.

#### **009:012 Intermediate French II** 4 s.h.

Continuation of 009:011. Prerequisites: 009:011. GE: Foreign Language Fourth Level Proficiency.

#### **009:026 Oral Expression in French I** 2 s.h.

Prerequisites: 009:002 or 009:010.

#### **009:029 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

- 009:030 Cultural Misunderstandings: France and U.S.A.** 3 s.h.  
Key moments in the history of relations between the United States and France, from similarities underlying democratic principles to recent divergent worldviews. Taught in English. GE: Humanities.
- 009:055 Revolutions in 19th-Century France** 3 s.h.  
GE: Humanities. Same as 033:055.
- 009:060 Fashioning France: The Land and Its People** 3 s.h.  
The beauty of France; distinctive regional differences, richness, diversity; why France appeals to travelers worldwide.
- 009:105 Third-Year French** 3 s.h.  
Development of reading skills in French; composition and review of basic grammar structures. Prerequisites: 009:012.
- 009:106 Oral Expression in French II** 2 s.h.  
Second in a three-course sequence. Corequisite: 009:012, if not taken as a prerequisite.
- 009:111 Introduction to Reading and Writing in Literature** 3 s.h.  
Development of analytical, organizational skills for interpretation of literature; readings in prose, poetry, drama, criticism; emphasis on essay writing. Prerequisites: 009:012.
- 009:112 French Grammar** 3 s.h.  
Study of word forms, sentence patterns for more accurate use of French. Prerequisites: 009:012.
- 009:113 French Civilization** 3 s.h.  
Institutions and events from the beginning of French civilization to the Renaissance. Prerequisite: 009:111. GE: Foreign Civilization & Culture.
- 009:114 French Civilization** 3 s.h.  
From Renaissance to Revolution. Prerequisites: 009:111. GE: Foreign Civilization & Culture.
- 009:115 Business French** 3 s.h.  
Language of economics and business; practice in business correspondence and communication, active use of business vocabulary. Offered fall semesters. Prerequisites: 009:112.
- 009:117 Studies in Medieval and Early Modern France** 3 s.h.  
Introduction to the study of Medieval and Early Modern France (Middle Ages to the Revolution of 1789); focus on aspects of history, literature, politics, and culture of the period; emphasis on interdisciplinary investigation of diverse cultural forms. Prerequisites: 009:111.
- 009:118 Topics in French Studies I** 3 s.h.  
Prerequisites: 009:111.
- 009:119 Studies in Modern France** 3 s.h.  
Introduction to the study of Modern France (1815-present); history, literature, politics, and culture of the period; emphasis on interdisciplinary investigation of diverse cultural forms. Prerequisites: 009:111.
- 009:120 French-Speaking Cultures** 3 s.h.  
Features of cultures in which French is spoken; North Africa, Subsaharan Africa, the Indian Ocean, Indochina, the West Indies, Canada, Europe; cinema, music, literature, the arts, the media. Prerequisites: 009:111.
- 009:124 Study Abroad: Language** 3 s.h.  
Written and spoken French; listening, speaking, reading, writing in cultural contexts. Prerequisites: 009:012.
- 009:127 Study Abroad: Culture** 3 s.h.  
Geography, history, architecture, painting, music of France; readings, slides, video and audio cassettes, visits to sites of cultural significance. Prerequisites: 009:012.
- 009:130 Paris and the Art of Urban Life** 3 s.h.  
City of Paris examined in varied historical, artistic, cultural contexts; interdisciplinary. Same as 01H:157, 033:130.

**009:136 Oral Expression in French III**

2 s.h.

Last in a three-course sequence. Prerequisites: 009:106.

**French, for Undergraduate and Graduate Students****009:146 Francophone Cinema**

3-4 s.h.

Introduction to the cinema of French-speaking countries outside of France; history, production, distribution; issues of colonialism, postcolonial identities, gender, social realism, diasporas, popular culture. Taught in English. Prerequisites: 009:012.

**009:147 French Cinema**

3-4 s.h.

Taught in English. Prerequisites: 009:012. GE: Foreign Civilization & Culture. Same as 048:105.

**009:148 Gender and Sexuality in French Cinema**

3 s.h.

Cultural, historical, semiotic approach to studying construction of gender identity and sexual codes in French cinema from 1920s to present. Taught in English. Prerequisites: 009:111 or 048:001 or 048:002 or 131:010. Same as 048:167, 131:167.

**009:157 Twentieth-Century Europe in Literature and Film**

3 s.h.

Introduction to 20th-century Europe through representative literature and film that reflect and critically engage the period's defining moments in social, cultural, and political history; modernity and emergence of modernist aesthetics, World War I, the Great Depression, the Spanish Civil War, struggles between fascism and communism, World War II, existentialism, the Holocaust, rise of postwar consumer society and technocracy, wars of decolonization, political dissidence in Cold War Eastern Europe, student revolts of the 1960s, fall of the Berlin Wall, collapse of the Soviet Union, postcolonial condition that binds Europe to its colonial history. Taught in English. Same as 048:157.

**009:163 Francophone Literature of the African Diaspora**

3 s.h.

Literatures and cultures of Africa, the Caribbean, and the Indian Ocean analyzed through fiction, essays, films, documentaries. Prerequisites: 009:111 and 009:112.

**009:164 Quebecois Literature**

3 s.h.

Prerequisites: 009:111 and 009:112.

**009:168 Post-Colonial Literature in France**

3 s.h.

Literatures and cultures of Arabo-French (Beur) and Afro-French immigrations. Prerequisites: 009:111 and 009:112. Same as 048:168.

**009:170 Early Modern French Literature and Culture**

3-4 s.h.

Literary representations of social trends in early modern France. Prerequisites: 009:111 and 009:112.

**009:178 Topics in French Studies II**

3 s.h.

French and/or Francophone literature or culture. Prerequisites: 009:111 and 009:112.

**009:180 French Women Writers**

3-4 s.h.

Survey of 20th-century French women writers, with emphasis on Simone de Beauvoir; broad range of literary works by writers including de Beauvoir, Colette, Marguerite Yourcenar, Nathalie Sarraute, Marguerite Duras, Sarah Kofman, Annie Ernaux, Christiane Rochefort; French feminist theorists who followed in de Beauvoir's footsteps, including Helene Cixous, Julia Kristeva, Luce Irigaray. Prerequisites: 009:111 or 131:010. Same as 131:168.

**009:187 Aspects of Poetry**

3 s.h.

Prerequisites: 009:111 and 009:112.

**009:191 Early Modern Culture**

3 s.h.

Requirements: (for 009:191) 009:111 and 009:112. Same as 048:191.

**009:192 French Classical Literature**

3 s.h.

Prerequisites: 009:111 and 009:112.

<b>009:193 French Literature of the Enlightenment</b>	3 s.h.
Principal literary genres and key issues from the Enlightenment; aristocratic libertinism of the early 18th century to radical tendencies of the Revolutionary period. Prerequisites: 009:111 and 009:112.	
<b>009:196 Independent Study</b>	arr.
Prerequisites: 009:111 and 009:112.	
<b>009:197 Techniques of Translation</b>	3 s.h.
Prerequisites: 009:112. Same as 048:197.	
<b>009:198 Honors Research and Thesis</b>	3 s.h.
Prerequisites: 009:111 and 009:112.	

## French, Primarily for Graduate Students

<b>009:205 French for Reading/Research</b>	2 s.h.
<b>009:206 French for Reading/Research</b>	2 s.h.
<b>009:208 Introduction to Graduate Study in French</b>	1 s.h.
Expectations, resources, and opportunities of graduate study in French; introduction to course work, development of preprofessional competencies.	
<b>009:210 Comparative Stylistics</b>	3 s.h.
Translation from English to French, including literary texts. Same as 048:211.	
<b>009:212 Realism and Naturalism</b>	3 s.h.
Representative novels of Realist and Naturalist movements, in historical, literary, and theoretical context.	
<b>009:215 The Renaissance in France</b>	3 s.h.
<b>009:220 Topics in French Studies</b>	3 s.h.
Repeatable.	
<b>009:222 New Historicisms in France</b>	3 s.h.
Theory and practice of historical interpretation developed by the "Annales" historians and in the philosophical discourses of Michel Foucault, Michel de Certeau, other prominent postmodern critics.	
<b>009:223 French History in/and Cinema</b>	3 s.h.
French cinema's role in constructing 20th-century discourse on national and cultural identity and in shaping modern France's historical imagination.	
<b>009:224 Modern French Novel</b>	3 s.h.
<b>009:225 Literature of Immigration in France</b>	3 s.h.
Contemporary literature written by non-European immigrants in France; issues of identity, institutional power, exclusion, displacement; rhetorical strategies used in these decentered texts to open a discursive/subversive space in canonical literary discourse.	
<b>009:227 Studies in the Seventeenth Century</b>	3 s.h.
<b>009:234 Principles of Teaching and Learning Foreign Languages</b>	3 s.h.
Same as 013:221, 039:234, 041:234.	
<b>009:236 Topics in Second Language Acquisition: Speaking</b>	3 s.h.
Theory, pedagogy, research, and assessment in second language speaking. Same as 035:228, 164:221.	

- 009:237 Second Language Acquisition Research and Theory I** 3 s.h.  
Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as 035:201, 039:200, 164:201, 39J:201.
- 009:238 Multimedia and Second Language Acquisition** 3 s.h.  
Foreign language multimedia in the context of current second language acquisition theories and research; readings on interactivity, interface design, feedback, learner control, and acquisition of vocabulary, grammar, and culture; multimedia development project. Requirements: foreign language teaching methodology course. Same as 013:253, 035:212, 164:211.
- 009:239 Advanced CALL Curriculum Development** 3 s.h.  
Advanced instruction in a variety of software and hardware tools for development of multimedia computer-assisted language learning (CALL) courseware; students develop software for a General Education Program or third-year language course in collaboration with course supervisor. Prerequisites: 164:212. Same as 013:254, 035:214, 164:214.
- 009:240 Studies in Francophone Literatures** 3 s.h.  
Historical, anthropological, comparative approach to Francophone literatures and cultures; Afro/Indo-Caribbean religions in literatures, theoretical and critical discourses, women's literature and cinema.
- 009:260 Critical Theory and Practice** 3 s.h.
- 009:277 Thesis** arr.
- 009:279 Independent Study** arr.
- 009:350 Seminar: Comparative Topics** arr.  
Comparative topics in literature, theory, media, cultural studies. Same as 048:355.
- 009:355 Seminar** 3 s.h.  
Repeatable.

### Italian, Primarily for Undergraduates

- 018:001 Elementary Italian** 5 s.h.  
For students who have no knowledge of Italian. Offered fall semesters. GE: Foreign Language First Level Proficiency.
- 018:002 Elementary Italian II** 5 s.h.  
Offered spring semesters. Prerequisites: 018:001. GE: Foreign Language Second Level Proficiency.
- 018:011 Intermediate Italian** 4 s.h.  
Offered fall semesters. Prerequisites: 018:002. GE: Foreign Language Second Level Proficiency.
- 018:012 Intermediate Italian II** 4 s.h.  
Offered spring semesters. Prerequisites: 018:011. GE: Foreign Language Fourth Level Proficiency.
- 018:013 Everyday Italian I** 2 s.h.  
Offered fall semesters. Prerequisites: 018:002 or 018:103.
- 018:014 Everyday Italian II** 2 s.h.  
Offered spring semesters. Prerequisites: 018:002 or 018:103.
- 018:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.
- 018:030 Italian for Travelers** 2 s.h.

Basic language skills for tourists; for students with no previous Italian.

- 018:040 Topics in Italian** 2 s.h.  
Topics in Italian language, culture, and literature; may include Italian cinema, studies of specific Italian cities, thematic approaches to Italian studies.
- 018:053 Independent Study** arr.

### Italian for Undergraduate and Graduate Students

- 018:103 Intensive Elementary Italian** 4-6 s.h.  
Offered spring semesters. Prerequisite: two years of another foreign language. GE: Foreign Language Second Level Proficiency.
- 018:105 Modern Italian Fiction** 3 s.h.  
Prerequisites: 018:012.
- 018:106 Modern Italian Poetry and Drama** 3 s.h.  
Continuation of 018:105, but may be taken as independent unit. Prerequisites: 018:012.
- 018:111 Advanced Italian** 3-4 s.h.  
Offered fall semesters. Prerequisites: 018:012.
- 018:112 Advanced Italian II** 3-4 s.h.  
Offered spring semesters. Prerequisites: 018:111.
- 018:114 Studies in Italian Language** 3 s.h.  
Prerequisite: 018:112 or equivalent.
- 018:119 Medieval Italian Literature** 3 s.h.  
Prerequisites: 018:012.
- 018:120 Medieval and Renaissance Italian Literature** 3 s.h.  
Continuation of 018:119. Prerequisites: 018:012.
- 018:132 Images of Modern Italy** 3-4 s.h.  
Survey of Italy's history since Unification; diverse aspects of modern Italian culture and society through visual and textual materials. Requirements: 018:012 for students earning 4 s.h. GE: Foreign Civilization & Culture, Humanities.
- 018:153 Independent Study** arr.
- 018:198 Honors Research and Thesis** 3 s.h.

### Italian, Primarily for Graduate Students

- 018:217 Studies in Italian Literature** 3 s.h.
- 018:279 Independent Study** arr.

### Arabic, for Undergraduate and Graduate Students

- 195:050 Topics in Middle East/Muslim World Studies I** 3 s.h.  
Contemporary cultural questions and debates in the Muslim and Arabic-speaking world. Taught in English.

- 195:101 Elementary Modern Standard Arabic I** 5 s.h.  
Speaking, listening, reading, and writing skills. GE: Foreign Language First Level Proficiency.
- 195:102 Elementary Modern Standard Arabic II** 5 s.h.  
Continuation of 195:101. GE: Foreign Language Second Level Proficiency.
- 195:111 Intermediate Modern Standard Arabic I** 5 s.h.  
Communication in speaking and writing; cultural topics. Prerequisites: 195:102. GE: Foreign Language Second Level Proficiency.
- 195:112 Intermediate Modern Standard Arabic II** 5 s.h.  
Continuation of 195:111. Prerequisites: 195:111. GE: Foreign Language Fourth Level Proficiency.
- 195:115 Study Abroad: Language (Elementary)** 3 s.h.  
Modern Standard Arabic (MSA); speaking, reading, listening and writing skills. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement.
- 195:120 Formal Spoken Arabic** 2 s.h.  
Conversational practice with a native speaker; for students who have completed fourth-semester Arabic. Prerequisites: 195:102 or 195:112. Requirements: non-native or non-heritage speaker of Arabic.
- 195:121 Study Abroad: Spoken Moroccan Dialect** 2 s.h.  
Introduction to Moroccan dialect; listening, speaking. Recommended: some proficiency in Arabic reading and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement.
- 195:123 Study Abroad: Language (Intermediate)** 3 s.h.  
Modern Standard Arabic (MSA); speaking, reading, listening and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement. Recommendations: one year of Arabic study.
- 195:125 Topics in Middle East/Muslim World Studies II** 3 s.h.  
Contemporary cultural questions and debates in the Muslim and Arabic-speaking world. Taught in English.
- 195:126 Study Abroad: Culture and Society** 3 s.h.  
Introduction to Moroccan culture and society through direct observation and interaction; intensive orientation, cultural exchange activities, learning excursions outside Fez, homestay with a Moroccan family.
- 195:130 Advanced Modern Standard Arabic I** 3 s.h.  
Advanced Arabic grammar and syntax, composition writing, formal conversation (similar to conversations on Arabic mass media); classical Arabic texts, other materials written for persons whose first or official language is Arabic. Prerequisites: 195:112.
- 195:131 Advanced Modern Standard Arabic II** 3 s.h.  
Continuation of 195:130; advanced Arabic grammar and syntax, composition writing, formal conversation (similar to conversations on Arabic mass media); classical Arabic texts, other materials written for persons whose first or official language is Arabic. Prerequisites: 195:130.
- 195:133 Study Abroad: Language (Advanced)** 3 s.h.  
Modern Standard Arabic (MSA); speaking, reading, listening, and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement. Recommendations: two or more years of Arabic language.
- 195:153 Independent Study** arr.  
Material not covered in regularly offered courses; independent study guided by an instructor.

## Swahili, for Undergraduate and Graduate Students

- 211:125 Elementary Swahili I** 3-4 s.h.

GE: Foreign Language First Level Proficiency.

**211:126 Elementary Swahili II**

3-4 s.h.

GE: Foreign Language Second Level Proficiency.

**211:127 Intermediate Swahili I**

3-4 s.h.

GE: Foreign Language Second Level Proficiency.

**211:128 Intermediate Swahili II**

3-4 s.h.

GE: Foreign Language Fourth Level Proficiency.

**211:129 Advanced Swahili**

3-4 s.h.

Advanced speaking, listening, reading, and writing skills.

**211:130 Conversational Swahili**

3 s.h.

Extensive practice in production and comprehension of spoken Swahili. Prerequisites: 211:126 or 211:128.



## Gender, Women's, and Sexuality Studies

**Chair:** Jennifer Glass

**Professors:** Susan Birrell (Health and Sport Studies/Gender, Women's, and Sexuality Studies/American Studies), Jennifer Glass (Sociology/Gender, Women's, and Sexuality Studies), Karen Heimer (Sociology/Gender, Women's, and Sexuality Studies), Ellen Lewin (Gender, Women's, and Sexuality Studies/Anthropology), Leslie Schwalm (History/Gender, Women's, and Sexuality Studies)

**Associate professors:** Aimee Carrillo Rowe (Rhetoric/Gender, Women's, and Sexuality Studies), Elizabeth Heineman (History/Gender, Women's, and Sexuality Studies), Meena Khandelwal (Anthropology/Gender, Women's, and Sexuality Studies), Johanna Schoen (History/Gender, Women's, and Sexuality Studies), Rosemarie Scullion (French and Italian/Gender, Women's, and Sexuality Studies), Sasha Waters Freyer (Cinema and Comparative Literature/Gender, Women's, and Sexuality Studies)

**Associate professors emeritae:** Sue Lafky, Margery Wolf

**Undergraduate degree:** B.A. in Gender, Women's, and Sexuality Studies

**Undergraduate nondegree program:** Minor in Gender, Women's, and Sexuality Studies

**Graduate nondegree program:** Certificate in Gender, Women's, and Sexuality Studies

**Web site:** <http://www.uiowa.edu/~women>

The Department of Gender, Women's, and Sexuality Studies (GWSS) is multidisciplinary. It focuses on the ways in which women and men construct themselves as gendered and sexual beings, analyzes how gender and sexuality shape virtually every aspect of our daily lives, and probes the relationship between biological sex differences and the social and cultural roles of women and men.

The department's major goal is to bring to the University community new research on gender and sexuality--research frequently overlooked by traditional disciplines. By offering core courses as well as those cross-referenced with other departments, GWSS acquaints its students with gender and sexuality scholarship and methodologies in the humanities and the social sciences.

Faculty from across the University participate in the Department of Gender, Women's, and Sexuality Studies as affiliated faculty members; for a complete list, see the department's web site. Other University of Iowa faculty members occasionally offer courses and participate in the department's research, study, and interdisciplinary activities.

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in gender, women's, and sexuality studies.

### Bachelor of Arts

The Bachelor of Arts in gender, women's, and sexuality studies requires a minimum of 120 s.h., including 35 s.h. of work for the major. It emphasizes breadth, depth, and interdisciplinary study. Through the GWSS major, students acquire knowledge of the field's history, facility with major theoretical debates, knowledge of gender and sexuality issues outside the United States and Western Europe, knowledge of one major related area of scholarly concern, and familiarity with debates in other areas. Students apply this knowledge to an individual research project during their senior year.

Students may declare the major in gender, women's, and sexuality studies at any time. They are advised by the Academic Advising Center until they have completed 131:010 Introduction to Gender, Women's, and Sexuality Studies or 131:055 Gender, Race, and Class in the U.S. Transfer credit is evaluated case-by-case; a maximum of 12 s.h. may be counted toward the degree.

Work for the major consists of the undergraduate core (17 s.h.), which includes a practicum and culminates in a research seminar, and 18 s.h. of electives, which include a focus area. Students also must complete the College of Liberal Arts and Sciences General Education Program.

The major in gender, women's, and sexuality studies requires the following course work.

#### UNDERGRADUATE CORE

The undergraduate core consists of six courses (17 s.h.). Two introductory courses (131:010 Introduction to Gender, Women's, and Sexuality Studies and 131:055 Gender, Race, and Class in the U.S.) are prerequisites for all other courses in the major; they orient students to the major conceptual areas that constitute GWSS as an interdisciplinary field. Gender, Race, and Class in the U.S. (131:055) introduces basic issues of race, class, and gender systems in the United States and provides a foundation for the major. The practicum (131:105 Women's Studies Practicum) reflects the importance of community needs and current social issues in framing questions of gender and sexuality studies scholarship and in assessing the usefulness of relevant research. Students take 131:199 Senior Research Seminar during their last semester.

The undergraduate core includes the following course work.

All of these:

131:010 Introduction to Gender, Women's, and Sexuality Studies

3 s.h.

131:055 Gender, Race, and Class in the U.S.

3 s.h.

131:105 Women's Studies Practicum (students who took 131:010 before fall 2004 for 4 s.h. need only 1 s.h.)	2-3 s.h.
One GWSS theory course	3 s.h.
One GWSS course with a transnational focus on gender, women, and sexuality	3 s.h.
One of these:	
131:198 Honors Senior Thesis (only for honors students)	arr.
131:199 Senior Research Seminar	2-3 s.h.

## ELECTIVES

Students choose elective courses from the lists below, in consultation with their advisors. They must complete at least six electives (total of 18 s.h.), earning at least 12 s.h. in upper-level courses. At least one elective course must focus on the experience of minority or ethnic populations in the United States.

In choosing electives, students are encouraged to pursue a course of study that emphasizes both breadth and depth. Students should choose at least three or four courses in a focus area in which they would like to gain deeper knowledge. The area may be within a specific discipline, such as literature, anthropology, or history; this is especially useful for students pursuing double majors. Students may count up to three courses they have taken to complete a second major toward the GWSS major.

The focus area need not be limited to a traditional discipline. Students may seek more specialized education in fields such as sexuality studies or international issues. Breadth also is important; advisors direct students who have taken several courses in one focus area to take additional electives in another focus area.

Students may request permission to use upper-level courses not listed below. At least half of the courses's content and requirements must focus on gender and/or sexuality. For information on requesting permission to use a course not listed here, contact the GWSS undergraduate advisor.

Minority or ethnic population electives--at least one of these:

131:159/032:158/149:158 Native American Women and Religious Change	3 s.h.
131:163 U.S. Minority Women Writers	3 s.h.
131:164/149:164 American Indian/First Nations Women	3 s.h.
154:184/16A:184/129:184 Black Global Metropolis: Sexual History	3 s.h.

Remaining electives are chosen from these:

032:111 Religion and Women	3 s.h.
049:188/131:187 Sex and Gender in Performance	3 s.h.
131:018/034:018 Gender and Society	3-4 s.h.
131:029 First-Year Seminar	1 s.h.
131:041/036:041 Gender Roles and Communication	3 s.h.
131:052/008:052 Literature, Culture, and Women	3 s.h.
131:060/032:052 Women in Islam and the Middle East	3 s.h.
131:061/045:060/154:060 Sex and Popular Culture in the Postwar U.S.	3 s.h.
131:078/028:078 Women, Sport, and Culture	3 s.h.
131:109/20E:109 Women in Antiquity	3 s.h.
131:127/113:127 South Asian Sexual Cultures	3 s.h.
131:133/113:133/172:133 The Anthropology of Women's Health	3 s.h.
131:134/113:134 Gender and Indian Diaspora	3 s.h.
131:142/113:105 Mothers and Motherhood	3 s.h.
131:143/113:182 Women, Health, and Healing	3 s.h.
131:144/113:140 Politics of Reproduction	3 s.h.
131:149/113:115 Transnational Feminism	3 s.h.
131:150 Topics in Women's Studies	1, 3 s.h.
131:152/154:121/20E:150 Gender and Sexuality in the Ancient World	3 s.h.
131:153 Feminist Cultural Studies	3 s.h.
131:155/160:165 Feminism and Philosophy	3 s.h.
131:158/16A:154 Sexuality in the United States	3 s.h.
131:159/032:158/149:158 Native American Women and Religious Change	3 s.h.
131:160/034:162 Work and Family Institutions	3 s.h.
131:162/035:144 Latin American Women Writers	3 s.h.
131:164/149:164 American Indian/First Nations Women	3 s.h.
131:165/113:180 Women Writing Culture	3 s.h.

131:167/009:148/048:167 Gender and Sexuality in French Cinema	3 s.h.
131:169/008:169 Changing Concepts of Women in Literature	3 s.h.
131:171/16A:171 U.S. Women's History to 1870	3 s.h.
131:185/048:185 Global Women's Cinema	3 s.h.
131:188/008:188 Prose by Women Writers	3 s.h.
131:194/008:194 Introduction to Feminist Criticism	3 s.h.
154:071/032:071 Sexual Ethics	3 s.h.
154:145/034:135 Sociology of Sexuality	3 s.h.
154:184/129:184/16A:184 Black Global Metropolis: Sexual History	3 s.h.

## Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the major in gender, women's, and sexuality studies. Students work with their advisors to develop individual graduation plans.

## Honors

Qualified students may earn a bachelor's degree with honors in gender, women's, and sexuality studies. Honors students must maintain a g.p.a. of at least 3.50 in GWSS course work and a cumulative University of Iowa g.p.a. of at least 3.33. An honors thesis is required.

Soon after beginning work toward the major, a departmental honors student must select an upper-level course in which he or she will do preliminary research for the honors thesis; the course must count toward requirements for the GWSS major and may be a classroom experience or the practicum. The student must inform the course's instructor of his or her intent to develop an honors project in the course so that the instructor may provide guidance to the student and, at the instructor's discretion, may adjust the student's course assignments in order to help the student prepare for the honors thesis.

After completing the preliminary research, students enroll in 131:198 Honors Senior Thesis. The course guides them through the process of formulating a topic and a research plan, conducting research for the thesis, writing up the results, and responding to peer and instructor critique.

For information about honors study at Iowa, contact the University of Iowa Honors Program.

## Minor

The minor in gender, women's, and sexuality studies requires a minimum of 15 s.h. in course work associated with the department, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, 100-level courses are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 3 s.h. of work for their major toward the GWSS minor.

The minor must include 131:010 Introduction to Gender, Women's, and Sexuality Studies. The 12 s.h. of advanced work may include all 100-level courses, or it may include 131:055 Gender, Race, and Class in the U.S. plus 9 s.h. of 100-level courses. The department strongly advises students to include an approved theory course in the minor.

## Graduate Program

The department offers the graduate Certificate in Gender, Women's, and Sexuality Studies. The certificate program is open to University of Iowa graduate students working toward a degree.

### Certificate

The graduate Certificate in Gender, Women's, and Sexuality Studies requires 16 s.h., including a two-course core, several elective courses, and a capstone course (1 s.h.), in which students attend and present their own research at a GWSS conference. Students receive certificate advising from the GWSS director of graduate studies.

The certificate requires the following course work. Students may not use one course to satisfy more than one certificate requirement.

### GRADUATE CORE

131:200 Foundations for Feminist Inquiry I	3 s.h.
One approved course on theory of gender, women, or sexuality	3 s.h.

**ELECTIVES**

Cross-referenced GWSS elective courses 9 s.h.

One of the electives must have a transnational or international focus and one must focus on diversity in the United States. At least one of the electives must be at the 200 level or above. Students may count up to 6 s.h. of elective credit earned in GWSS courses that are cross-referenced with their major department. They may count up to 6 s.h. of elective credit earned in course work taken by distance learning or in the Traveling Scholars Program.

**CAPSTONE**

One capstone course in which the student attends and presents his or her own research at a GWSS conference 1 s.h.

**Admission**

University of Iowa graduate students working toward a degree are eligible to earn the graduate Certificate in Gender, Women's, and Sexuality Studies. Interested students should contact the GWSS director of graduate studies.

**Gender, Women's, and Sexuality Studies Courses****Core Courses**

**131:010 Introduction to Gender, Women's, and Sexuality Studies** 3 s.h.

Introduction to feminist interdisciplinary study of women's lives, with emphasis on race, class, sexual orientation; work, family, culture, political and social change. GE: Cultural Diversity. Same as 154:010.

**131:029 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**131:049 Topics in Women's Studies** 3 s.h.

**131:055 Gender, Race, and Class in the U.S.** 3 s.h.

How the intersection of gender, race, class affects individual experience, national ideology, social institutions; interdisciplinary perspective. GE: Cultural Diversity.

**131:105 Women's Studies Practicum** 2-3 s.h.

Experience in volunteer work for organizations that provide services for women. Prerequisites: 131:010.

**131:135 Women, Medicine, and Society** 3 s.h.

Ideas about women's biological and social roles, their impact on women as patients and health care providers; differences in class, ethnicity, and sexuality in the healing process; interdisciplinary approach. Offered through Guided Independent Study.

**131:149 Transnational Feminism** 3 s.h.

Evolution and impact of women's movements in different regions of the Third World. Same as 113:115.

**131:150 Topics in Women's Studies** 1-3 s.h.

Representative topics: American Indian/First Nations Women; population and the environment; feminism and the family; women, health, and healing; women of color.

**131:151 Feminist Theory** 3 s.h.

Historical and contemporary feminist analyses of women's position in culture and society; variety of theoretical approaches, political perspectives; contemporary issues, controversies. Prerequisites: 131:010.

**131:153 Feminist Cultural Studies** 3 s.h.

Intellectual/political project of feminist cultural studies; everyday practices and popular discourses critical for the formation of gender and sexuality in the United States. Requirements: 131:010 or graduate standing.

- 131:163 U.S. Minority Women Writers** 3 s.h.  
Literature that reflects the experiences of U.S. minority women and women of color; gender, race, ethnicity, religion, sexuality. Prerequisites: 131:010.
- 131:179 Independent Readings and Research in Women's Studies** arr.  
Topic not covered in regular curriculum. Prerequisites: 131:010.
- 131:198 Honors Senior Thesis** arr.  
Supervised research, writing. Requirements: honors standing and completion of course work for minor in women's studies.
- 131:199 Senior Research Seminar** 2-3 s.h.  
Individual research projects designed around a shared theme, such as violence against women, or women and the law. Prerequisites: 131:010. Requirements: two women's studies courses numbered above 131:010.
- 131:200 Foundations for Feminist Inquiry I** 3 s.h.  
Theory, critique, methodology, practice.
- 131:205 Graduate Practicum** 1 s.h.  
Practicum experiences in a theoretical context. Repeatable.
- 131:250 Topics in Women's Studies** 3 s.h.  
Special topics in women's studies.
- 131:279 Independent Study** arr.
- 131:425 Ph.D. Thesis** arr.  
Repeatable.

### Cross-Referenced Courses

- 131:018 Gender and Society** 3-4 s.h.  
Role and status of women in society; sex differences, sex role socialization, theories about origin and maintenance of sexual inequalities, changes in social life cycle of women, implications for social institutions and processes; focus on contemporary United States. GE: Cultural Diversity. Same as 034:018.
- 131:041 Gender Roles and Communication** 3 s.h.  
Interactive relationships between gender and communication in contemporary U.S. society; multiple ways families, schools, and media perpetuate, negotiate, and contest gender roles; how we are part of those processes by looking at how we enact socially-created gender differences in public and private settings. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 036:041.
- 131:052 Literature, Culture, and Women** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:052.
- 131:060 Women in Islam and the Middle East** 3 s.h.  
Women in the Islamic community and in non-Muslim Middle Eastern cultures; early rise of Islam to modern times; references to women in the Qur'an and Sunnah, stories from Islamic history; women and gender issues. GE: Foreign Civilization & Culture, Humanities. Same as 032:052.
- 131:061 Sex and Popular Culture in the Postwar U.S.** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. GE: Cultural Diversity. Same as 045:060, 154:060.

**131:075 Fertility and Reproduction**

3 s.h.

Exploration of when, why, how, and with whom Americans bear children, comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as 034:075, 154:075.

**131:078 Women, Sport, and Culture**

3 s.h.

Feminist analysis of girls' and women's sport experiences; reproduction of gender through sport, recent changes in women's intercollegiate athletics, media representations of women in sport, feminist critiques, alternatives to sport. Same as 028:078.

**131:095 Queer Rhetorics**

3 s.h.

Overview of queer theory and its application to different communicative situations including television, film, and everyday life; development of critical thinking skills in relation to cultural constructions of gender, sexuality, race, and other identity categories. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 036:095, 154:095.

**131:098 African American Women Writers**

3 s.h.

Introduction to major African American women authors of the 19th, 20th, and 21st centuries; major debates of black feminist literary scholarship; analyze African American literary representations by reading novels, poetry, short stories, plays, relevant historical and critical texts. Same as 129:098.

**131:107 Gendering India**

4 s.h.

Aspects of Indian culture, including nation, family, sexuality, work, and religion, through the lens of gender; Hindu India, differences in region, caste, and class. Same as 113:107.

**131:108 Anthropology of Marriage and Family**

3 s.h.

Classic anthropological theories of kinship and marriage, including topics such as cousin marriage and incest; recent work on new reproductive technologies and transnational marriage. Same as 113:108.

**131:109 Women in Antiquity**

3 s.h.

Attitudes toward women and the role of women in ancient Greek and Roman society; ancient authors, male and female, and modern critics. Same as 20E:109.

**131:125 Women and Gender in African History**

3 s.h.

Importance of female agency in African history; African women's history in historiographical framework of women's history, challenges historians face in exploring African women's past; varied sources (e.g., novels, films, court records) from sub-Saharan Africa, urban and rural settings; current literature on African women, African women's experiences in a comparative context. Same as 16W:125.

**131:127 South Asian Sexual Cultures**

3 s.h.

How sexuality is embedded in kinship, economics, nation, and religion in South Asia, with focus on India; chastity, celibacy, romance, arranged marriage, nonnormative sexualities associated with courtesans and hijras. Prerequisites: 113:003 or 113:010 or 131:010. Same as 113:127.

**131:131 Gender and Sexuality in East Asia**

3 s.h.

Conceptions of sex, gender, and sexuality in the religions of China, Korea, and Japan; asceticism and celibacy; sexual alchemy; the difference between male and female bodies and souls; intersexed persons; female saints and immortals; transgressive sexuality; gender and sexuality in colonial Asia; East Asian religions and postcolonial feminism. Same as 032:131, 154:131.

**131:133 The Anthropology of Women's Health**

3 s.h.

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: 113:003 or 113:010 or 131:010. Same as 113:133, 172:133.

**131:134 Gender and Indian Diaspora**

3 s.h.

General theories of diaspora, which have expanded from the Jewish experience to explain African and Asian diasporas; theories in context of Indian diaspora populations and their relationship to the homeland. Same as 113:134.

**131:141 History of Feminist Anthropology** 3 s.h.

Development and evolution of feminist critiques in cultural anthropology; readings from early studies by women ethnographers, classic writings that sought to give women cross-cultural visibility, recent experimental texts. Prerequisites: 113:003 or 131:010. Same as 113:141.

**131:142 Mothers and Motherhood** 3 s.h.

Treatment of motherhood; role of motherhood and devaluation of social status. Same as 113:105.

**131:143 Women, Health, and Healing** 3 s.h.

Women's experience as recipients and providers of health care; intersection of race, class, cultural variation, and women's health; reproductive and nonreproductive health concerns. Same as 113:182.

**131:144 Politics of Reproduction** 3 s.h.

Debates over women's reproductive experience, including its medicalization. Same as 113:140.

**131:152 Gender and Sexuality in the Ancient World** 3 s.h.

Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of rhetoric requirement and sophomore standing. GE: Foreign Civilization & Culture. Same as 154:121, 20E:150.

**131:154 Anthropology of Sexual Minorities** 3 s.h.

Ethnographic studies of sexual minorities and anthropological approaches to lesbian, gay, bisexual, and transgendered persons and communities; behavior, identity, performativity, kinship, globalization, the HIV/AIDS pandemic. Requirements: junior, senior, or graduate standing. Same as 113:154, 154:182.

**131:155 Feminism and Philosophy** 3 s.h.

Classical and contemporary Western philosophies concerning questions about the nature of justice, knowledge, value, truth, personal identity; feminist philosophers who develop them. Prerequisites: 131:010. Same as 160:165.

**131:157 Gender, Sexuality, and Human Rights** 3 s.h.

History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as 154:157, 16W:157.

**131:158 Sexuality in the United States** 3 s.h.

Same as 16A:154.

**131:159 Native American Women and Religious Change** 3 s.h.

Native women's diverse experiences and their roles in native societies, examined through contact experiences between native and nonnative peoples; changes in women's roles in context of interactions between native people, missionaries, European colonists, and Americans; approaches to re-imaging women's early contact roles presented in cultural narratives, archaeology, history, ethnography, and missionary records. Same as 032:158, 149:158.

**131:160 Work and Family Institutions** 3 s.h.

Contemporary problems in the integration of work and family life; origins of work-family conflict in process of industrialization; effects of job-family conflicts on mothers, fathers, children; cross-cultural differences in dealing with work-family conflict. Prerequisites: 034:001 or 034:002. Same as 034:162.

**131:161 Gender and Violence** 3 s.h.

Extent and nature of gendered violence, interpretation of patterns using feminist theory and perspectives on masculinities and heterosexism; examination of interpersonal violence, including criminal violence committed by women and men, violence against women and men (victimization), spousal/intimate partner abuse, youth gangs, bullying in schools, sexual violence, femicide, and genocide. Same as 034:143.

**131:162 Latin American Women Writers** 3 s.h.

Focus on 20th century; how Latin American women subjects view themselves through literature; textual practice specific to women; psychoanalytic approaches, contemporary feminist criticism. Requirements: at least one course taught in Spanish at the 100 level or above. Same as 035:144.

**131:164 American Indian/First Nations Women**

3 s.h.

Experiences, perspectives, and status of American Indian and First Nations women. Same as 149:164.

**131:165 Women Writing Culture**

3 s.h.

Feminist ethnography and other kinds of feminist narratives that "write culture" while pushing the boundaries of how anthropologists define ethnography. Prerequisites: 113:003 or 131:010. Same as 113:180.

**131:167 Gender and Sexuality in French Cinema**

3 s.h.

Cultural, historical, semiotic approach to studying construction of gender identity and sexual codes in French cinema from 1920s to present. Taught in English. Prerequisites: 009:111 or 048:001 or 048:002 or 131:010. Same as 009:148, 048:167.

**131:168 French Women Writers**

3-4 s.h.

Survey of 20th-century French women writers, with emphasis on Simone de Beauvoir; broad range of literary works by writers including de Beauvoir, Colette, Marguerite Yourcenar, Nathalie Sarraute, Marguerite Duras, Sarah Kofman, Annie Ernaux, Christiane Rochefort; French feminist theorists who followed in de Beauvoir's footsteps, including Helene Cixous, Julia Kristeva, Luce Irigaray. Prerequisites: 009:111 or 131:010. Same as 009:180.

**131:169 Changing Concepts of Women in Literature**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:169.

**131:170 Philosophy of the Body**

3 s.h.

Philosophical treatment of the body; perspectives from classical, modern, and contemporary texts from Western philosophy, and texts from feminist theory, critical race theory, cultural studies, and disability studies. Prerequisites: 131:010. Same as 160:170.

**131:171 U.S. Women's History to 1870**

3 s.h.

American history through women's eyes; interaction of biology, economics, politics, ideology; how traditional historical generalizations change when women's experience is considered; legal history, women's education. Same as 16A:171.

**131:181 Society and Gender in Europe 1200-1789**

3 s.h.

Social and gender ideologies as inscribed in patterns of authority (household, church, state); ranges of human endeavor (intellectual, psychological, biological); community organization (social, economic, legal, sexual); their influence on concept of community. GE: Foreign Civilization & Culture. Same as 16E:125.

**131:185 Global Women's Cinema**

3 s.h.

Introduction to contemporary women's cinema and feminist filmmaking from around the world; emphasis on the post-1968 period and on cinema produced outside the United States. Prerequisites: 048:001 or 048:002 or 131:010. Same as 048:185.

**131:187 Sex and Gender in Performance**

3 s.h.

Relationship between sex and gender in the performing body across a range of public venues, including stage, film, athletic events, and social spaces; articles, texts, plays, films, television, and videos; attendance at live performances of theatre, sports, and other events scheduled in the University and local community; discussion format. Same as 049:188.

**131:188 Prose by Women Writers**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:188.

**131:192 Culturally Diverse Theatre**

3 s.h.

Same as 049:192, 154:192.

**131:194 Introduction to Feminist Criticism**

3 s.h.

Introduction to feminist interpretation of literature, feminist literature, feminist theories, and uses of literature in forming feminist politics. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:194.



- 131:204 Feminist Research Seminar** arr.  
Feminist research methodologies; how to conduct original research, write a research proposal and research paper, read and criticize others' work. Repeatable. Same as 016:277.
- 131:206 Gender and Race in Nineteenth-Century U.S.** arr.  
Same as 016:205, 129:205.
- 131:220 Seminar: Feminist Anthropology** 3 s.h.  
Theory, methods, research, epistemology from a feminist perspective. Same as 113:220.
- 131:222 Reading Transnational Feminist Theory** 3 s.h.  
Issues in transnational feminist scholarship, including colonialism, globalization, the nation-state, religion, cultural traditions, and human rights, in global and U.S. domestic contexts; interdisciplinary readings with focus on anthropology, other social sciences. Same as 113:222.
- 131:223 Feminist Medical Anthropology** 3 s.h.  
Directions feminists have taken in medical anthropological scholarship; focus on ethnographies that have become classics of the genre and on influential theoretical and applied work. Same as 113:223.
- 131:225 Readings: History of Sexuality** arr.  
History of sexuality within the family, its move into the marketplace; social customs and taboos, methods of birth control and abortion, religion, medical and psychological writings, state policies. Same as 016:225.
- 131:233 Readings: Women, Men, and Gender in Modern Europe** arr.  
Same as 016:233.
- 131:243 Feminist Cultural Studies** 3 s.h.  
Same as 008:243, 010:243, 036:222, 160:243.
- 131:245 Seminar: Feminist Ethnography** 3 s.h.  
Feminist critiques of traditional ethnographies, informed by contemporary feminisms. Prerequisites: 113:220 or 131:220. Same as 113:221.
- 131:254 History of Women in Sports** 3 s.h.  
Women's sport involvement from ancient times to present; focus on social class, attitudes, religion, race, ethnicity, medical opinion, economic considerations, political events, educational philosophies that have influenced women's sport participation. Same as 028:278.
- 131:256 Gender Stratification Seminar** 3 s.h.  
Occupational gender segregation; gender gap in pay; role of family caregiving in women's lower pay; devaluation of caregiving work; comparable worth. Same as 034:256.
- 131:258 Feminist Critical Theory** 3 s.h.  
Questions of difference, the body, agency, identity politics, gender performativity, power as both productive and oppressive; perspectives from texts in poststructuralist and feminist philosophy. Same as 160:258.
- 131:264 Postcolonial Feminist Theory** 3 s.h.  
Role of colonial histories and postcolonial legacies on past and contemporary relations of power in varied geographical contexts, through interdisciplinary feminist perspective; processes of gender and racialization relative to uneven global flows of media, capital, people. Requirements: 131:151 or cultural studies course. Same as 010:264, 160:280.
- 131:266 Gender Inequalities** 3 s.h.  
Current sociological research on public policies that affect family life and well-being; divorce and child custody policies, teen pregnancy and abortion, family poverty, child care and work-family policies. Same as 034:266.
- 131:270 Readings in the History of Women and Gender in the U.S.A.** arr.  
Same as 016:270.
- 131:274 Postcolonial Women's Writing** 3 s.h.

Same as 008:274.

**131:285 Readings: Gender in Latin American History**

arr.

Same as 016:285.

**131:287 Readings: African American Women's History**

arr.

Same as 016:287, 129:287.

**131:290 Feminist Perspectives on Biology and Culture**

3 s.h.

Explores feminist analyses of the cultural and historical situatedness of scientific knowledge; topics range from human evolution and primatology to developmental biology and genetics to nuclear physics. Same as 113:290.

## General Education Program

**Web site:** /registrar/catalog/liberalartsandsciences/generaleducationprogram/

All students in the College of Liberal Arts and Sciences who wish to earn a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), Bachelor of Liberal Studies (B.L.S.), or Bachelor of Music (B.M.) degree must complete the requirements of the CLAS General Education Program.

Some General Education Program requirements will change for students who enter the University in summer 2011 or later. For more information, visit CLAS Academic Handbook: General Education on the College of Liberal Arts and Sciences web site. Requirements for the fall 2010 and spring 2011 semesters are listed below.

## General Education Requirements

There are nine required areas within the General Education Program and 12 different categories of courses. To fulfill the area requirements, students may select from numerous subjects and departments, with all General Education courses providing a foundation in critical thinking, reading, and writing. More advanced General Education courses allow students to pursue a wide range of interests relating to or in addition to their major well into their senior year.

**Rhetoric:** a minimum of 4 s.h.

**Foreign Language:** fourth-semester proficiency or the departmental equivalent.

**Interpretation of Literature:** a minimum of 3 s.h. English majors should select an alternate course from the Humanities area to fulfill this requirement.

**Historical Perspectives:** a minimum of 3 s.h.

**Humanities:** a minimum of 3 s.h.

**Natural Sciences:** a minimum of 7 s.h.; must include one lab.

**Quantitative or Formal Reasoning:** a minimum of 3 s.h.

**Social Sciences:** a minimum of 3 s.h.

**Distributed General Education:** at least 6 s.h., with a minimum of 3 s.h. taken from two different categories listed below:

- Cultural Diversity
- Fine Arts
- Foreign Civilization and Culture
- Health and Physical Activity
- Historical Perspectives
- Humanities
- Social Sciences

### ACADEMIC POLICIES PERTAINING TO GENERAL EDUCATION

Students should be aware of all additional academic policies that pertain to the General Education Program. See "General Education Policies and Other Information" later in this Catalog section.

Note: The University accepts credit by examination for some areas of the General Education Program, including AP, CLEP, and IB credit. Visit the Office of Admissions web site for specific information. Transfer credit also may be used to fulfill some areas. Please consult with the Office of Admissions.

## Areas and Course Lists

### Rhetoric

Rhetoric courses help students to develop skills in speaking, writing, listening, and critical reading, and to build competence in research, analysis, and argumentation. Because these skills are basic to the rest of a student's study in the College of Liberal Arts and Sciences, students must register for their assigned rhetoric course at their first or

second registration, as required, and must continue to enroll in rhetoric until the required courses are completed.

All transfer students, regardless of the number of semester hours they transfer, must fulfill the rhetoric requirement of the General Education Program. The admission degree audit shows The University of Iowa rhetoric requirement that must be completed.

Students required to enroll in English as a Second Language (ESL) classes as a result of their English proficiency evaluation must complete all ESL classes before registration in any rhetoric class. Required ESL courses are prerequisites to rhetoric courses.

#### **RHETORIC COURSE LIST**

010:003 Rhetoric	4 s.h.
010:004 Writing and Reading	3 s.h.
010:006 Speaking and Reading	3 s.h.

#### **Foreign Language**

Foreign Language courses provide students with speaking, listening, reading, and writing skills in a second language. These courses also provide some knowledge of the culture(s) in which the language is spoken. To fulfill the Foreign Language requirement of the General Education Program, students must:

complete the fourth-year level of a foreign language in high school; or

complete the last course in the designated course sequence of an approved foreign language at The University of Iowa, or the equivalent course at another college or university, or during study abroad; or

pass an achievement test measuring proficiency in a foreign language equivalent to that usually attained after four semesters of college study.

#### **Proficiency Examinations**

Students proficient in a language for which they have received no formal instruction (or formal instruction below the fourth-semester level) may validate their proficiency with an examination.

Students with knowledge of Chinese, French, German, ancient Greek, Japanese, Latin, Russian, or Spanish should take one of the University of Iowa placement examinations. These placement tests help students choose appropriate foreign language courses. Students may use the results of the proficiency examination to fulfill the Foreign Language requirement of the General Education Program if their score on the examination is at the level accepted by the department offering the exam.

Students do not earn semester hours by taking these examinations.

WebCape placement tests in French, German, and Spanish require an additional oral evaluation by the department offering the language.

Placement and proficiency examinations in American Sign Language, Arabic, Croatian, Czech, Hindi, Italian, Korean, Polish, Portuguese, Sanskrit, Swahili, and Uzbek are arranged by contacting the appropriate department.

Students proficient in a language not regularly offered at The University of Iowa visit with CLAS Academic Programs & Services to ask about assessment. In some cases, arrangements can be made for a proficiency evaluation, but evaluations are available only for a limited number of languages. Students may fulfill the Foreign Language requirement of the General Education Program through such an evaluation, but such evaluations do not result in earned semester hours counted toward graduation.

Students proficient in a language for which testing is not available must fulfill the Foreign Language requirement of the General Education Program by another method.

#### **GUIDELINES FOR TAKING PROFICIENCY/PLACEMENT EXAMS**

Students proficient in more than one language may take the placement exam in each language.

Students who have been enrolled in a University of Iowa course in a particular language past the deadline for adding courses may not take the placement exam in that language.

Ordinarily, students may take a placement exam in a particular language only once. Students may repeat an exam only if they have had a significant language learning experience outside the classroom since they first took the exam.

Students seeking exceptions to these guidelines should consult with the appropriate department for permission to take the proficiency/placement test.

**WHEN A STUDENT'S FIRST LANGUAGE IS NOT ENGLISH**

Students who completed secondary school in a language other than English, hold non-immigrant visas, and meet the College of Liberal Arts and Sciences English proficiency requirement may use English to fulfill the Foreign Language requirement of the General Education Program. The English proficiency requirement may be satisfied by:

a score of 600 or above (paper-based) or 280 or above (computer-based) on the Test of English as a Foreign Language (TOEFL); or

successful completion of required English as a Second Language (ESL) courses as determined by an English proficiency evaluation conducted by the Department of Linguistics; or

validation of English proficiency by the coordinator of English as a Second Language.

Note: Currently, The University of Iowa also accepts the International English Testing System (IELTS) as certification of English language proficiency for admission of students whose first language is not English; IELTS is accepted as an alternative to TOEFL. IELTS cut-off scores are 6.5 for undergraduate admission and 7.0 for graduate admission, with no subscore lower than 6.0. All students who submit IELTS scores must take the on-campus English Proficiency Evaluation (EPE) prior to their first University of Iowa registration.

Students who completed secondary school (grades 9-12 or 10-12) in English may not use English to fulfill the Foreign Language requirement of the General Education Program. These students must fulfill the Foreign Language requirement of the General Education Program in another way.

**Approved General Education Course Sequences**

The College of Liberal Arts and Sciences offers a number of course sequences that can be used to fulfill the Foreign Language requirement of the General Education Program. To avoid duplication or regression, students are advised to consult the appropriate foreign language department before registering.

**AMERICAN SIGN LANGUAGE**

Courses in American Sign Language (ASL) are offered by the American Sign Language Program. The following sequence fulfills the General Education Foreign Language requirement.

158:011 American Sign Language I	4 s.h.
158:012 American Sign Language II	4 s.h.
158:013 American Sign Language III	4 s.h.
158:014 American Sign Language IV	4 s.h.

Students with previous knowledge of American Sign Language should consult the ASL program for placement.

**ARABIC**

Courses in Arabic are offered by the Department of French and Italian. The following sequence fulfills the General Education Foreign Language requirement.

195:101 Elementary Modern Standard Arabic I	5 s.h.
195:102 Elementary Modern Standard Arabic II	5 s.h.
195:111 Intermediate Modern Standard Arabic I	5 s.h.
195:112 Intermediate Modern Standard Arabic II	5 s.h.

**CHINESE**

Courses in Chinese are offered by the Department of Asian and Slavic Languages and Literatures. Students may use varied combinations of Chinese language courses approved for General Education to fulfill the Foreign Language requirement. For students with no previous knowledge of Chinese, the department recommends the following sequence.

039:008 First-Year Chinese: First Semester	5 s.h.
039:009 First-Year Chinese: Second Semester	5 s.h.
039:105 Second-Year Chinese: First Semester	5 s.h.
039:106 Second-Year Chinese: Second Semester	5 s.h.

Heritage learners and students who have studied Chinese abroad may be able to complete the sequence with 039:107 Accelerated Second-Year Chinese: First Semester and 039:114 Accelerated Second-Year Chinese: Second Semester. Consult the department for more information.

## **FRENCH**

Courses in French are offered by the Department of French and Italian. Students may use varied combinations of French language courses approved for General Education to fulfill the Foreign Language requirement. For students with no previous knowledge of French, the department recommends the following sequence.

009:001 Elementary French I	5 s.h.
009:002 Elementary French II	5 s.h.
009:011 Intermediate French I	4 s.h.
009:012 Intermediate French II	4 s.h.

Students with previous knowledge of French may be able to fulfill the requirement by substituting 009:010 First-Year French Review for 009:001 and 009:002 in the sequence above. Some students may be evaluated as ready for 009:011 or 009:012. Consult the department for appropriate placement.

## **GERMAN**

Courses in German are offered by the Department of German. Students may use varied combinations of German language courses approved for General Education to fulfill the Foreign Language requirement. For students with no previous knowledge of German, the department suggests the following sequence.

013:011 Elementary German I	4 s.h.
013:012 Elementary German II	4 s.h.
013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.

Students with previous knowledge of German may be able to fulfill the requirement by substituting 013:014 First-Year German Review for 013:011 and 013:012 in the sequence above. Some students may be evaluated as ready for 013:021 or 013:022. Consult the department for appropriate placement.

The department also offers accelerated intensive courses, 013:013 Intensive Elementary German and 013:025 Intensive Intermediate German, which may be appropriate for students with strong language learning abilities or experience. The intensive courses may be combined with nonintensive courses to create other sequences that can be used to fulfill the General Education Foreign Language requirement. Consult the Department of German to identify an appropriate course sequence.

## **GREEK**

Courses in Greek are offered by the Department of Classics. Students with no previous knowledge of Greek should fulfill the General Education Foreign Language requirement with the following sequence.

20G:001 Classical and New Testament Greek I	3-5 s.h.
20G:002 Classical and New Testament Greek II	3-5 s.h.
20G:011 Second-Year Greek I	3 s.h.
20G:012 Second-Year Greek II	3 s.h.

Students with previous knowledge of Greek should consult the department for appropriate placement.

## **HINDI**

Courses in Hindi are offered by the Department of Asian and Slavic Languages and Literature. Students with no previous knowledge of Hindi should fulfill the General Education Foreign Language requirement with the following sequence. Each of these courses is open to entering first-year students.

039:123 First-Year Hindi: First Semester	5 s.h.
039:124 First-Year Hindi: Second Semester	5 s.h.
039:126 Second-Year Hindi: First Semester	4 s.h.
039:127 Second-Year Hindi: Second Semester	4 s.h.

Students with previous knowledge of Hindi should consult the department for appropriate placement.

### ITALIAN

Courses in Italian are offered by the Department of French and Italian. Students with no previous knowledge of Italian should fulfill the General Education Foreign Language requirement with the following sequence.

018:001 Elementary Italian	5 s.h.
018:002 Elementary Italian II	5 s.h.
018:011 Intermediate Italian	4 s.h.
018:012 Intermediate Italian II	4 s.h.

Students with strong language learning abilities or a background in another romance language may be able to complete the requirement by substituting 018:103 Intensive Elementary Italian for 018:001 and 018:002 in the sequence above. Consult the department for appropriate placement.

### JAPANESE

Courses in Japanese are offered by the Department of Asian and Slavic Languages and Literature. Students may use varied combinations of Japanese language courses approved for General Education to fulfill the Foreign Language requirement. For students with no previous knowledge of Japanese, the department recommends the following sequence.

39J:010 First-Year Japanese: First Semester	5 s.h.
39J:012 First-Year Japanese: Second Semester	5 s.h.
39J:101 Second-Year Japanese: First Semester	4-5 s.h.
39J:102 Second-Year Japanese: Second Semester	4-5 s.h.

Those with previous knowledge of Japanese may be able to complete the requirement by substituting 39J:011 Elementary Japanese: Review for 39J:010 in the sequence above. Consult the department for more information.

### LATIN

Courses in Latin are offered by the Department of Classics. Students with no previous knowledge of Latin should fulfill the General Education Foreign Language requirement with the following sequence.

20L:001 Elementary Latin I	3-5 s.h.
20L:002 Elementary Latin II	3-5 s.h.
20L:011 World of Cicero	3 s.h.
20L:012 Golden Age of Roman Poetry	3 s.h.

Some students may be able to fulfill the requirement by substituting 20L:005 Accelerated Latin for 20L:001 and 20L:002 in the sequence above. Students who have taken 20L:001 and 20L:002 should not enroll in 20L:005. Consult the department for appropriate placement.

### PORTUGUESE

Courses in Portuguese are offered by the Department of Spanish and Portuguese. Only one sequence in Portuguese is approved to fulfill the General Education Foreign Language requirement. Both courses in the sequence are open to first-year entering students.

038:100 Accelerated Elementary Portuguese	6 s.h.
038:101 Accelerated Intermediate Portuguese	6 s.h.

### RUSSIAN

Courses in Russian are offered by the Department of Asian and Slavic Languages and Literature. Students with no previous knowledge of Russian should fulfill the General Education Foreign Language requirement with the following sequence.

041:001 First-Year Russian I	4 s.h.
041:002 First-Year Russian II	4 s.h.
041:003 Second-Year Russian I	4 s.h.
041:004 Second-Year Russian II	4 s.h.

Students with previous knowledge of Russian should consult the program for appropriate placement.

### **SANSKRIT**

Courses in Sanskrit are offered by the Department of Asian and Slavic Languages and Literature. Students with no previous knowledge of Sanskrit should fulfill the General Education Foreign Language requirement with the following sequence. Each of these courses is open to entering first-year students.

039:110 First-Year Sanskrit: First Semester	4 s.h.
039:111 First-Year Sanskrit: Second Semester	4 s.h.
039:112 Second-Year Sanskrit: First Semester	3 s.h.
039:113 Second-Year Sanskrit: Second Semester	3 s.h.

Students with previous knowledge of Sanskrit should consult the department for appropriate placement.

### **SPANISH**

Courses in Spanish are offered by the Department of Spanish and Portuguese. Students may use varied combinations of Spanish language courses approved for General Education to fulfill the General Education Foreign Language requirement. For students with no previous knowledge of Spanish, the department recommends the following sequence.

035:001 Elementary Spanish I	5 s.h.
035:002 Elementary Spanish II	5 s.h.
035:011 Intermediate Spanish I	5 s.h.
035:012 Intermediate Spanish II	5 s.h.

Students with previous knowledge of Spanish may be able to fulfill the requirement by substituting 035:005 Elementary Spanish Review for 035:001 and 035:002 in the sequence above.

The accelerated course 035:013 Accelerated Intermediate Spanish, which combines 035:011 and 035:012, may be appropriate for some students.

Students with previous knowledge of Spanish should take the Spanish Foreign Language Placement Test to help determine proper placement.

### **SWAHILI**

Courses in Swahili are offered by the Department of French and Italian. The following sequence fulfills the General Education Foreign Language requirement. Each of these courses is open to first-year entering students.

211:125 Elementary Swahili I	3-4 s.h.
211:126 Elementary Swahili II	3-4 s.h.
211:127 Intermediate Swahili I	3-4 s.h.
211:128 Intermediate Swahili II	3-4 s.h.

Students with previous knowledge of Swahili should consult the Department of French and Italian for placement.

### **OTHER COURSE SEQUENCES**

A student who successfully completes a four-semester foreign language sequence that has not been approved for General Education may have the sequence substitute for a proficiency test and thus fulfill the General Education requirement.

The department offering the sequence should contact Graduation Analysis directly on behalf of the student to have the degree evaluation updated to show completion of the General Education Foreign Language requirement. Departments do not need to notify the College of Liberal Arts and Sciences of the update.

Departments that offer foreign language sequences through the fourth semester of proficiency on a regular basis may want to instruct students on this possible General Education credit by noting it on the appropriate ISIS course description. These departments also should pursue the possibility of General Education status for the foreign language sequence as soon as feasible.

### **Interpretation of Literature**

The skills students develop in Rhetoric classes are expanded in Interpretation of Literature courses. Working in small



classes, students focus on the major genres of literature (short and long fiction, poetry, drama) and increase their abilities to read and analyze a variety of texts.

All students must complete an Interpretation of Literature course (3 s.h.) or have equivalent transfer credit or credit by examination. Exception: students who major in English may take a course approved in the Humanities area as a substitute for an Interpretation of Literature course.

#### INTERPRETATION OF LITERATURE COURSE LIST

08G:001 The Interpretation of Literature	3 s.h.
009:005 Texts and Contexts: French-Speaking World	3 s.h.
009:007 Nature/Ecology French Philosophy and Fiction	3 s.h.

### Historical Perspectives

Courses in Historical Perspectives help students understand a period(s) of the past in its(their) own terms; comprehend the historical processes of change and continuity; sharpen their analytical skills in the evaluation of evidence; and develop their ability to generalize, explain, and interpret historical change.

All students must complete at least 3 s.h. of course work approved in this area. Students may use a second 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

#### HISTORICAL PERSPECTIVES COURSE LIST

01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:016/039:016 Asian Art and Culture	3 s.h.
016:001 Western Civilization I	3-4 s.h.
016:002 Western Civilization II	3-4 s.h.
016:003 Western Civilization III	3-4 s.h.
016:005/039:055 Civilizations of Asia: China	3 s.h.
016:006/039:056 Civilizations of Asia: Japan	3-4 s.h.
016:007/039:057 Civilizations of Asia: South Asia	3-4 s.h.
016:011 Issues in Human History: The Vietnam War in Historical Perspective	3 s.h.
016:012 Issues in Human History: Communities and Society in History	3 s.h.
016:014 Issues in Human History: Europe's Expansion Overseas	3 s.h.
016:015 Issues in Human History: Gender in Historical Perspective	3 s.h.
016:017 Issues: Twentieth-Century Crisis	3 s.h.
016:020 Issues in Medieval Society	3 s.h.
016:022 Issues: Nature and Society in Historical Perspective	3 s.h.
016:023 Issues in European Politics and Society	3 s.h.
019:091 Media History and Culture	3 s.h.
20E:030 Greek Civilization	3 s.h.
20E:031 Roman Civilization	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
026:033 The Meaning of Life	3 s.h.
026:034 Philosophy and the Just Society	3 s.h.
032:001 Judaism, Christianity, and Islam	3 s.h.
032:004/039:064 Living Religions of the East	3 s.h.
032:025/016:035 Medieval Religion and Culture	3 s.h.
032:026/016:036 Modern Religion and Culture	3 s.h.
032:030 Introduction to Islam	3 s.h.
041:094 Religion and Culture of Slavs	3 s.h.
049:002 Theatre and Society: Ancients and Moderns	3 s.h.
049:003 Theatre and Society: Romantics and Rebels	3 s.h.
049:112 History of Theatre and Drama I	3 s.h.
049:113 History of Theatre and Drama II	3 s.h.
113:012 Introduction to Prehistory	3 s.h.

## Humanities

The Humanities category focuses on the ways in which individuals and cultures have interpreted and understood themselves, others, and the world. Humanities courses may explore the nature and meaning of artistic forms (across the spectrum of the fine arts and literature of the past and present), human values and value systems (including current and historical ideas in philosophy and religion), and other expressions of human aspiration, belief, and creation. The courses teach verbal, analytic, perceptual, and imaginative skills needed to interpret and examine culture, community, identity formation, and the human experience.

All students must complete at least 3 s.h. of course work approved in this area. Students may use a second 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

### HUMANITIES COURSE LIST

01H:001 Art and Visual Culture	3 s.h.
01H:002 Arts of Africa	3 s.h.
01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
01H:004 Masterpieces: Art and Cultural Paradigms	3 s.h.
01H:066 Introduction to American Art	3 s.h.
08C:001 Creative Writing Studio Workshop	3 s.h.
08G:002 Biblical and Classical Literature	3 s.h.
08G:003 Medieval and Renaissance Literature	3 s.h.
08G:004 Heroes and Villains	3 s.h.
08G:005/149:005 Literatures of Native American Peoples	3 s.h.
08G:006 Fictions	3 s.h.
08G:007 Poetry	3 s.h.
08G:008 Drama	3 s.h.
08G:009 American Lives	3 s.h.
08G:011 Literature and Sexualities	3 s.h.
08G:012 Comic and Tragic Literature	3 s.h.
08G:014/129:008 Literatures of the African Peoples	3 s.h.
08G:015 Women and Literature	3 s.h.
009:030 Cultural Misunderstandings: France and U.S.A.	3 s.h.
009:055/033:055 Revolutions in 19th-Century France	3 s.h.
13E:066 Pact with the Devil	3 s.h.
13E:075 Scandinavian Crime Fiction	3 s.h.
13E:080 King Arthur Through the Ages	3 s.h.
13E:085 From the Brothers Grimm to Kafka: The Fantastic and Supernatural in German Literature	3 s.h.
13E:090 Music and the German Imagination	3 s.h.
13E:118 The Third Reich and Literature	3 s.h.
13E:119 German Film	3 s.h.
018:132 Images of Modern Italy	3-4 s.h.
20E:014 Hero, God, Mortal: Literature of Greece	3 s.h.
20E:015 Love and Glory: Literature of Rome	3 s.h.
20E:075 Ancient Sports and Leisure	3 s.h.
20E:112 Classical Mythology	3 s.h.
20E:115/032:164 Greek Religion and Society	3 s.h.
20E:140 Magic in the Ancient World	3 s.h.
024:102/07S:112/097:115/113:103 Introduction to Museology	3 s.h.
025:013 Concepts and Contexts of Western Music	3 s.h.
025:014 Great Musicians	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
026:061 Introduction to Philosophy	3 s.h.
026:102 Introduction to Ethics	3 s.h.
030:030 Introduction to Political Thought and Political Action	3 s.h.
032:002 Religion and Society	3 s.h.
032:003 Quest for Human Destiny	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.

032:016 Religion and Liberation	3 s.h.
032:034/129:050 Introduction to African American Religions	3 s.h.
032:051 Religious Thinkers of the West	3 s.h.
032:052/131:060 Women in Islam and the Middle East	3 s.h.
032:111 Religion and Women	3 s.h.
032:155 Human Rights and Islam	3 s.h.
033:154 Human Nature and the Impact of Science	3 s.h.
035:020 Contemporary Spanish American Narrative	3 s.h.
035:060 Latino/a Literature in the U.S.	3 s.h.
038:020 Contemporary Brazilian Narrative	3 s.h.
039:018/032:008 Asian Humanities: India	3 s.h.
039:019/032:009 Asian Humanities: China	3 s.h.
039:020 Asian Humanities: Japan	3 s.h.
041:093 Slavic Folklore	3 s.h.
045:001 Understanding American Cultures	4 s.h.
045:050 Food in America	3 s.h.
048:002 Survey of Film	3 s.h.
048:010 Contemporary Cinema	3 s.h.
048:021 Introduction to European Film	3 s.h.
048:040 Major Texts in World Literature I	3 s.h.
048:041 Major Texts of World Literature II	3 s.h.
049:001 Art of the Theatre	3 s.h.
129:061/045:030 Introduction to African American Culture	3 s.h.
137:080/188:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
143:050 Honors Seminar in Humanities	3 s.h.
169:040/033:040 The Good Society	3 s.h.
169:050/033:050 Making Choices: Interdisciplinary Perspectives	3 s.h.
169:072 Leisure and the Liberal Arts	3 s.h.
188:161/033:161/049:161/137:161 The Arts in Performance	3 s.h.

## Natural Sciences

Courses in the Natural Sciences area explore the scope and major concepts of a scientific discipline. Students learn the attitudes and practices of scientific investigators: logic, precision, experimentation, tentativeness, and objectivity. In courses with a laboratory component, students gain experience in the methods of scientific inquiry.

All students must complete at least 7 s.h. of course work approved in this area, including at least one course with a lab component.

### NATURAL SCIENCES COURSE LIST

Effective fall 2007, the Department of Biological Sciences reintroduced 002:040 Biology of the Brain as a 3 s.h. nonlaboratory course without prerequisites and approved for the Natural Sciences area. It is not accepted for the major in biology.

Effective fall 2007, 002:145 Introduction to Neurobiology is no longer approved for the Natural Sciences area, but it continues as a 3 s.h. course for upper-level undergraduates with 002:010 and 002:011 as prerequisites. It is accepted for the major in biology. Students who are taking and who will take 002:145 Introduction to Neurobiology before Fall 2007 and wish to repeat it for a second-grade-only option should enroll in 002:40 Biology of the Brain. Students who take 002:040 Biology of the Brain in fall 2007 or later are charged with duplication if they took 002:145 Introduction to Neurobiology before fall 2007.

Courses with a lab component are noted (lab).

002:001 Introduction to Botany (lab)	4 s.h.
002:002 Introductory Animal Biology (lab)	4 s.h.
002:010 Principles of Biology I (lab)	4 s.h.
002:011 Principles of Biology II (lab)	4 s.h.
002:021 Human Biology (lab)	4 s.h.
002:022 Ecology and Evolution	3 s.h.
002:040 Biology of the Brain	3 s.h.
002:081 Human Genetics in the Twenty-First Century	3 s.h.

002:095 Plants and Human Affairs	2-3 s.h.
004:005 Technology and Society	3 s.h.
004:006 Technology and Society Laboratory (lab)	1 s.h.
004:007 General Chemistry I	3 s.h.
004:008 General Chemistry II	3 s.h.
004:011 Principles of Chemistry I (lab)	4 s.h.
004:012 Principles of Chemistry II (lab)	4 s.h.
004:016 Principles of Chemistry Lab (lab)	2 s.h.
004:018 Chemical Science I	3 s.h.
004:019 Chemical Science II	3 s.h.
004:020 Chemical Science Laboratory (lab)	2 s.h.
012:003 Earth History and Resources (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
012:004 Evolution and the History of Life (with a lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
012:005 Introduction to Geology (lab)	4 s.h.
012:007 Age of Dinosaurs (lab)	4 s.h.
012:008/159:008 Introduction to Environmental Science (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
012:009/159:009 Introduction to Environmental Sciences Laboratory	1 s.h.
012:114 Energy and the Environment	3 s.h.
012:140 Natural Hazards	3 s.h.
027:053 Human Anatomy	3 s.h.
027:130 Human Physiology	3 s.h.
029:002 Nanoscience	3 s.h.
029:003 From Quarks to Quasars (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
029:006 Physics of Everyday Experience	3 s.h.
029:008 Basic Physics (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
029:011 College Physics I (lab)	4 s.h.
029:012 College Physics II (lab)	4 s.h.
029:027 Physics I (lab)	4 s.h.
029:028 Physics II (lab)	4 s.h.
029:044 Physics of Sound (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
029:050 Stars, Galaxies, and the Universe (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
029:051 Introductory Astronomy Laboratory (lab)	1 s.h.
029:052 Exploration of the Solar System	3 s.h.
029:053 Life in the Universe	3 s.h.
029:061 General Astronomy I (lab)	4 s.h.
029:062 General Astronomy II (lab)	4 s.h.
029:081 Introductory Physics I (lab)	4 s.h.
029:082 Introductory Physics II (with lab 4 s.h.; without lab 3 s.h.)	3-4 s.h.
029:084 Introductory Physics II Lab (lab)	1 s.h.
044:003 Introduction to Earth Systems Science (lab)	4 s.h.
113:013 Human Origins	3 s.h.
143:070 Honors Seminar in Natural Sciences	3 s.h.

### Quantitative or Formal Reasoning

Courses in the Quantitative or Formal Reasoning area help develop analytical skills through the practice of quantitative or formal symbolic reasoning. Courses focus on presentation and evaluation of evidence and argument; understanding the use and misuse of data; and organization of information in quantitative or other formal symbolic systems, including those used in computer science, linguistics, mathematics, philosophy, and statistics.

All students must complete at least 3 s.h. of course work approved in this area. Students may fulfill this requirement of the General Education Program by completing a course that lists an approved course as a prerequisite.

#### QUANTITATIVE OR FORMAL REASONING COURSE LIST

Effective fall 2006, the Department of Mathematics removed 22M:011 from the list of courses approved in the Quantitative or Formal Reasoning area.

22C:005 Introduction to Computer Science	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
22M:006 Logic of Arithmetic	3 s.h.

22M:009 Elementary Functions	4 s.h.
22M:010 Finite Mathematics	4 s.h.
22M:012 Theory of Arithmetic	3 s.h.
22M:013 Mathematics for Business	4 s.h.
22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:016 Calculus for the Biological Sciences	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
22S:002 Statistics and Society	3 s.h.
22S:008 Statistics for Business	4 s.h.
22S:025/07P:025 Elementary Statistics and Inference	3 s.h.
22S:030 Statistical Methods and Computing	3 s.h.
026:036 Principles of Reasoning: Argument and Debate	3 s.h.
033:060 Scientific Reasoning	3 s.h.
036:017 Theory and Practice of Argument	4 s.h.
103:013 Language and Formal Reasoning	3 s.h.
143:080 Honors Seminar in Quantitative and Formal Reasoning	3 s.h.

## Social Sciences

Courses in the Social Sciences area focus on human behavior and the institutions and social systems that shape and are shaped by that behavior. Courses provide an overview of one or more social science disciplines, their theories, and methods.

All students must complete at least 3 s.h. of course work approved in this area. Students may use a second 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

### SOCIAL SCIENCES COURSE LIST

003:117/103:172 Psychology of Language	3 s.h.
003:118/103:176 Language Development	3 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.
019:090 Media Uses and Effects	3 s.h.
019:095 Media and Consumers	3 s.h.
030:001 Introduction to American Politics	3 s.h.
030:030 Introduction to Political Thought and Political Action	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:045 Introduction to Comparative Politics	3 s.h.
030:050 Introduction to Political Behavior	3 s.h.
030:060 Introduction to International Relations	3 s.h.
030:061 Introduction to American Foreign Policy	3 s.h.
030:070 Introduction to Political Communication	3 s.h.
030:140 Government and Politics of Europe	3 s.h.
031:001 Elementary Psychology	3 s.h.
031:013 Introduction to Clinical Psychology	3 s.h.
031:014 Introduction to Developmental Science	3 s.h.
031:016 Introduction to Cognitive Psychology	3 s.h.
034:001 Introduction to Sociology Principles	3-4 s.h.
034:002 Social Problems	3-4 s.h.
034:020 Principles of Social Psychology	3-4 s.h.
036:070 Communication Theory in Everyday Life	3 s.h.
036:074 Media and Society	3 s.h.
044:001 Introduction to Human Geography	4 s.h.
044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.

044:030 The Global Economy	3 s.h.
044:161 African Development	3 s.h.
103:011 Language and Society	3 s.h.
103:055 Languages of the World	3 s.h.
113:003 Introduction to the Study of Culture and Society	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
113:014 Language, Culture, and Communication	3 s.h.
113:113 Human Impacts on the Environment	3 s.h.
113:116 Urban Anthropology	3 s.h.
129:060 Introduction to African American Society	3 s.h.
143:060 Honors Seminar in Social Sciences	3 s.h.
153:108/042:108/096:108/169:108 Basic Aspects of Aging	3 s.h.
169:070 Perspectives on Leisure and Play	3 s.h.

## Cultural Diversity

Cultural Diversity courses foster greater understanding of the diversity of cultures in the United States and provide knowledge and critical understanding of these cultures. Most courses focus on one or more nondominant cultures or peoples of the United States. Some courses include comparative study with cultures outside the United States, but the primary focus is on the U.S. experience.

Students may use 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

### CULTURAL DIVERSITY COURSE LIST

01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
01H:104 American Indian Art	3 s.h.
07B:154 Education, Race, and Ethnicity	2-3 s.h.
07B:180 Human Relations for the Classroom Teacher	3 s.h.
08G:005/149:005 Literatures of Native American Peoples	3 s.h.
08G:011 Literature and Sexualities	3 s.h.
016:040 Perspectives: Diversity in American History	3 s.h.
16A:065/129:065 Introduction to African American History	3 s.h.
16A:112 Mexican American History	3 s.h.
025:080 Jazz Cultures in America and Abroad	3 s.h.
025:141 History of Jazz	3 s.h.
032:016 Religion and Liberation	3 s.h.
032:034/129:050 Introduction to African American Religions	3 s.h.
032:060/149:060 Introduction to Native American Religions	3 s.h.
033:075 Cultural Diversity and Identity	3 s.h.
034:018/131:018 Gender and Society	3-4 s.h.
034:061 The American Family	3 s.h.
034:066 Social Inequality	3 s.h.
034:155 Comparative Studies in Race and Ethnicity	3 s.h.
035:060 Latino/a Literature in the U.S.	3 s.h.
035:143/048:196 Cuban American Literature and Culture	3 s.h.
045:001 Understanding American Cultures	4 s.h.
045:050 Food in America	3 s.h.
103:150 Language and Gender	3 s.h.
113:110/149:110/045:105 Native Peoples of North America	3 s.h.
129:060 Introduction to African American Society	3 s.h.
129:061/045:030 Introduction to African American Culture	3 s.h.
129:062 Foundations in African American Studies	3 s.h.
129:122/019:165 African Americans and the Media	3 s.h.
131:010/154:010 Introduction to Gender, Women's, and Sexuality Studies	3 s.h.
131:055 Gender, Race, and Class in the U.S.	3 s.h.
149:049/045:049 Introduction to American Indian and Native Studies	3 s.h.
154:060/045:060/131:061 Sex and Popular Culture in the Postwar U.S.	3 s.h.

## Fine Arts

Fine Arts courses provide students with knowledge of the history, theory, and appreciation of varied disciplines in the creative arts. Courses also may provide students with studio, performance, and production experiences.

Students may use 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

### FINE ARTS COURSE LIST

01B:001 Elements of Art	3 s.h.
01B:080 Elements of Printmaking	3 s.h.
01B:090 Elements of Sculpture	3 s.h.
01C:060 Exploring Forms in Clay I	3 s.h.
01H:001 Art and Visual Culture	3 s.h.
01H:002 Arts of Africa	3 s.h.
01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
01H:004 Masterpieces: Art and Cultural Paradigms	3 s.h.
01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:016/039:016 Asian Art and Culture	3 s.h.
01H:066 Introduction to American Art	3 s.h.
01N:015 Undergraduate Sculpture I	3 s.h.
08C:001 Creative Writing Studio Workshop	3 s.h.
08N:020 Introduction to Creative Nonfiction	3 s.h.
025:013 Concepts and Contexts of Western Music	3 s.h.
025:014 Great Musicians	3 s.h.
025:059 Performance Instruction for Nonmajors	1 s.h.
025:080 Jazz Cultures in America and Abroad	3 s.h.
025:082 Group Piano I: Non-Music Majors	1 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
049:001 Art of the Theatre	3 s.h.
049:002 Theatre and Society: Ancients and Moderns	3 s.h.
049:003 Theatre and Society: Romantics and Rebels	3 s.h.
049:020 Basic Acting	3 s.h.
049:062 Playwriting I	3 s.h.
049:112 History of Theatre and Drama I	3 s.h.
049:113 History of Theatre and Drama II	3 s.h.
137:001 Beginning Tap	1-2 s.h.
137:002 Beginning Jazz	1-2 s.h.
137:003 Beginning Ballet	1-2 s.h.
137:004 Beginning Modern Dance	1-2 s.h.
137:011 Continuing Tap	1-2 s.h.
137:012 Continuing Jazz	1-2 s.h.
137:013 Continuing Ballet	1-2 s.h.
137:014 Continuing Modern Dance	1-2 s.h.
137:022 Intermediate Jazz	1-2 s.h.
137:023 Intermediate Ballet	1-2 s.h.
137:024 Intermediate Modern	1-2 s.h.
137:080/188:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
137:106 Dance Performance	0-1 s.h.
188:161/137:161/049:161/033:161 The Arts in Performance	3 s.h.

## Foreign Civilization and Culture

Foreign Civilization and Culture courses provide students with knowledge about one or more foreign civilizations, cultures, or societies outside of the United States. Courses are designed to stimulate students' interest in further study of foreign civilizations, cultures, and societies and to foster international and intercultural understanding.

Students may use 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

### FOREIGN CIVILIZATION AND CULTURE COURSE LIST

01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:008 Themes in Global Art	3 s.h.
01H:016/039:016 Asian Art and Culture	3 s.h.
08G:014/129:008 Literatures of the African Peoples	3 s.h.
009:113 French Civilization	3 s.h.
009:114 French Civilization	3 s.h.
009:147/048:105 French Cinema	3-4 s.h.
013:105 German Cultural History	3 s.h.
013:115 Contemporary German Civilization	3 s.h.
13E:090 Music and the German Imagination	3 s.h.
13E:118/048:148 The Third Reich and Literature	3 s.h.
13E:119 German Film	3 s.h.
13E:120/033:125 Germany in the World	3 s.h.
016:001 Western Civilization I	3-4 s.h.
016:002 Western Civilization II	3-4 s.h.
016:003 Western Civilization III	3-4 s.h.
016:005/039:055 Civilizations of Asia: China	3 s.h.
016:006/039:056 Civilizations of Asia: Japan	3-4 s.h.
016:007/039:057 Civilizations of Asia: South Asia	3-4 s.h.
016:045/20E:071/032:061 Middle East and Mediterranean: Alexander to Suleiman	3 s.h.
016:082 The World Since 1945	3 s.h.
16E:107 The Hellenistic World and Rome	3 s.h.
16E:110/162:110 Medieval Civilization II	3 s.h.
16E:113 Economic and Social History of Medieval Europe	3 s.h.
16E:117 History of the Medieval Church	3 s.h.
16E:125/131:181 Society and Gender in Europe 1200-1789	3 s.h.
16E:126 The French Revolutions and Human Rights	3 s.h.
16E:156 Germany Since 1914: Weimar, Hitler, and After	3-4 s.h.
16E:178 Soviet Union 1917-1945	3-4 s.h.
16E:179 Soviet Union 1945-1991	3 s.h.
16W:120/129:163 Pre-Colonial African History	3 s.h.
16W:121/129:164 African History Since 1880	3 s.h.
16W:198/039:196 China Since 1927	3 s.h.
018:132 Images of Modern Italy	3-4 s.h.
20E:014 Hero, God, Mortal: Literature of Greece	3 s.h.
20E:015 Love and Glory: Literature of Rome	3 s.h.
20E:150/131:152/154:121 Gender and Sexuality in the Ancient World	3 s.h.
025:103 World Music	3 s.h.
030:141 Russian/Post-Soviet Politics	3 s.h.
030:143/039:178 Government and Politics of the Far East	3 s.h.
030:144 Latin American Politics	3 s.h.
032:004/039:064 Living Religions of the East	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.
032:030 Introduction to Islam	3 s.h.
032:052/131:060 Women in Islam and the Middle East	3 s.h.
035:020 Contemporary Spanish American Narrative	3 s.h.
038:020 Contemporary Brazilian Narrative	3 s.h.



039:018/032:008 Asian Humanities: India	3 s.h.
039:019/032:009 Asian Humanities: China	3 s.h.
039:020 Asian Humanities: Japan	3 s.h.
041:093 Slavic Folklore	3 s.h.
041:094 Religion and Culture of Slavs	3 s.h.
041:098 Introduction to Russian Culture	3 s.h.
041:099 Russia Today	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:161 African Development	3 s.h.
113:125/39J:125 Japanese Society and Culture	3 s.h.
113:131 Latin American Economy and Society	3 s.h.

## Health and Physical Activity

Health and Physical Activity courses help students acquire knowledge and skills that are conducive to good health and well-being.

Students may use 3 s.h. of course work approved in this area to partially fulfill the Distributed General Education requirement of the General Education Program.

### HEALTH AND PHYSICAL ACTIVITY COURSE LIST

Courses with prefix 28S meet for eight weeks and are graded satisfactory/fail only. In order to remove incompletes or use the second-grade-only option, students must complete or retake the same activity or sport at the same level, regardless of when the course was originally taken.

027:020 Alcohol and Your College Experience	1 s.h.
027:021 Tobacco and Your College Experience	1 s.h.
027:022 Resiliency and Your College Experience	1 s.h.
027:035 Stress Management	3 s.h.
027:039 Physical Activity and Health	3 s.h.
28S:006 Core Strengthening	1 s.h.
28S:007 Aerobics: Low Impact	1 s.h.
28S:009 Aquatic Exercise	1 s.h.
28S:011 Badminton I	1 s.h.
28S:020 Fitness Walking	1 s.h.
28S:021 Flexibility	1 s.h.
28S:023 Golf	1 s.h.
28S:025 Hatha Yoga	1 s.h.
28S:029 Jogging I: Beginners	1 s.h.
28S:030 Jogging II	1 s.h.
28S:031 Karate I	1 s.h.
28S:033 Kick Boxing I	1 s.h.
28S:037 Lap Swimming I	1 s.h.
28S:038 Lap Swimming II	1 s.h.
28S:042 Personal Fitness	1 s.h.
28S:043 Pilates	1 s.h.
28S:045 Racquetball I	1 s.h.
28S:047 Relaxation Techniques	1 s.h.
28S:049 Sand Volleyball	1 s.h.
28S:052 Self Defense	1 s.h.
28S:053 Slow-Pitch Softball I	1 s.h.
28S:055 Soccer I: Outdoor	1 s.h.
28S:056 Soccer II: Outdoor	1 s.h.
28S:057 Soccer: Indoor	1 s.h.
28S:058 Speed Walking	1 s.h.
28S:059 Spinning	1 s.h.
28S:061 Resistance Training	1 s.h.
28S:063 Swimming I	1 s.h.
28S:064 Swimming II	1 s.h.
28S:066 Table Tennis	1 s.h.

28S:071 Tennis I	1 s.h.
28S:075 Ultimate Frisbee	1 s.h.
28S:077 Volleyball I	1 s.h.
28S:078 Volleyball II	1 s.h.
28S:081 Weight Training I	1 s.h.
28S:082 Weight Training II	1 s.h.
169:045 Health for Living	3 s.h.

## General Education Policies and Other Information

### P/N, S/F, S/U Graded Course Work

Students may not choose the pass/nonpass (P/N) grading option for courses they wish to use to complete the General Education Program. Courses approved for General Education may be taken P/N only when they are to be used as elective semester hours.

Only under special circumstances will courses approved for S/F or S/U grading be approved for General Education. The Educational Policy Committee and the General Education Curriculum Committee must approve S/F or S/U grading for a course approved for General Education.

(See more information on P/N and S/F or S/U in the Grading section of the Student Academic Handbook.)

### MAJORS, MINORS, CERTIFICATES, AND THE GENERAL EDUCATION PROGRAM

Students may use courses approved for General Education that are offered by their major departments to complete the General Education Program, and they may use the same course to satisfy a requirement of the major and to complete the General Education Program. Students may use course work they will apply toward earning a minor to complete the General Education Program. Course work used to complete a certificate program also may be used to complete the General Education Program. However, see "No More Than Three Courses from One Department" below.

### NO MORE THAN THREE COURSES FROM ONE DEPARTMENT

Students may use no more than three courses from any one department in completing the General Education Program. Courses taken to fulfill the foreign language requirement of the General Education Program are excluded from this rule.

### REPEATABLE COURSES

Courses that may be repeated for credit may be approved in any General Education area. Students may use more than one repeatable course in completing the General Education Program; however, students may use only 3 s. h. of credit from any one repeatable course in completing the General Education Program.

### COURSES APPROVED IN MORE THAN ONE AREA

A course may be approved in more than one General Education area. Students may use a course to fulfill any requirement of the General Education Program for which it is approved, but may not use a single course in more than one area in completing the General Education Program.

### COURSES APPROVED FOR HONORS CREDIT

Students who are admitted as honors students or who join the Honors Program may enroll in special honors sections of courses approved for General Education. The Honors Program also offers some honors seminars that are approved for General Education, which students may use to complete the General Education Program.

### COURSES IN COMMON

Entering first-year students may enroll in Courses in Common, a program that offers the opportunity to take three courses approved for General Education with the same group of students.

### STUDENTS WITH DISABILITIES

Students with documented learning disabilities or physical disabilities may need accommodation in order to complete the General Education Program. Accommodations are arranged by Student Disability Services in consultation with instructors, departments, and CLAS Academic Programs & Services. Please visit with Student Disability Services as

soon as acceptance of admission to Iowa has been made.

#### **TRANSFER COURSES, CREDIT BY EXAMINATION, AND THE GENERAL EDUCATION PROGRAM**

Students may use transfer course work and credit earned through examinations to complete the General Education Program. Transfer credit is evaluated by the Office of Admissions, and courses accepted for completion of the General Education Program are shown on the degree evaluation.

Students may use credit earned by examination, including Advanced Placement Program (AP), College Level Examination Program (CLEP), and International Baccalaureate (IB) tests to complete the General Education Program. For AP, CLEP, and IB exam equivalencies, see Credit by Exam on the Office of Admissions web site.

The University's Foreign Language Placement Test may be used to fulfill the foreign language requirement of the General Education Program.

#### **STUDENTS WITH DEGREES FROM TWO-YEAR INSTITUTIONS**

Transfer students with an A.A. degree and a g.p.a. of at least 2.00 from a two-year institution that has an articulation agreement with the University will enter the University having fulfilled all of the General Education Program requirements (except foreign language) for the College of Liberal Arts and Sciences and Education.

If a student completes an associate degree other than an A.A. or if the A.A. is from a college that does not have an articulation agreement with the University, credits will be evaluated course-by-course to determine how they will transfer.

Students with specific questions about their courses and how they transfer to The University of Iowa should contact the Office of Admissions.

## Geography

**Chair:** Marc P. Armstrong

**Professors:** Marc P. Armstrong, David A. Bennett, Rex D. Honey, George P. Malanson, R. Rajagopal, Gerard Rushton

**Professors emeriti:** James B. Lindberg, Michael L. McNulty, David R. Reynolds

**Associate professor:** Kathleen Stewart

**Associate professor emerita:** Rebecca S. Roberts

**Assistant professors:** Naresh Kumar, Marc A. Linderman

**Adjunct assistant professors:** David L. McGinnis, Marian Muste, Mary P. Skopec, William J. Smith Jr., Peter J. Weyer

**Lecturer:** Claire E. Pavlik

**Undergraduate degrees:** B.A., B.S. in Geography

**Undergraduate nondegree program:** Minor in Geography

**Graduate degrees:** M.A., Ph.D. in Geography

**Web site:** <http://www.uiowa.edu/~geog>

Geography is concerned with place and environment and the ongoing processes of change within and between social and physical systems. Geography's importance to scholarly inquiry is rooted in the complexity of the social and environmental problems with which the science deals. Three concepts at the core of the discipline--space, place, and scale--provide theoretical constructs and methodological tools for a science that investigates the complex character of social and environmental phenomena.

Geographers examine issues such as distribution and consumption of natural resources, air and water quality, climate changes and ecosystem dynamics, growth and development of urban areas, population dynamics, politics and practice of international development, and social justice. They view society and the environment as a physical/social/cultural system. They apply uniquely geographical perspectives and tools, as well as knowledge from other social and scientific disciplines, to analyze the emergent properties of these systems.

Department of Geography graduates find employment opportunities in government, nongovernmental organizations, and business. For example, many geographers are employed in resource management, urban and regional development, site selection, and market area analysis. They analyze problems in the distribution and interactions among physical, ecological, social, and political systems.

Geography students acquire skills in computer-based cartography and geographic information systems (GIS) software used to investigate and solve many environmental and social problems. Opportunities for graduates with GIS training are growing rapidly in both private and governmental organizations.

The geography faculty has developed an undergraduate instructional program that serves students majoring or minoring in geography as well as students in other disciplines who are interested in taking geography courses as part of a liberal education. Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels and those who want to pursue careers in urban and regional planning. They also provide a background for many related professions, including law, health care, environmental or transportation engineering, and international business.

The University's Geographic Information System Instructional Lab (GISIL) is located in the Department of Geography; see "Facilities, Resources" later in this Catalog section.

The department also participates in the University's internship program for students; see "Internships" later in this Catalog section.

## Undergraduate Programs

The department offers a Bachelor of Science, a Bachelor of Arts, and a minor in geography.

The department participates in a number of University interdisciplinary programs that have international, area studies, urban, or environmental components. Undergraduate students have access to the Geographic Information System Instructional Lab for GIS instruction and research.

### Bachelor of Science, Bachelor of Arts

The Bachelor of Science in geography requires a minimum of 120 s.h., including at least 45-49 s.h. of work for the major, depending on choice of track. The Bachelor of Arts in geography requires a total of 120 s.h., including at least 37-41 s.h. of work for the major, depending on choice of track. Either program is appropriate preparation for advanced training or careers in geography. Students with strong interest in quantitative analysis and model building should pursue the B.S. and are encouraged to master an appropriate computer programming language.

All students take a common set of foundation courses and complete the requirements for one of four tracks: geography and social change, environmental studies, geographic information science, or sustainability. B.S. students take additional mathematics course work.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Transfer students majoring in geography must earn a minimum of 15 s.h. for the major in residence at The University of Iowa. Consistent with the CLAS maximum hours rule, students may count no more than 50 s.h. earned in their major department toward graduation.

### Common Requirements

All geography majors must complete the following courses.

All of these:

044:001 Introduction to Human Geography	4 s.h.
044:003 Introduction to Earth Systems Science	4 s.h.
044:005 Foundations of GIS	3 s.h.

One of these, in addition to any course required to fulfill a track requirement:

044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:015 Introduction to Political Geography	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:030 The Global Economy	3 s.h.
044:035 World Cities	3 s.h.

One of these:

044:109 Introduction to Geographic Visualization	3 s.h.
044:110 GIS for Environmental Studies: Introduction	3 s.h.
044:112 Mapping American Cities and Regions	3 s.h.
044:180 Field Methods in Physical Geography	3 s.h.
044:181 Field Methods: Mapping and Mobile Computing	3 s.h.

One of these:

044:150 Senior Project Seminar	3 s.h.
044:151 Senior Thesis	3 s.h.

### STATISTICS FOR THE BACHELOR OF ARTS

Bachelor of Arts students must complete a minimum of 3 s.h. in statistics by taking one of the following courses or a statistics course equivalent to or numbered above one of these.

07P:143/22S:102 Introduction to Statistical Methods	3 s.h.
22S:008 Statistics for Business	4 s.h.
22S:025/07P:025 Elementary Statistics and Inference	3 s.h.
22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:130 Introduction to Mathematical Statistics I	3 s.h.
22S:131 Introduction to Mathematical Statistics II	3 s.h.

### STATISTICS FOR THE BACHELOR OF SCIENCE

Bachelor of Science students must complete a minimum of 3 s.h. in statistics by taking one of the following courses or a statistics course equivalent to or numbered above one of these.

07P:143/22S:102 Introduction to Statistical Methods	3 s.h.
22S:130 Introduction to Mathematical Statistics I	3 s.h.
22S:131 Introduction to Mathematical Statistics II	3 s.h.

### ADDITIONAL BACHELOR OF SCIENCE REQUIREMENT

Bachelor of Science students must satisfy a mathematics requirement consisting of one of the following sequences.

22M:015-22M:016 Mathematics for the Biological Sciences - Calculus for the Biological Sciences	8 s.h.
--	--------

22M:025-22M:026 Calculus I-II	8 s.h.
22M:031-22M:032 Engineering Mathematics I: Single Variable Calculus - Engineering Mathematics II: Multivariable Calculus	8 s.h.

## Tracks

All geography majors must complete one of the four tracks described below: geography and social change, environmental studies, geographic information science, or sustainability. Students should pay close attention to prerequisites for the upper-level courses in each track so that they can develop a study plan that allows them to complete their major in a timely way. Students in the environmental studies or geography and social change tracks who wish to gain additional experience in theory and application of geographic information systems (GIS) should take 044:113 Principles of Geographical Information Systems and at least an additional 6 s.h. in GIS-based courses offered by the Department of Geography.

### GEOGRAPHY AND SOCIAL CHANGE TRACK

The geography and social change track requires a minimum of 15 s.h. It is designed for students preparing for positions in government, nongovernment organizations, international development agencies, and business. It also provides preparation for graduate study in geography or planning, or for professional programs such as law, business, or policy analysis. The track provides an understanding of increasing globalization, including processes of urban and regional development or underdevelopment; the roles of elites, classes, institutions, and social movements; the role of the natural environment in effecting social change in different parts of the world; and the processes through which policy decisions are reached. Course work in the track covers social and economic theories of location and regional formation, methods of spatial analysis and geographic modeling, global and regional political economy, and theories of community conflict and social change.

Students develop requisite skills in quantitative analysis and the development, management, and application of geographic information systems and computer methods. They have opportunities to work on applied problems, such as assessing sites for their growth potential, identifying the best locations for service facilities, evaluating the impact of major projects, and forecasting the populations of small areas. The geography and social change track also provides opportunities for students interested in international development to examine competing theories intended to explain international and regional inequalities, and to investigate and evaluate the patterns and practice of development worldwide.

In addition to satisfying the common requirements for all geography majors, students in the geography and social change track must complete the following.

044:010 The Contemporary Global System	4 s.h.
Upper-level geography courses	11 s.h.

Students choose the upper-level courses (11 s.h.) in consultation with their advisors. They may not count 044:150 Senior Project Seminar or the independent study courses 044:151 Senior Thesis, 044:195 Undergraduate Research, and 044:199 Honors Thesis toward this requirement. Students in the geography and social change track who wish to gain additional experience in theory and application of geographic information systems (GIS) should take 044:113 Principles of Geographical Information Systems and at least an additional 6 s.h. in GIS-based geography courses.

The following upper-level courses are recommended.

044:104 Environment and Development	3 s.h.
044:131 Geography of Health	2-3 s.h.
044:133 Transportation Economics	3 s.h.
044:135 Urban Geography	3 s.h.
044:137 Health and Environment: GIS Applications	3 s.h.
044:139 Spatial Analysis and Location Models	3 s.h.
044:164 The Middle East	3 s.h.
044:170 Geography of Justice	3 s.h.
044:177 Environmental Justice	3 s.h.
044:178 Consequences of Global Environmental Change	3 s.h.
044:181 Field Methods: Mapping and Mobile Computing (a course chosen to fulfill one requirement cannot be used to fulfill a second)	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.

**ENVIRONMENTAL STUDIES TRACK**

The environmental studies track requires a minimum of 15 s.h. It is designed for students interested in the interrelationships among social and natural processes that affect the environment. The track prepares students for careers or pursuit of personal interests in resource management, physical geography, climatology, environmental policy or law, global environmental change, sustainable development, or other complex environmental issues. Graduates may find employment in an environmental profession such as landscape ecology or climatology; environmental planning and regulation; or environmental law, policy, and politics.

The environmental studies track offers training in field observation, remote sensing, geographical information systems, quantitative analysis/computing, and cartographic representation. It also provides a sound foundation for graduate or professional-level studies in the natural or social aspects of the environment.

In addition to satisfying the common requirements for all geography majors, students in environmental studies track must complete the following.

044:019 Contemporary Environmental Issues	3 s.h.
Upper-level geography courses	12 s.h.

Students choose the upper-level courses (12 s.h.) in consultation with their advisors. They may not count 044:150 Senior Project Seminar or the independent study courses 044:151 Senior Thesis, 044:195 Undergraduate Research, and 044:199 Honors Thesis toward this requirement. Students in the environmental studies track who wish to gain additional experience in theory and application of geographic information systems (GIS) should take 044:110 GIS for Environmental Studies: Introduction or 044:128 GIS for Environmental Studies: Applications, and at least an additional 6 s.h. in GIS-based geography courses.

The following upper-level courses are recommended.

044:101 Climatology	3 s.h.
044:103 Biogeography	3 s.h.
044:104 Environment and Development	3 s.h.
044:105 Introduction to Environmental Remote Sensing	3 s.h.
044:123 Landscape Ecology	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:126 Wetlands: Function, Geography, and Management	3 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:128 GIS for Environmental Studies: Applications	3 s.h.
044:131 Geography of Health	2-3 s.h.
044:137 Health and Environment: GIS Applications	3 s.h.
044:141 Introduction to Geographic Databases	3 s.h.
044:145 Applications in Environmental Remote Sensing	4 s.h.
044:170 Geography of Justice	3 s.h.
044:178 Consequences of Global Environmental Change	3 s.h.
044:180 Field Methods in Physical Geography (a course chosen to fulfill one requirement cannot be used to fulfill a second)	2-4 s.h.

**GEOGRAPHIC INFORMATION SCIENCE TRACK**

The geographic information science track requires a minimum of 14 s.h. It is designed for students preparing for positions in government agencies, nongovernment organizations, international development agencies, and business. It also provides preparation for graduate study in geography, planning, and other disciplines. The track focuses on the design, implementation, and use of geographic information systems. Courses address how geographic data are acquired, stored, accessed, displayed, managed, and analyzed.

Students in the geographic information science track learn to address problems involved in modeling environmental systems, identifying the best locations for service facilities, assessing environmental impacts, and forecasting the populations of small areas. They use the department's Geographic Information Systems Instructional Lab (GISIL) extensively to develop expertise in using GIS software.

Course work in the track covers methods of spatial analysis and geographical modeling and involves database management and computer programming.

In addition to the common requirements for all geography majors, students in the geographic information science track must complete the following.

22C:005 Introduction to Computer Science	3 s.h.
or	
22C:016 Computer Science I: Fundamentals	4 s.h.
Upper-level geography courses	11 s.h.

Students choose the upper-level courses (11 s.h.) in consultation with their advisors. They may not count 044:150 Senior Project Seminar or the independent study courses 044:151 Senior Thesis, 044:195 Undergraduate Research, and 044:199 Honors Thesis toward this requirement. Students in the GIScience track are encouraged to add breadth to their degree by taking additional upper-level courses in the department. Students interested in the application of GIS to environmental issues should select courses from the department's environmental studies area; those interested in socioeconomic issues should select courses from the department's geography and social change area.

The following upper-level courses are recommended.

044:105 Introduction to Environmental Remote Sensing	3 s.h.
044:109 Introduction to Geographic Visualization	3 s.h.
044:110 GIS for Environmental Studies: Introduction	3 s.h.
044:112 Mapping American Cities and Regions	3 s.h.
044:113 Principles of Geographical Information Systems	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:128 GIS for Environmental Studies: Applications	3 s.h.
044:131 Geography of Health	1-3 s.h.
044:137 Health and Environment: GIS Applications	3 s.h.
044:139 Spatial Analysis and Location Models	3 s.h.
044:141 Introduction to Geographic Databases	3 s.h.

#### **SUSTAINABILITY TRACK**

The sustainability track requires a minimum of 18 s.h. It is designed for students interested in finding ways for people to live that do not threaten the survival of future generations. It includes training in scientific and social scientific methods and requires students to look at the world on scales ranging from local to global. The sustainability track prepares students to be effective leaders and agents of change for sustainability in varied professions, such as academic researcher and teacher, technology specialist, grassroots advocate, government official, or corporate officer.

In addition to satisfying the common requirements for all geography majors, students in the sustainability track must complete the following courses. They must enroll in 057:013 Introduction to Sustainability for a minimum of 3 s.h.

044:019 Contemporary Environmental Issues	3 s.h.
057:013 Introduction to Sustainability (minimum of 3 s.h.)	arr.
Upper-level geography courses (one from each of the groups listed below)	12 s.h.

Students choose the upper-level courses (12 s.h.) in consultation with their advisors. They may not count 044:150 Senior Project Seminar or the independent study courses 044:151 Senior Thesis, 044:195 Undergraduate Research, and 044:199 Honors Thesis toward this requirement.

#### **Environment and Human Health**

044:103 Biogeography	3 s.h.
044:123 Landscape Ecology	3 s.h.
044:126 Wetlands: Function, Geography, and Management	3 s.h.
044:131 Geography of Health	1-3 s.h.
044:137 Health and Environment: GIS Applications	3 s.h.

#### **Energy, Climate, and the Built Environment**

044:101 Climatology	3 s.h.
---------------------	--------



044:135 Urban Geography	3 s.h.
044:145 Applications in Environmental Remote Sensing	4 s.h.
044:178 Consequences of Global Environmental Change	3 s.h.

#### **Society and Culture**

044:104 Environment and Development	3 s.h.
044:170 Geography of Justice	3 s.h.
044:177 Environmental Justice	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.

#### **Environment and Public Policy**

044:110 GIS for Environmental Studies: Introduction	3 s.h.
044:112 Mapping American Cities and Regions	3 s.h.
044:125 Environmental Impact Analysis	4 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:128 GIS for Environmental Studies: Applications	3 s.h.

### **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

#### **Bachelor of Arts**

The B.A. degree requires 38 s.h. in the major.

**Before the third semester begins:** one of the introductory courses in the major and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** five courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** 11 courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 14 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

#### **Bachelor of Science**

The B.S. degree requires 46 s.h. in the major.

**Before the third semester begins:** two of the introductory courses in the major and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** six courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** 12 courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 15 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

Honors in geography is for students of superior ability who want to pursue studies beyond the typical undergraduate level. To graduate with honors, students must become a member of the University of Iowa Honors Program, which

requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). They must be admitted to the honors program in geography by the first semester of the senior year and must maintain a g.p.a. of at least 3.33 in geography. They also must prepare and present an honors thesis, which consists of original research under the direction of a faculty member. The thesis is reviewed by a three-member faculty committee.

Students complete their thesis by taking 044:199 Honors Thesis. The senior course 044:150 Senior Project Seminar may be substituted for 044:199 Honors Thesis, as long as the student continues work on the thesis under the direction of a faculty member.

## Minor

The minor in geography requires a minimum of 15 s.h. in geography courses, including 12 s.h. in 100-level courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students are encouraged to concentrate their course work in tracks--geography and social change, environmental studies, geographic information science, or sustainability (see "Tracks" above). Those who wish assistance in selecting courses may contact the department secretary to request assignment of a minor advisor.

## Courses for Nonmajors

Students in the College of Liberal Arts and Sciences as well as other academic units at the University may find geography courses useful to their own study programs. The beginning-level courses 044:001 Introduction to Human Geography, 044:011 Population Geography, 044:019 Contemporary Environmental Issues, and 044:030 The Global Economy are approved for the social sciences component of the College of Liberal Arts and Sciences General Education Program; 044:010 The Contemporary Global System and 044:161 African Development are approved for the social sciences and foreign civilization and culture components of the General Education Program; and 044:003 Introduction to Earth Systems Science is approved for the natural sciences component of the General Education Program. These courses serve as part of a liberal education.

Other courses may be taken as electives, including 044:015 Introduction to Political Geography and 044:035 World Cities.

## Graduate Programs

The department offers a Master of Arts and a Doctor of Philosophy in geography. It also administers the geoinformatics subtrack of the graduate Certificate in Informatics; see Informatics in the Catalog (Graduate College).

The department's graduate programs focus on investigating the environmental consequences of human decisions on local, regional, and global scales. Central to the department's studies are geographical information science and the theories and models of environmental and social sciences. Within this broad domain, the department is developing strengths in environmental justice, environmental modeling, land use and its environmental consequences, health geography, and information technology and development.

The M.A. and Ph.D. prepare students to carry on creative and productive research in selected areas of geography. University of Iowa graduates hold positions on college and university faculties, in private research organizations, and in business and government.

The department provides opportunities for graduate students to gain practical teaching experience through service as departmental teaching assistants or graduate instructors.

Graduate students present research papers at conferences and have regularly won awards. Students are involved in faculty research that leads to coauthored publications; they also publish their own. Graduate students compete successfully for intramural and extramural funding for graduate education and research.

## Master of Arts

The Master of Arts in geography requires a minimum of 30 s.h. of graduate credit and is designed to be completed in four semesters. However, students earn more than the required credit in completing the degree, using the additional work to increase their breadth of knowledge in geography and to tailor their study programs to their individual interests. A maximum of 6 s.h. of thesis credit may be applied toward the degree. Students may complete an M.A. specialization in geographic information science by taking specific course work.

Graduate students demonstrate competence by completing appropriate course work; and completing an M.A. exam, or completing and defending an M.A. thesis, or completing the Ph.D. comprehensive exams.

For detailed information about M.A. requirements, see the *Manual for Graduate Degree Requirements, Department of*

*Geography*; contact the Department of Geography.

## Doctor of Philosophy

The Doctor of Philosophy in geography requires 72 s.h. of graduate credit and is designed to be completed in four or five years. The degree prepares students for college and university teaching and for advanced research. It provides study programs that lead to broad knowledge of a field of geography and its literature and to special expertise in a subfield.

Students can enter the Ph.D. program upon completing an undergraduate degree or with advanced standing corresponding to previous graduate education.

All Ph.D. students take the following courses. They take 044:350 Geography Colloquium (1 s.h.) each semester in residence.

044:210 Fundamentals of Geography	3 s.h.
044:211 Research and Writing in Geography	3 s.h.
044:350 Geography Colloquium (taken each semester)	1 s.h.
Two courses in geography numbered above 044:200	6 s.h.
Two research seminars chosen from 044:315 through 044:319 (3 s.h. each)	6 s.h.

Before students can be admitted to candidacy for the Ph.D., they must submit an original research paper to a faculty committee for approval. Students who complete an M.A. or M.S. thesis can submit it to fulfill this requirement. Before taking the comprehensive examination, which consists of both written and oral components, each student must submit an area review paper to his or her Ph.D. committee. This paper, which must be approved by the student's Ph.D. advisor, consists of a critical review of research in the student's concentration area.

The comprehensive examination covers the student's concentration area and his or her general field in the discipline. After obtaining the dissertation supervisor's approval, the student submits a dissertation proposal to the dissertation committee for critical comments and approval. The student then must complete and defend the dissertation.

For detailed information about Ph.D. requirements, see the *Manual for Graduate Degree Requirements, Department of Geography*; contact the Department of Geography.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

A bachelor's degree in geography is not required for admission to graduate study in geography, but applicants must have an undergraduate background relevant to the field. Strength in social or environmental science and interest in exploring the regional and spatial perspectives that characterize modern geography are important in admission decisions. Depending on their prior training, graduate students may be required to take courses that are prerequisites for course work in their chosen area of graduate study; credit earned in prerequisites does not count toward the graduate degree.

Application materials include an undergraduate transcript with grade-point average, scores on the Graduate Record Examination (GRE) General Test, three letters of recommendation, and an essay in which the applicant states his or her reasons for wanting to study geography at The University of Iowa.

Applicants whose first language is not English must take the Test of English as a Foreign Language (TOEFL). Their scores must be sent to the University's Office of Admissions.

New graduate students whose first language is not English are required to take the Speaking Proficiency English Assessment Kit (SPEAK) test when they arrive at the University; eventually they take the English Language Performance Test (ELPT). Students must be fully certified by the ELPT before they begin their fourth semester in order to be considered for funding in succeeding semesters. Students who do not pass the SPEAK test and ELPT are required to take Teaching Assistant Preparation in English (TAPE) courses until they have achieved proficiency in spoken English.

## Financial Support

A number of graduate teaching and research assistantships are available. In addition, outstanding applicants and underrepresented minorities are eligible for several fellowships. Awards are based on merit. In making awards, the department pays particular attention to grade-point average, especially for the junior and senior years; score on the Graduate Record Examination (GRE) General Test; letters of recommendation; and fit of the student's objectives with department specializations. Applications for graduate appointments must be received by February 1. Applications for

fellowships are due by January 15.

## Internships

The Department of Geography is a participant in the University's internship program, which provides opportunities for both undergraduate and graduate students to participate in paid and unpaid activities related to their academic programs. The Pomerantz Career Center works with students to develop appropriate internships.

## Facilities, Resources

The department houses three geographic information computational laboratories, which support a variety of GIS software packages, including the latest software from ESRI (ArcGIS) and Erdas (Imagine).

The University's Geographic Information Systems Instructional Lab (GISIL) is located in the Department of Geography. The lab is a center for teaching GIS as well as a place where students conduct geographic and GIS-related research. It is equipped with 20 networked student workstations, instructional support technology (e.g., CRT projection), and a suite of peripherals.

Environmental modeling and GIS research laboratories contain state-of-the-art machines. The department provides Windows and Linux platforms, digitizers, scanners, plotters, and printers. Projects requiring massive storage have access to the advanced GIS and modeling facility in the Center for Global and Regional Environmental Research. The University of Iowa is a charter member of Internet2, with a high-performance network link to the Department of Geography. The University also is a member of the University Consortium on Geographic Information Science.

To aid studies of water resources and physical geography, the department has a laboratory for analysis of vegetation, sediment, soil, water quality, and tree rings, and a variety of field equipment, including portable meteorological stations and data loggers.

Faculty and graduate students participate in multidisciplinary working groups through the University's Program in Applied Mathematical and Computational Sciences, Center for Global and Regional Environmental Research, Center for Health Effects of Environmental Contamination, International Programs, Institute for Rural and Environmental Health, Iowa Quaternary Studies Group, and Public Policy Center.

The University's Main Library has a collection of more than 115,500 maps, 3,600 atlases and reference works, and around 100,000 aerial photographs, primarily of Iowa.

## Geography Courses

### Primarily for Undergraduates

#### **044:001 Introduction to Human Geography** 4 s.h.

Application of geographic principles to contemporary social, economic, and political problems; urban growth; problems of the ghetto; diffusion of innovations; territoriality and perception. GE: Social Sciences.

#### **044:002 World Regional Geography** 3 s.h.

Cultural, economic, political, and environmental context of major world regions within the structure of globalization--East Asia, Southeast Asia, South Asia, the Middle East and North Africa, Sub-Saharan Africa, Eastern Europe and North Asia, Western Europe, Latin America, Anglo America, and Oceania; major trends within and between these culture realms; social, economic, and political processes within the regions; operating globally.

#### **044:003 Introduction to Earth Systems Science** 4 s.h.

Elementary principles of physical geography: physics of weather and climate, hydrological systems, geomorphological and geological forces, pedological processes, and ecological processes and patterns; geographic explanation of physical environment, with principles applied to the human use system; environmental pollution and natural hazards. GE: Natural Sciences.

#### **044:005 Foundations of GIS** 3 s.h.

Cartography, map analysis, and geographic information systems; map projections and scale; data collection, remote sensing, and GPS; data structures and organization; cartometry; symbolization and visualization.

#### **044:010 The Contemporary Global System** 4 s.h.

Problems of the global system and ways to address them; global economy and environment, state and security, social justice and human rights. GE: Foreign Civilization & Culture, Social Sciences.

**044:011 Population Geography** 3 s.h.

Spatial considerations of population growth and distribution; minorities within a population; poverty; housing; social organization and disorganization; social systems, including education, religion, recreation, medical and social services; diffusion of ideas and traits over space. GE: Social Sciences.

**044:015 Introduction to Political Geography** 3 s.h.

Emphasis on application of geographical and economic theory in understanding historical development and restructuring of political economies at global, national, and local levels; development of nation states, nationalism, imperialism, geopolitics, economic restructuring, electoral geography.

**044:019 Contemporary Environmental Issues** 3 s.h.

Political, economic, cultural, technologic, ecological, and ethical issues associated with natural resource and environmental problems, including population, global climate change, food production, tropical deforestation, soil erosion, waste management. GE: Social Sciences.

**044:020 Discovery in Geography** 3 s.h.

**044:029 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**044:030 The Global Economy** 3 s.h.

Location and spatial organization of the world's major types of economies; agriculture, energy and minerals, manufacturing, transportation; trade and service centers. GE: Social Sciences.

**044:035 World Cities** 3 s.h.

Urbanization as a process; specific concepts and theories of urbanization through global patterns, regional urban systems, individual metropolitan areas.

**044:100 Readings for Undergraduates** arr.

Supervised readings in geography.

## **For Undergraduate and Graduate Students**

**044:101 Climatology** 3 s.h.

Boundary layer processes that drive atmospheric dynamics; exchanges of energy and water at simple and complex surfaces; global climate change records, theories, models; impacts of climate on society. Prerequisites: 044:003. Same as 012:104.

**044:103 Biogeography** 3 s.h.

Patterns of plant and animal distribution and their interpretation; historical geography, including glaciation, plate tectonics; ecological geography, including physical factors such as climate, geology. Prerequisites: 002:001, or 002:010 and 002:011, or 044:003. Same as 002:103.

**044:104 Environment and Development** 3 s.h.

Environmental impacts of industrial and rural development explored through Third World case studies (Latin America, Africa, South and East Asia); environmental degradation from perspectives of political economy and ecology; class, gender, and indigenous peoples' issues; industry-agriculture linkages.

**044:105 Introduction to Environmental Remote Sensing** 3 s.h.

Basic concepts and principles of remote sensing; sources of data; georegistration; digital processing and classification of remotely sensed images for extraction of environmental information; linkage of remote sensing techniques with GIS analysis.

**044:106 Foundations of GIS** 3 s.h.

Cartography, map analysis, and geographic information systems; map projections and scale; data collection, remote sensing, GPS; data structures and organization; cartometry; symbolization and visualization.

**044:109 Introduction to Geographic Visualization**

3 s.h.

Basic concepts and techniques that underlie cartographic representation and the broader field of geographic visualization; digital cartographic practices; how scientific visualization, information visualization, and user interface design contribute to geographic visualization; map symbolization, scale and generalization, animation and dynamic map design, multimedia, virtual and mixed environments, interfaces for GIS; experience applying cartographic and visualization techniques. Prerequisites: 044:005.

**044:110 GIS for Environmental Studies: Introduction**

3 s.h.

Methods of managing and processing geographic information for environmental analysis; basic concepts, structures, theories of geographic information system (GIS), basic analytical techniques, and hands-on experience in GIS operations. Prerequisites: 044:005.

**044:112 Mapping American Cities and Regions**

3 s.h.

Foundation concepts for GIS-based analysis of urban, social, and economic data for the United States; geo-referenced sources of U.S. national and state data; application to contemporary social issues. Prerequisites: 044:005.

**044:113 Principles of Geographical Information Systems**

3 s.h.

Issues in establishment of geographic information systems: spatial data encoding, raster-vector options, spatial and attribute resolution, cartographic data models, linkages to spatial analysis procedures, display techniques for decision support, institutional setting. Prerequisites: 044:005.

**044:122 Environmental Conservation in the United States**

3 s.h.

Varied natural environments of the United States; problems arising from conflicting land uses; consideration of public land use policy, environmental impacts of different land uses, problems of habitat preservation and endangered species. Prerequisites: 044:003 or 044:019.

**044:123 Landscape Ecology**

3 s.h.

Effects of spatial pattern on spatial processes in ecology; characteristics of matrix, patch, corridor; fragmentation, deforestation, habitat loss; spatial flows of energy, matter, genetic information; relationship to human impact, global climate change. Requirements: 044:103 or a 100-level course in ecology.

**044:125 Environmental Impact Analysis**

4 s.h.

Environmental impact assessment methodologies; emphasis on cost-benefit-risk, cost-effectiveness and incremental analysis, and overlay and graphic techniques; optimal resource use, system simulation; field trips to local environmental control facilities. Prerequisites: 044:019. Same as 102:125.

**044:126 Wetlands: Function, Geography, and Management**

3 s.h.

Biotic aspects of water resources production; geographical basis of biophysical processes in drainage basins; spatial aspects of stream ecology; regional characterization of wetland structure and process. Prerequisites: 044:101 or 044:103. Same as 012:126.

**044:127 Environmental Quality: Science, Technology, and Policy**

3 s.h.

Geographical perspectives in the study and interpretation of chemicals in the environment; environmental standards under existing laws; local, regional, national, international case studies in environment and health; socioeconomic and institutional considerations in designing environmental protection strategies. Prerequisites: 22S:025.

**044:128 GIS for Environmental Studies: Applications**

3 s.h.

Applications of geographic information system (GIS) techniques in environmental change analysis (especially land use/cover change), environmental assessment, hazard/risk analysis, environmental decision making. Prerequisites: 044:110.

**044:131 Geography of Health**

1-3 s.h.

Provision of health care in selected countries, with particular reference to the Third World; focus on problems of geographical, economic, cultural accessibility to health services; disease ecology, prospective payment systems, privatization, medical pluralism. Same as 152:131.

**044:133 Transportation Economics**

3 s.h.

Overview of transportation markets--intercity, rural, urban; transportation modes--rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Prerequisites: 06E:001 and 06E:002. Same as 06E:145, 102:133.

**044:134 Health and Environment: GIS and Spatial** 3 s.h.

Use of GIS and spatial analysis methods to focus on three areas: handling spatial data, exploratory spatial data analysis, and causality analysis of geographic phenomena.

**044:135 Urban Geography** 3 s.h.

Central ideas of modern urban geography, their links to social theory; focus on interrelation between social change, urban environment; evolution of urban systems, emergence of the capitalist city, urban social and residential differentiation, local politics of uneven development.

**044:136 Planning Livable Cities** 3 s.h.

Development of livable cities in the United States; economic, physical, environmental, and political forces that shape their growth; impact of planning, how it shapes the future of cities. Same as 102:101.

**044:137 Health and Environment: GIS Applications** 3 s.h.

Applications of GIS and spatial analysis for studying health outcomes and exposure to environmental contaminants at different geographical scales. Prerequisites: 044:131 or 044:134.

**044:139 Spatial Analysis and Location Models** 3 s.h.

Application of location models within GIS environments to support decision making; small area demographic forecasting, location-allocation models, regionalization problems, shortest path models, other spatial analysis methods used to support spatial decisions. Prerequisites: 044:005.

**044:141 Introduction to Geographic Databases** 3 s.h.

Fundamentals of database design and use for geographic or environmental domains; major database models and how they support geographic data; introduction to SQL for formulating database queries; experience using software for applying key database concepts. Prerequisites: 044:005.

**044:142 Simulation in Environmental Geography** 3 s.h.

How computer simulations are used in environmental studies, with focus on landscape ecology (spatial patterns of organisms and ecosystems); basics of performing simulations; principles and applications of simulation through readings and performing simulations; frontiers of simulation use in the field; hands-on experience writing computer simulations that capture environmental processes (e.g., changing climate, predator-prey relations, nutrient flux), and analyzing the outcomes. Requirements: advanced courses in environmental geography or environmental science and senior standing.

**044:145 Applications in Environmental Remote Sensing** 4 s.h.

Theory and practice of remote sensing and digital image processing; practical applications to human-environment interactions. Prerequisites: 044:105.

**044:150 Senior Project Seminar** 3 s.h.

Development of a research project and preparation of a research report. Offered spring semesters.

**044:151 Senior Thesis** 3 s.h.

Original research. Requirements: senior standing.

**044:161 African Development** 3 s.h.

Problems of economic, political, spatial integration in Africa; patterns and processes of economic development and nation building. GE: Foreign Civilization & Culture, Social Sciences.

**044:164 The Middle East** 3 s.h.

Middle East cultures, political economy, conflict; significance of the Middle East in world affairs, vice versa.

**044:170 Geography of Justice** 3 s.h.

Geographical analysis of social and environmental justice; justice from various cultural perspectives; cultural struggles over human rights.

**044:174 Health, Work, and the Environment**

3 s.h.

Current topics in occupational and environmental health; how the United States protects workers, protects people from environmental agents, and reduces environmental harm. Same as 175:101.

**044:177 Environmental Justice**

3 s.h.

Review of theoretical positions for examining environmental justice, application of those theories to environmental controversies around the globe.

**044:178 Consequences of Global Environmental Change**

3 s.h.

Physical components of global change, their relationship to environmental policy concerns; consequences manifested on local, regional, international scales. Prerequisites: 044:003 or 159:008, and 044:019.

**044:180 Field Methods in Physical Geography**

2-4 s.h.

Methods of measuring climate, vegetation, soil, landforms, water; projects in areas including field meteorology, tree-ring sampling, topographic surveying, vegetation sampling, water quality sampling, use of global positioning systems; introduction to research design.

**044:181 Field Methods: Mapping and Mobile Computing**

3 s.h.

Development and application of mobile geographic information technologies; key issues associated with global positioning systems (GPS), wireless technologies, field-based data collection and analysis, ubiquitous computing, and location-based services; experience using GPS, advanced mobile computing technologies, mobile GIS software to construct geographic datasets, and data sampling techniques.

**044:186 Soil Genesis and Geomorphology**

3 s.h.

Introduction to soil genesis, soil geomorphology, and classification including the basics of soil profile description and soil-landscape, soil-vegetation, and soil-climate relationships; emphasis on study of soils as the interface between living and non-living Earth systems and the role of soils in sustaining ecosystems and human societies; short field excursions and a weekend field trip. Requirements: college earth science and chemistry. Same as 012:136.

**044:188 Applied Geostatistics**

3 s.h.

Applications of geostatistical methods to geology, geography, hydrology, environmental sciences, and engineering; variogram, Kriging, analysis of spatial-varied data with varied computer software in participants' specialties. Same as 012:178.

**044:194 Geographic Perspectives on Development**

3 s.h.

Theoretical and empirical studies of the regional development process, with emphasis on developing countries; alternative regional development theories and changes in development theories in the literature of geography, related disciplines. Requirements: satisfaction of introductory geography and social change requirements.

**044:195 Undergraduate Research**

arr.

Supervised research in geography.

**044:197 Special Topics**

arr.

Contemporary fields of inquiry, such as political economy, regional/African development, biophysical systems, GIS, locational analysis, water resources, economic geography, demographic analysis, environment, urbanization, transportation.

**044:199 Honors Thesis**

arr.

Original research. Requirements: honors standing.

**For Graduate Students****044:200 Readings**

arr.

Supervised readings by graduate students in topics of their choice.

**044:210 Fundamentals of Geography**

3 s.h.

Geography as an academic discipline; history, advances, epistemology, common themes.



**044:211 Research and Writing in Geography**

3 s.h.

Identification of research areas; research questions and hypotheses; methodological decisions; research proposal and paper writing.

**044:225 Environmental/Social Systems Analysis**

3 s.h.

Linear optimization and related models; recent applications in water resources management, pollution control, economics, public policy; potential future applications in designing water quality monitoring networks.

**044:241 Integrating Time into GIS**

3 s.h.

Fundamental concepts for integrating temporal elements into geographic information systems (GIS); conceptual and formal models of time, models of change, event-based modeling, modeling of moving entities; topics related to fundamentals of spatiotemporal databases and query languages. Requirements: advanced courses in GIS and graduate standing.

**044:242 Simulations in Landscape Ecology**

3 s.h.

Dynamics of land use and land cover change explored through advanced use of computer simulations in landscape ecology; how simulation is used in the field; simulations based on landscape ecology questions, with analysis of results using typical landscape ecology metrics. Prerequisites: 044:142.

**044:243 Modeling Space and Time**

3 s.h.

How to generate time-space-resolved estimates of sociophysical environmental contexts with the aid of modern geo-spatial technologies; how to model social, behavioral, and health outcomes with reference to multilevel time-space-resolved sociophysical environmental contexts; environmental contexts from air pollution and pesticide concentration to neighborhood diversity; statistical modeling of varied social, behavioral, and health outcomes such as dropping out of college, smoking, excessive weight, asthma, mental and physical disability. Requirements: a course in statistics and good understanding of correlation and regression.

**044:265 Planning Sustainable Transportation**

1-3 s.h.

Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as 102:265.

**044:286 Crossing Borders Seminar**

2-3 s.h.

Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 035:273, 048:247, 113:247, 129:231, 160:247, 181:247.

**044:287 Crossing Borders Proseminar**

1 s.h.

Same as 013:260, 016:244, 01H:330, 030:243, 035:271, 048:244, 113:248.

**044:296 Topics in Geographic Information Science**

3 s.h.

Current theoretical research issues in geographic information science; intensive readings. Repeatable. Prerequisites: 044:113.

**044:297 Special Topics**

arr.

Contemporary fields of inquiry, such as political economy, regional/African development, biophysical systems, GIS, locational analysis, water resources, economic geography, demographic analysis, environment, urbanization, transportation.

**044:315 Seminar in Spatial Analysis and Modeling**

3 s.h.

Research themes in spatial analysis, GIScience, simulation, remote sensing.

**044:316 Seminar in Rural Land Use**

3 s.h.

Research on land use, water resources, conservation.

**044:318 Seminar in Health and Environment**

3 s.h.

Research on health and environment.

**044:319 Seminar in International Development**

3 s.h.

Research on GIScience and development.

<b>044:350 Geography Colloquium</b>	arr.
<b>044:415 Research in Spatial Analysis and Modeling</b> Directed research in spatial analysis, GIScience, simulation.	3 s.h.
<b>044:416 Research in Rural Land Use</b> Directed research in land use, water resources, conservation.	3 s.h.
<b>044:417 Research in Environmental Policy</b> Directed research in environmental justice and policy.	3 s.h.
<b>044:418 Research in Health and Environment</b> Directed research in health and environment.	3 s.h.
<b>044:419 Research in International Development</b> Directed research in GIScience and development.	3 s.h.
<b>044:450 Thesis</b>	arr.

## Geoscience

**Chair:** Mark K. Reagan

**Professors:** Ann F. Budd, C. Thomas Foster Jr., Philip H. Heckel, William C. McClelland, Mark K. Reagan, You-Kuan Zhang

**Professors emeriti:** Richard G. Baker, Robert S. Carmichael, Lon D. Drake, Brian F. Glenister, Richard A. Hoppin, Gilbert Klapper, George R. McCormick, Holmes A. Semken, Keene Swett

**Adjunct professor:** David L. Campbell

**Associate professors:** Jonathan M. Adrain, E. Arthur Bettis III, Christopher A. Brochu, Jane A. Gilotti, David W. Peate, Frank H. Weirich

**Adjunct associate professor:** Brian J. Witzke

**Assistant professors:** Jeffrey A. Dorale, Ingrid Ukstins Peate, Hallie J. Sims

**Adjunct assistant professors:** Ray Anderson, Rhawn F. Denniston, James Huber, Keith Schilling, Emily Walsh

**Adjunct instructor:** Tiffany S. Adrain

**Undergraduate degrees:** B.A., B.S. in Geoscience

**Undergraduate nondegree program:** Minor in Geoscience

**Graduate degrees:** M.S., Ph.D. in Geoscience

**Web site:** <http://www.uiowa.edu/~geology>

Geoscience faculty and students study the many physical, chemical, and biological systems that compose the earth. Using modern observational, analytical, and computational methods, they examine how the planet's interior, surface, hydrosphere, and atmosphere have evolved since the earth was born in the solar system 4.6 billion years ago. Topics commonly studied in the department include how plate movements cause earthquakes, volcanoes, and mountain building; global climate change and how climate change and catastrophic events cause changes in biodiversity; how and where economic resources are generated in the earth; and how these resources are located and used in modern society.

The geoscience curriculum provides students with hands-on experience analyzing rocks, minerals, fossils, soils, and waters, generally in a small classroom setting. Much of this experience is obtained in laboratory and field courses. Field courses include travel to other states or countries to view earth materials and fossils in the context of their natural surroundings.

The master's degree is regarded by most hiring agencies as the working degree. The doctoral degree is required for college and university teaching positions. However, an undergraduate degree is fully satisfactory in certain teaching, government, and industrial situations.

Many of The University of Iowa's geoscience graduates find employment with resource companies, environmental corporations, and educational institutions. Others continue in graduate school or take jobs with government or conservation agencies. Some intend to enter law, business, or fields such as urban planning, environmental studies, engineering, archaeology, science education, or oceanography as advanced areas. Geoscience provides skills useful for all of these.

The department offers a variety of courses appropriate for nonmajors, including several approved for the Natural Sciences requirement of the General Education Program. See "Courses for Nonmajors" below.

Many of the department's faculty members are involved in the interdisciplinary Environmental Sciences Program (see Environmental Sciences in the Catalog).

## Undergraduate Programs

The department offers a Bachelor of Science, a Bachelor of Arts, and a minor in geoscience. Students majoring in geoscience take at least an academic year's work in three allied scientific areas--physics, chemistry, and mathematics--and a semester of biology in addition to a course in each major area of geology.

### B.S. or B.A. with Double Major or Minor

Geoscience students may elect to pursue an additional major or a minor in a related discipline, usually chemistry, physics, biology, engineering, environmental sciences, or anthropology. See Earning a Degree in the College of Liberal Arts and Sciences Student Academic Handbook.

### Independent Research for Geoscience Majors

A junior or senior who is ready to pursue independent research for credit in geoscience may assist a faculty member or graduate student with a current research project (012:019 Directed Study) or may initiate a small-scale project involving a combination of field, laboratory, and library investigation (012:119 Directed Study). Independent study is encouraged and may result in an honors thesis (012:010 Honors Thesis in Geoscience) or a senior thesis (012:011 Senior Thesis in Geoscience) that may be published subsequently.

### Bachelor of Science

The Bachelor of Science in geoscience requires a minimum of 120 s.h., including at least 69 s.h. (19 courses) of work for the major (38 s.h. in geoscience courses and at least 31 s.h. in supporting disciplines). The program is designed to prepare students for immediate employment after graduation or to enter a graduate program in geology.

Students must complete the College of Liberal Arts and Sciences General Education Program. The department recommends that they fulfill the foreign language requirement with French, German, Russian, or Spanish and the social sciences requirement with an approved course in economics, geography, or anthropology.

Transfer students must complete a minimum of 15 s.h. of course work in the Department of Geoscience.

The geoscience major for a B.S. requires the following course work.

One of these:

012:003 Earth History and Resources	4 s.h.
012:005 Introduction to Geology (preferred)	4 s.h.

All of these:

012:004 Evolution and the History of Life	4 s.h.
012:041 Mineralogy	4 s.h.
012:112 Geologic Field Methods (previously 012:093)	3 s.h.
012:113 Geologic Field Analysis	3 s.h.
012:130 Sedimentary Geology	3 s.h.
012:132 Structural Geology (previously 012:092)	4 s.h.
012:150 Igneous and Metamorphic Petrology (previously 012:052)	4 s.h.
At least two geoscience electives	6-7 s.h.

One of these:

012:121 Principles of Paleontology	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:166 Hydrogeology	3 s.h.
012:179 Engineering Geology	3 s.h.
012:180 Survey of Geophysical Methods	3 s.h.

At least 8 s.h. of calculus, including one of these:

22M:026 Calculus II	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.

B.S. students complete an additional course in mathematics (numbered 22M:027 Introduction to Linear Algebra and above), or computer science (numbered 22C:005 Introduction to Computer Science and above), or statistics (numbered 22S:030 Statistical Methods and Computing and above).

They also complete the following course work in chemistry, physics, and biology (these are minimum requirements).

At least 8 s.h. of college-level chemistry is required, including the following, equivalent courses, or more advanced courses; chemistry courses numbered below 004:011 Principles of Chemistry I cannot be used to satisfy the chemistry requirement for the B.S. in geoscience.

004:011-004:012 Principles of Chemistry I-II	8 s.h.
--	--------

At least 8 s.h. of college-level physics is required, as follows; physics courses numbered below 029:011 cannot be used to satisfy the physics requirement for the B.S. in geoscience.

One of these sequences:

029:011-029:012 College Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.

At least one biological science course that includes a laboratory (4 s.h.) is required. Students with an interest in paleontology are encouraged to take 002:010 Principles of Biology I and 002:011 Principles of Biology II.

#### RECOMMENDED OPTIONS

All B.S. students should take elective courses from the following groups in order to broaden their undergraduate experience and prepare themselves for graduate study or professional employment. Students who have clear career

goals are advised to take three or more elective courses from the group that fits their needs most closely. Students also may seek a broad education in geoscience by choosing elective courses from a number of groups.

**Quaternary Geology**

012:102 Earth Surface Processes	3 s.h.
012:110 Introduction to Applied Remote Sensing	4 s.h.
012:136 Soil Genesis and Geomorphology	3 s.h.
012:138 Fluvial Geomorphology	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:166 Hydrogeology	3 s.h.
012:172 Glacial and Pleistocene Geology	3 s.h.
012:178 Applied Geostatistics	3 s.h.
012:179 Engineering Geology	3 s.h.
012:185 Approaches to Geoarchaeology	3 s.h.

**Environmental Geology**

012:107 Marine Ecosystems and Conservation	3 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:110 Introduction to Applied Remote Sensing	4 s.h.
012:114 Energy and the Environment	3 s.h.
012:138 Fluvial Geomorphology	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.
012:140 Natural Hazards	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:166 Hydrogeology	3 s.h.
012:178 Applied Geostatistics	3 s.h.
012:179 Engineering Geology	3 s.h.
012:180 Survey of Geophysical Methods	3 s.h.

**Geochemistry**

012:141 Analytical Methods	2 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:166 Hydrogeology	3 s.h.
012:178 Applied Geostatistics	3 s.h.
012:191 Geotectonics	3 s.h.

**Tectonics/Petrology**

012:140 Natural Hazards	3 s.h.
012:141 Analytical Methods	2 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:175 Mineral and Petroleum Exploration Geology	3 s.h.
012:180 Survey of Geophysical Methods	3 s.h.
012:191 Geotectonics	3 s.h.

**Sedimentary Geology**

012:108 Introduction to Oceanography	2 s.h.
012:130 Sedimentary Geology	3 s.h.
012:138 Fluvial Geomorphology	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:161 Stratigraphy	3 s.h.
012:175 Mineral and Petroleum Exploration Geology	3 s.h.
012:191 Geotectonics	3 s.h.

**Paleobiology**

012:107 Marine Ecosystems and Conservation	3 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:121 Principles of Paleontology	3 s.h.
012:122 Evolution of the Vertebrates	3 s.h.
012:130 Sedimentary Geology	3 s.h.
012:142 Vertebrate Osteology and Phylogeny	3 s.h.
012:144 Phylogenetics and Biodiversity	3 s.h.
012:145 Morphometrics	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:152 Isotope Geochemistry	3 s.h.
012:161 Stratigraphy	3 s.h.
012:170 Evolution of Ecosystems	3 s.h.
012:171 Evolution of Plants	3 s.h.
012:191 Geotectonics	3 s.h.

**Bachelor of Arts**

The Bachelor of Arts in geoscience requires a minimum of 120 s.h., including at least 51 s.h. of work for the major (at least 35 s.h. in geoscience courses and at least 16 s.h. in supporting disciplines). The program is designed to provide students with a varied background in geology and a broader choice of electives than is practical in the B.S. program. The B.A. is intended for students who are interested in the fundamentals of geology or earth science teaching (see Teaching and Learning, College of Education, in the Catalog). Completing the minimum requirements for this degree may not adequately prepare a student for an entry-level professional job in geology.

Students must complete the College of Liberal Arts and Sciences General Education Program. The department recommends that they fulfill the foreign language requirement with French, German, Russian, or Spanish and the social sciences requirement with an approved course in economics, geography, or anthropology.

Transfer students must complete a minimum of 15 s.h. of course work in the Department of Geoscience.

The geoscience major for a B.A. requires the following course work.

012:041 Mineralogy	4 s.h.
--------------------	--------

One of these:

012:003 Earth History and Resources	4 s.h.
012:005 Introduction to Geology	4 s.h.

One or both of these:

012:004 Evolution and the History of Life	4 s.h.
012:121 Principles of Paleontology	3 s.h.

At least three of these:

012:130 Sedimentary Geology	3 s.h.
012:132 Structural Geology (previously 012:092)	4 s.h.
012:136 Soil Genesis and Geomorphology	3 s.h.
012:138 Fluvial Geomorphology	3 s.h.
012:150 Igneous and Metamorphic Petrology	4 s.h.
012:166 Hydrogeology	3 s.h.

Geoscience electives 12 s.h.

B.A. students must complete the following course work in mathematics and chemistry (these are minimum requirements).

College-level mathematics (may include computer science and statistics) 10 s.h.

At least two college-level chemistry courses (either Option 1 or Option 2) are required; chemistry courses numbered below 004:007 General Chemistry I cannot be used to satisfy the chemistry requirement for the B.A. in geoscience.

Option 1:

004:007-004:008 General Chemistry I-II 6 s.h.

Option 2:

004:011-004:012 Principles of Chemistry I-II 8 s.h.

#### FIELD REQUIREMENT

To complete the major, students must have field experience. They may take two semesters of 012:018 Geology Field Trip: Selected National Parks or 012:116 Field Trip, or one semester of each of these courses (total of 4 s.h.). Or they may take one semester of 012:112 Geologic Field Methods or the Iowa Lakeside Laboratory session.

012:018 Geology Field Trip: Selected National Parks	2, 4 s.h.
012:116 Field Trip	2, 4 s.h.
012:112 Geologic Field Methods (previously 012:093)	3 s.h.
One natural science session at Iowa Lakeside Laboratory for a minimum of 3 s.h.	

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Note: These checkpoints show the range of required course work; the B.A. program requires a minimum of 17 courses, and the B.S. requires 19.

The geoscience major requires field trip experiences, many of which take place during vacation periods during or between semesters, or during the summer session. These checkpoints do not include the field trip requirements.

**Before the third semester begins:** competence in math through trigonometry, first required chemistry course, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** three to five courses in the major (including the remainder of the chemistry requirement and continuation of the mathematics requirement) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** 7-11 courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 10-14 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

Qualified students may earn a degree with honors in geoscience. Honors program students must complete a senior thesis (012:010 Honors Thesis in Geoscience) and maintain a cumulative University of Iowa g.p.a. of at least 3.33 in order to graduate with honors (contact the University of Iowa Honors Program for more information). They also must obtain approval of their honors thesis contract from their advisor and the department's undergraduate committee; have a cumulative g.p.a. of at least 3.33 in geoscience courses; and earn a grade of B or higher in 012:010 Honors Thesis in Geoscience.

## Minor

The minor in geoscience requires a minimum of 15 s.h. in geoscience courses, including 12 s.h. in advanced-level courses offered by the Department of Geoscience at The University of Iowa; 012:041 Mineralogy and all geoscience courses numbered 100 and above are considered advanced for the minor. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

College-level courses in mathematics, physics, chemistry, and biology usually are required as collateral work for geology students. Those seeking a minor in geoscience should be sufficiently prepared in the areas of supporting sciences before they take advanced courses in geoscience.

Recommended advanced courses in geoscience that deal with important areas of earth materials and earth processes are as follows.

012:041 Mineralogy	4 s.h.
012:102 Earth Surface Processes	3 s.h.
012:107 Marine Ecosystems and Conservation	3 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:112 Geologic Field Methods (previously 012:093)	3 s.h.
012:114 Energy and the Environment	3 s.h.
012:121 Principles of Paleontology	3 s.h.
012:130 Sedimentary Geology	3 s.h.
012:132 Structural Geology (previously 012:092)	4 s.h.
012:136 Soil Genesis and Geomorphology	3 s.h.
012:138 Fluvial Geomorphology	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.
012:149 Elements of Geochemistry	3 s.h.
012:150 Igneous and Metamorphic Petrology (previously 012:052)	4 s.h.
012:161 Stratigraphy	3 s.h.
012:179 Engineering Geology	3 s.h.
012:180 Survey of Geophysical Methods	3 s.h.
012:191 Geotectonics	3 s.h.

## Courses for Nonmajors

Each year more than 1,800 students enroll in 012:003 Earth History and Resources, 012:004 Evolution and the History of Life, 012:005 Introduction to Geology, 012:007 Age of Dinosaurs, 012:008 Introduction to Environmental Science, 012:114 Energy and the Environment, and 012:140 Natural Hazards. All of these courses are approved by the College of Liberal Arts and Sciences for the Natural Sciences requirement of the General Education Program.

The department also offers several intermediate courses with few prerequisites: 012:102 Earth Surface Processes, 012:107 Marine Ecosystems and Conservation, 012:108 Introduction to Oceanography, 012:110 Introduction to Applied Remote Sensing, 012:114 Energy and the Environment, and 012:121 Principles of Paleontology.

## National Honor Society

The department sponsors a chapter of Sigma Gamma Epsilon National Honor Society for the Earth Sciences. Students with an overall g.p.a. of at least 2.80 and at least 3.20 in geoscience courses are considered for membership after they have completed a minimum of 16 s.h. of course work in geoscience. Consult the departmental honors advisor for more information.

## Graduate Programs



The Department of Geoscience offers a Master of Science and Doctor of Philosophy in geoscience. The M.S. program prepares students for employment in industry or for Ph.D. study; the Ph.D. program is designed to prepare students for future employment in higher education or research and to bring them to the forefront of a specialized area of geoscience.

All geoscience graduate students must meet the admission and degree requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College (particularly sections IX, X, and XII) or the Graduate College section of the Catalog. They also should acquaint themselves with the University calendar (for deadline dates and so forth).

All entering graduate students are required to enroll in 012:207 Geologic Orientation during the fall semester of their first year in the graduate program.

The department provides detailed information about current graduate degree requirements and timelines for making satisfactory progress toward a degree in the document "The University of Iowa Guidelines for Graduate Study in Geoscience"; see Graduate Student Guidelines under Academics/Geoscience Graduate Program/Information on the Department of Geoscience web site.

Throughout their graduate study, all M.S. and Ph.D. students must maintain a g.p.a. of at least 3.00 on all course work required for their degree and on all graduate-level geoscience course work. Students whose grade-point average drops below 3.00 are placed on academic probation.

Geoscience graduate students are encouraged to present their research at local, regional, national, or international meetings. The department provides partial funding for travel to such meetings.

### **Master of Science**

The Master of Science in geoscience requires a minimum of 30 s.h. of graduate credit. The program is designed primarily to prepare students for employment in industry or for Ph.D. study. M.S. students may count up to 8 s.h. of research credit toward the 30 s.h. required for the degree. They must earn at least 24 s.h. toward the degree in University of Iowa courses taken after they enroll in the program. M.S. students also must complete 012:201 Geoscience Seminar Series each semester until they defend their thesis.

M.S. thesis students are responsible for obtaining their advisory committee's approval of a suitable program of course work and for satisfactory development of research plans as outlined in a thesis proposal, which should be completed and approved by the department chair before the end of the second semester of full-time study. The thesis typically has depth and breadth similar to those of one published research paper. Thesis students must deliver a half-hour public presentation of their thesis, followed by an oral defense. They also are required to present their research at a local, regional, national, or international meeting approved by the department chair before they may graduate.

Individuals interested in pursuing the M.S. without thesis must obtain the department chair's permission. The program is designed for students with extensive geological background and experience. Requirements for the nonthesis option are similar to those for the M.S. with thesis, except that in place of the thesis, nonthesis students submit a manuscript that their thesis committee deems acceptable for submission for publication. The student may choose to submit a previously published manuscript. Nonthesis students also must take a final examination that covers course work and the work done in place of the thesis.

### **Doctor of Philosophy**

The Doctor of Philosophy in geoscience requires a minimum of 72 s.h. of graduate credit. The program is designed to prepare students for future employment in higher education or research and to bring them to the forefront of a specialized area of geoscience.

The Ph.D. requires a dissertation, which has the approximate research content of three published papers.

Ph.D. students usually enter the program with established fields of interest and a research advisor already selected. Under exceptional circumstances, a student may be admitted to the Ph.D. program without an established field of interest.

Entering Ph.D. students must consult with a research advisor or the department's director of graduate study before they enroll in courses. By the first month of their second semester of doctoral study, all Ph.D. students must select an adviser. Each student also must select a thesis topic and forward it to the department chair for approval by the end of the first month of the second semester of doctoral study.

Within broad limits, Ph.D. students should select courses that reflect their individual needs, interests, and talents; their advisor and advisory committee must approve their course selections.

During the second semester of doctoral study, each Ph.D. student should propose an advisory committee of at least five faculty members. Before the end of the second semester of doctoral study, each student must obtain his or her committee's approval of a suitable plan of study, which is then submitted to the department chair for approval. In consultation with the advisor and other faculty members, each doctoral candidate prepares a formal dissertation proposal, which must be submitted to the department chair by the end of the candidate's third semester of doctoral study.

Students are required to include in their plan of study at least 18 s.h. of regular course work taught by tenured or tenure-track faculty members of the Department of Geoscience. Students must earn the 18 s.h. after being admitted to and enrolling in the Ph.D. program. Directed study and research credit do not count toward the required 18 s.h.

Ph.D. students must enroll in 012:201 Geoscience Seminar Series each semester they are registered until they successfully defend their dissertations, or for two consecutive semesters after the semester in which they pass their comprehensive examination, whichever comes first.

After earning their first 24 s.h. of graduate credit, Ph.D. students must either be enrolled at least two consecutive semesters in full-time study (at least 9 s.h. per semester) at The University of Iowa, or be enrolled three consecutive semesters for at least 6 s.h. per semester at the University, during which time they hold at least a one-quarter-time assistantship that is certified by the department as contributing to their doctoral program.

Students should complete most of their course work before taking the comprehensive examination, which consists of both written and oral portions and which must be passed before the end of the fourth semester of doctoral study.

Once Ph.D. candidates have passed the comprehensive examination, they are required to register each semester until they receive the degree. Candidates who have completed their plan of study may register for 000:002 Doctoral Continuous Registration or 000:003 Doctoral Final Registration.

Students must submit their written dissertation to the committee at least two weeks before the final examination. All Ph.D. candidates must deliver a one-hour public presentation associated with the dissertation defense. They also are required to submit a manuscript presenting the results of their graduate research to a refereed journal or other publication approved by the department chair before they may defend their dissertation.

## Facilities

Resources and equipment available for research in the Department of Geoscience include the following.

**Computer facilities:** five teaching classrooms with 10-12 networked PC workstations; a computing classroom with 20 PCs and 10 Macs with GIS, GMS, remote sensing, image analysis, and specialized computational software packages; a student computer room with 6 PCs and 2 Macs; and a number of multiprocessor workstations in research laboratories.

**Environmental and Hydrogeology Laboratory:** permeameters and tensionometers; pumping and slug/bail test units with transducers and data-loggers; water-quality analysis facility; advanced groundwater modeling and geostatistics software; advanced data logging systems for field research; 3-D sensor arrays (wind and water systems); and facilities for field instrumentation design and construction.

**Environmental Instrumentation Laboratories:** storage, testing, and teaching facility focusing on field instrumentation; assembly, housing, and testing of climatic, meteorological, fluvial, water quality and associated environmental instrumentation data recording systems and sampling systems.

**Geomorphic Computing Laboratory:** high-end visualization, digitizing, remote sensing and GIS systems; and high-end multiprocessor workstations.

**Geoscience Library:** a branch of University of Iowa Libraries that serves the University community, the Iowa Geological Survey Bureau, and the public; more than 55,000 volumes to support research, study, and teaching, including publications of state, federal, and international geological surveys and field trip guidebooks; more than 73,000 geological maps, including the newest versions of U.S. topographic quadrangle maps.

**Morphometric laboratories:** reflex microscope and microscribe for capturing 3-D data; high-resolution digital cameras and microscopes for 2-D image analysis; and laboratories for micro- and macro-fossil preparation.

**Paleontological Repository:** more than a million specimens, including some 25,000 type and referred specimens, with 6,000-7,000 primary types; invertebrate, vertebrate, and plant fossils of all geologic ages, and more than 90 percent Paleozoic invertebrates; the fifth-largest university collection in North America (CONARIP 1977).

**Petrology and geochemistry laboratories:** laser-ablation inductively coupled plasma mass spectrometer (LA-ICPMS); clean laboratory for preparation of samples for elemental and isotopic analysis; alpha- and gamma-spectrometry laboratories; image analysis; heating freezing stage; petrographic microscopes; photo

microscopy; wet-chemistry facilities; rock preparation and mineral separation; UNIX, Windows, and Mac workstations for data analysis and modeling; and one atm gas-mixing furnace for melt inclusion homogenization.

**Quaternary Materials Laboratory:** pipette grain-size analysis apparatus; chittick apparatus; Sedigraph 5100 X-ray particle-size analyzer; Horiba Camsizer L digital image particle analyzer; wet-chemistry facilities; C-H-N element analyzer; a Flotech flotation system; and a Giddings drill rig.

**Scanning Electron Microscope:** Hitachi S-3400N, a variable-pressure scanning electron microscope (SEM) equipped with a motorized stage, large chamber, and digital image capture; capable of imaging specimens with no metal coating, or specimens that are slightly hydrated or porous, as well as conventionally processed specimens; equipped with a Bruker AXS Quantax 400 X-ray microanalysis system; XFlash silicon drift detector with excellent energy resolution and light element detection, providing ultra-fast acquisition of line scans and elemental maps.

**Sedimentary geology laboratories:** water ion chromatograph; image analysis; Sedigraph X-ray particle-size analyzer; Horiba Camsizer L digital image particle analyzer; and a soil/sediment characterization laboratory.

**Thin-section and rock preparation laboratory:** diamond saws and specialized grinding equipment used to prepare ultrathin slices (30 microns thick) of rocks and fossils for microscopic and electron microprobe analysis.

## Cooperative Activities

The department does collaborative work with the Iowa Geological Survey Bureau and the Office of the State Archaeologist of Iowa. Geoscience students sometimes work on projects for the survey.

The Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Geography, and Geoscience share services, expertise, joint instruction, and equipment. The geoscience department is an important participant in the Iowa Quaternary Studies group, an interdisciplinary program that promotes projects combining work in anthropology, biology, geography, geology, and statistics. Course work, degree programs, and facilities are shared among departments. The geoscience department and its faculty also support and actively participate in the interdisciplinary Environmental Sciences Program, which offers a Bachelor of Science degree.

## Field Trips

Field trips are integral parts of several courses in geoscience, with frequent weekend general-interest events. The geology of the Iowa City region is characterized by Quaternary glacial sediments on a largely Paleozoic sedimentary section a few hundred meters thick, overlying a Precambrian crystalline basement. Marine and terrestrial fossil assemblages, extensive reefs, and unique geode sites are located within a few hours' drive. Numerous Pleistocene glaciations are represented in Iowa, and field studies of landforms, exposures, and cores continue to yield information on sedimentology, stratigraphy, soil formation, paleopedology, and fossil biotas from both glacial and interglacial deposits.

Spring break provides time for longer trips, which are open to all geoscience students. In recent years, students have traveled to the southern Appalachians, Arizona, Death Valley, the Florida Keys, Hawaii, New Mexico, the Ozarks, Puerto Rico, and Texas. Advanced classes have visited California, Colorado, Kansas, Oklahoma, Wisconsin, and Ontario, Canada.

## Geoscience Courses

Not all courses are offered every year.

### Primarily for Undergraduates

#### 012:003 Earth History and Resources

3-4 s.h.

Relationships between plate tectonics, geologic time, and the rock cycle with volcanoes and igneous, sedimentary, metamorphic rocks; fossils; radioactive isotopes; landscape evolution; mountain building; natural resources; their impacts on civilization. GE: Natural Sciences.

#### 012:004 Evolution and the History of Life

3-4 s.h.

Fossils over the past 3.5 billion years, origin and evolution of life, evolutionary radiations and mass extinctions, the invasion of land, dinosaurs, the age of mammals, relationship between biological systems and environmental change in earth history. Offered spring semesters. GE: Natural Sciences.

#### 012:005 Introduction to Geology

4 s.h.

Minerals, rocks, and rock-forming processes (including volcanoes and sedimentary environments); surface processes (rivers, groundwater, glaciers, deserts, ocean shorelines), major earth processes (continental drift, plate tectonics, earthquakes, mountain building); impact on civilization. Offered fall semesters. GE: Natural Sciences.

**012:007 Age of Dinosaurs**

4 s.h.

Origin and evolutionary history of dinosaurs; diversity of dinosaurian groups, their geographic distributions and paleoecology; origins of flight among dinosaurs; environmental context, including other animals and plants that lived alongside dinosaurs; the so-called extinction of dinosaurs and radiation of modern forms; the role dinosaurs play in the interaction between science and the popular media. Offered fall semesters. GE: Natural Sciences.

**012:008 Introduction to Environmental Science**

3-4 s.h.

Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Natural Sciences. Same as 159:008.

**012:009 Introduction to Environmental Sciences Laboratory**

1 s.h.

Laboratory component of 012:008. Requirements: environmental sciences or geoscience major; and 012:008 or 159:008 for 3 s.h. GE: Natural Sciences. Same as 159:009.

**012:010 Honors Thesis in Geoscience**

arr.

Independent research resulting in an honors thesis. Requirements: honors standing.

**012:011 Senior Thesis in Geoscience**

arr.

Independent research resulting in a senior thesis. Requirements: senior standing.

**012:017 Geology of the U.S. National Parks**

2 s.h.

Geologic features, geologic history, important biological and archaeological characteristics, with emphasis on features that caused certain areas to be included in national park system. Offered spring semesters. Requirements: introductory geology course.

**012:018 Geology Field Trip: Selected National Parks**

2 s.h.

Observation, interpretation of prominent geologic, geomorphic, biological features; semester-break or semester-end visits to different parks or groups of parks each year. Offered spring semesters.

**012:019 Directed Study**

arr.

Special topics, independent research.

**012:029 First-Year Seminar**

1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**012:041 Mineralogy**

4 s.h.

Physical, chemical, and optical properties of minerals; phase relations; structures; associations; diagnostic features for identification. Offered fall semesters. Prerequisites: 012:003 or 012:005. Requirements: a math course through 22M:005 and introductory chemistry.

**For Undergraduate and Graduate Students****012:100 Geologic Training Assignment**

1-3 s.h.

Practical experience. Requirements: grade of C or higher in 012:052 and geology g.p.a. of at least 3.00.

**012:102 Earth Surface Processes**

3 s.h.

Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Prerequisites: 012:005 or 012:008 or 044:003 or 159:008. Same as 159:102.

**012:104 Climatology**

3 s.h.

Boundary layer processes that drive atmospheric dynamics; exchanges of energy and water at simple and complex surfaces; global climate change records, theories, models; impacts of climate on society. Prerequisites: 044:003. Same as 044:101.

**012:107 Marine Ecosystems and Conservation** 3 s.h.

Introduction to ocean ecosystems, including coral reefs, mangroves, estuaries and salt marshes, sandy and rocky shores, seagrass and kelp beds, the deep sea, plankton; biodiversity of each ecosystem; interrelationship of biota and physical/chemical environment; interactions among organisms, including food webs and symbiosis; local and global threats such as overfishing, pollution, ocean acidification, global warming, sea level change; ongoing biodiversity crisis, solutions for conservation problems.

**012:108 Introduction to Oceanography** 2 s.h.

Descriptive, chemical, physical, biological, geological aspects of oceans; impact on weather, climate, shorelines, food supply, other aspects of civilization. Offered spring semesters. Recommendations: knowledge of basic chemistry, biology, physics, earth science.

**012:110 Introduction to Applied Remote Sensing** 4 s.h.

Remote sensing of the earth's surface from aircraft, satellites; aerial photograph interpretation; remote sensing systems, methods, data analysis using electromagnetic spectrum and digital processing techniques, including visible, infrared, microwave radiation; remote sensing applied to geologic and environmental problems. Requirements: college physics or physical geology. Same as 159:110.

**012:112 Geologic Field Methods** 3 s.h.

Introduction to basic methods of geologic field work in southwest Montana using topographic maps and GPS to locate oneself, identifying geologic map units (including superficial deposits), recognizing geologic contacts, constructing stratigraphic sections, measuring planar structures, and making geological maps complete with a legend and cross-section. Offered during three-week summer session. Prerequisites: 012:003 or 012:005.

**012:113 Geologic Field Analysis** 3 s.h.

Structural, stratigraphic, and regional analysis of geology in the Rocky Mountains of Montana; emphasis on making reasonable geologic interpretations from field relationships; first two weeks involve mapping projects in the vicinity of Dillon, Montana that build on experience gained in 012:112; third week involves a capstone experience dedicated to synthesizing the geology of a fold-and-thrust belt near Glacier National Park. Offered three-week summer session. Prerequisites: 012:092 and 012:112.

**012:114 Energy and the Environment** 3 s.h.

Scientific concepts related to potentially significant energy sources of the 21st century; environmental impacts, positive and negative, of each energy source as well as geologic and geographical distributions and applications. Requirements: college earth science course or graduate standing. GE: Natural Sciences.

**012:116 Field Trip** 2 s.h.

Field trip to an area of geologic interest, such as carbonate area of Florida, Grand Canyon (Arizona), Rio Grande Rift (New Mexico), Death Valley (California, Nevada), Appalachian Mountains (Virginia); preceded by weekly discussions of destination's geology. Offered spring semester.

**012:119 Directed Study** arr.

Special topics, independent research.

**012:120 Collection Care and Management** 3 s.h.

How a museum's management policy relates to its administrative, legal, and ethical obligations to its collections; acquisitions, deaccessions, collection use, data standards, storage environment, health, safety, documentation. Same as 024:120.

**012:121 Principles of Paleontology** 3 s.h.

Patterns of evolution in fossil record; species and analysis of their evolutionary relationships; paleoecology, paleocommunity evolution; evolutionary radiation and mass extinctions; large-scale relationships between biodiversity and climatic change. Offered fall semesters.

**012:122 Evolution of the Vertebrates** 3 s.h.

Evolutionary history of vertebrates revealed by fossils and information from living animals; biogeographic, stratigraphic, paleoecological aspects of selected groups, especially mammals and dinosaurs; transitions from aquatic to terrestrial life, origins of flight, major events in vertebrate history (including mass extinctions and explosive radiations). Requirements: introductory course in geoscience or bioscience.

**012:126 Wetlands: Function, Geography, and Management** 3 s.h.

Biotic aspects of water resources production; geographical basis of biophysical processes in drainage basins; spatial aspects of stream ecology; regional characterization of wetland structure and process. Prerequisites: 044:101 or 044:103. Same as 044:126.

**012:130 Sedimentary Geology** 3 s.h.

Basic concepts of sedimentology, stratigraphy, depositional environments, sedimentary petrology; hands-on analyses of sediments and sedimentary rocks, including thin-section petrography; lecture/laboratory. Offered fall semesters. Prerequisites: 012:003 or 012:005.

**012:132 Structural Geology** 4 s.h.

Introduction to concepts of rock deformation (stress, strain, rheology); description and classification of geologic structures (folds, faults); and processes that generate these structures; laboratory focus on problem solving and 2-D representations of 3-D structures; weekend field trip to Baraboo, Wisconsin. Offered spring semesters. Prerequisites: 012:003 or 012:005.

**012:136 Soil Genesis and Geomorphology** 3 s.h.

Introduction to soil genesis, soil geomorphology, and classification including the basics of soil profile description and soil-landscape, soil-vegetation, and soil-climate relationships; emphasis on study of soils as the interface between living and non-living Earth systems and the role of soils in sustaining ecosystems and human societies; short field excursions and a weekend field trip. Requirements: college earth science and chemistry. Same as 044:186.

**012:138 Fluvial Geomorphology** 3 s.h.

Hydrologic principles, stream channel processes, and fluvial geomorphology within drainage basin systems; spatial and temporal variations in water distribution, analysis of hydrological data, flow mechanisms, sediment transport, forecasting procedures, hydrograph construction, modeling. Requirements: 012:102 or another 100-level geology or hydraulics course. Same as 053:128.

**012:139 Integrated Watershed Analysis** 3 s.h.

Integration of existing knowledge of physical, hydrological, and environmental processes with management issues and challenges in water resources and environmental management; aspects of water quantity and quality, water use and treatment; basin management issues related to forestry, agriculture, urbanization, floods, droughts.

**012:140 Natural Hazards** 3 s.h.

How earth-atmosphere-hydrosphere-space systems produce events catastrophic to humans on the scale of individual lives to civilizations; root causes of earthquakes, landslides, volcanic eruptions, floods, hurricanes, tsunamis, tornadoes, and asteroid impact, and their local, national, and global impact; spatial and temporal occurrences of these hazards; methods and processes for hazard preparedness, response, and recovery; social, economic, and policy aspects that affect and compound the magnitude of disasters associated with natural phenomena; case studies drawn from contemporary and ancient societies. Prerequisites: 012:003 or 012:005 or 012:008 or 044:003 or 159:008. GE: Natural Sciences.

**012:141 Analytical Methods** 2 s.h.

Theory and practice of analyzing the chemical, isotopic, and mineralogical compositions of rocks, organic materials, and waters; use of modern analytical instruments. Offered spring semesters. Prerequisites: 004:007, 012:052, and 029:012 or 029:082.

**012:142 Vertebrate Osteology and Phylogeny** 3 s.h.

Anatomy of the vertebrate skeleton from developmental, functional, and phylogenetic perspectives; relationship between skeletal, muscular, and nervous systems; history of the skeleton through modern forms; lecture and laboratory. Prerequisite: 012:122 or 213:190.

**012:144 Phylogenetics and Biodiversity** 3 s.h.

Methods available for reconstructing evolutionary history and measuring biodiversity, including distance, parsimony, likelihood, and taxic approaches; applications to molecular and morphological systematics, historical biogeography, study of diversity through time. Prerequisites: 012:004 or 012:121, or 002:010 and 002:011.

**012:145 Morphometrics** 1-3 s.h.

Quantitative methods for collection and analysis of morphologic data, including 2-D and 3-D geometric morphometrics and use of multivariate statistical methods to study size and shape; applications of morphometric techniques to study development and its evolution, variation within and among species, morphologic disparity, related topics in paleontology and evolutionary biology. Prerequisites: 012:004 or 012:121.

**012:146 Techniques in Paleontology** 3 s.h.

Paleontological data acquisition and analysis, including Fossil collection, preparation, imaging, description; computerized data compilation, manipulation, analysis. Prerequisites: 002:010, and 002:011 or 012:004 or 012:121.

**012:149 Elements of Geochemistry** 3 s.h.

Introduction to application of chemical principles to solution of geologic problems concerning earth and environmental processes; origin of elements, chemical differentiation of Earth and the solar system, geochronology, application of radiogenic and stable isotopes, chemical equilibrium, elementary thermodynamics and kinetics, carbonate and silicate stability relationships, chemical weathering, adsorption, trace element behavior, oxidation-reduction reactions, characterization of surface and ground waters, and ocean chemistry. Prerequisites: 004:008 and 012:005.

**012:150 Igneous and Metamorphic Petrology** 4 s.h.

Nature, origin, and petrography of igneous, sedimentary, and metamorphic rocks in hand specimen and thin-section. Offered spring semesters. Prerequisites: 012:041 and 012:130.

**012:152 Isotope Geochemistry** 3 s.h.

Radiogenic and stable isotope systematics, applications to geological, cosmological, and environmental problems.

**012:156 Scanning Electron Microscopy and X-Ray Microanalysis** arr.

Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as 052:156, 060:156.

**012:160 Advanced Collection Care and Management** 3 s.h.

Builds on 024:120; types of museum objects and materials, their care and management; care, storage, and use of paper, books, photographs, works of art, electronic information media, textiles, furniture, archaeological artifacts, natural history specimens, archives; digitization projects, integrated pest management, risk assessment, museum security, museum construction and renovation, grant writing; for students planning museum careers or for professions that require care of collections. Prerequisites: 012:120 or 024:120. Same as 024:140.

**012:161 Stratigraphy** 3 s.h.

Genesis of sedimentary rocks, geologic time, stratigraphic nomenclature, biostratigraphic and physical correlation methods, mass extinctions, seismic and sequence stratigraphy, basin analysis and modeling, stratigraphic field methods. Offered fall semesters. Prerequisites: 012:052.

**012:166 Hydrogeology** 3 s.h.

Water flow and contaminant transport in subsurface environment; basic principles and laws of physical, chemical, and biological processes in geological formations for sustainable development of groundwater resources; groundwater hydrology, regional aquifer systems, well hydraulics, aquifer tests, groundwater contamination and remediation, management and sustainability of groundwater resources. Requirements: senior or graduate standing.

**012:170 Evolution of Ecosystems** 3 s.h.

Evolutionary history of terrestrial and marine ecosystems; ecological processes from population to ecosystem levels; community assembly, trophic levels, networks, biodiversity dynamics; practical aspects of paleoecological data collection, statistical analysis, modeling. Requirements: two courses in geoscience, biology, environmental sciences, anthropology, or geography.

**012:171 Evolution of Plants** 3 s.h.

Evolutionary history of plants over geologic time: relationships, morphology, and fossil record of major plant lineages; patterns and processes in evolution of plant morphology and diversity; ecological innovations and evolution of terrestrial ecosystems; relationships between biotic and environmental change; paleobotanical tools in stratigraphy, paleoclimatology, sedimentology; practical aspects of paleobotanical data collection, statistical analysis, modeling; field trip. Requirements: two courses in geoscience, anthropology, biology, environmental science, or geography.

**012:172 Glacial and Pleistocene Geology**

3 s.h.

Introduction to glaciers and glacial and interglacial Earth systems; linkages among glacial, oceanic, and atmospheric systems and their effects on landscapes and biota over the past two million years; how oceans, atmosphere, and glaciers interact and landscape effects of past glacial and interglacial cycles. Requirements: physical geology or physical geography or anthropology.

**012:174 Seminar: Taphonomy**

3 s.h.

Taphonomy (study of fossil record in paleontology and archaeology); processes for accumulation, modification, and deposition of remains in prehistory; instruction by archaeologist and paleontologist. Requirements: graduate standing. Same as 113:174.

**012:175 Mineral and Petroleum Exploration Geology**

3 s.h.

Fundamentals of resource exploration philosophy and methods, with project-based presentation of techniques and strategies for mineral exploration and petroleum exploration; integration and evaluation of geological, geochemical, and geophysical techniques for mineral exploration; hydrocarbon systems and seismic interpretation for petroleum exploration. Corequisites: 012:052 and 012:092.

**012:178 Applied Geostatistics**

3 s.h.

Applications of geostatistical methods to geology, geography, hydrology, environmental sciences, and engineering; variogram, Kriging, analysis of spatial-varied data with varied computer software in participants' specialties. Same as 044:188.

**012:179 Engineering Geology**

3 s.h.

Application of geology, water, and earth processes to civil and environmental engineering practice; physical properties of rock and soil, geologic mapping and surveying, groundwater supplies and wells, stream engineering, watershed management, site investigations for environmental assessment, and geologic hazards. Prerequisites: 012:003 or 012:005 or 012:008.

**012:180 Survey of Geophysical Methods**

3 s.h.

Geophysical methods used to address geological and engineering problems (e.g., finding petroleum and mineral deposits, studying groundwater resources, tracing contaminant plumes, evaluating archaeological sites); methods including gravity, magnetics, radiometrics, refraction and reflection seismography, geophysical well logging, and geoelectrical methods (direct current, frequency- and time-domain electromagnetics, induced polarization, magnetic resonance surveying, ground-penetrating radar); capabilities, drawbacks, costs; planning and budgeting surveys, processing the resulting digital data. Requirements: introductory geology or physics.

**012:184 Groundwater Modeling**

3 s.h.

Groundwater flow and contaminant transport modeling; numerical methods, applications of groundwater modeling to water supply, groundwater resources evaluation, remediation design using software; GMS (MODFLOW, MODPATH, and MT3D). Prerequisites: 012:166 or 053:103, and 22M:026. Same as 053:104.

**012:185 Approaches to Geoarchaeology**

3 s.h.

Geoarchaeology as multidisciplinary contextual framework for human paleoecology; natural processes that create the archaeological record, approaches to reconstructing landscapes of the past as a context for archaeological deposits; weekend field trip. Prerequisites: 012:136 or 012:172 or 113:161 or 113:164. Same as 113:189.

**012:188 Environmental Seminar**

1 s.h.

Lectures on the environment by faculty members from the University, other colleges and universities, researchers and professionals from state and federal agencies.

**012:189 Global Change Seminar**

1-2 s.h.

Current global change issues, including climate change, ecosystem changes and conservation, energy; seminar format with student presentations.



**012:190 Undergraduate Geoscience Colloquium**

1-2 s.h.

Presentation and discussion of current research by undergraduates.

**012:191 Geotectonics**

3 s.h.

Dynamic processes responsible for crustal genesis, plate movements, mountain building; plate boundary zones; sedimentologic, structural, petrologic, geophysical characteristics of major tectonic settings; multidisciplinary approach; week-long field trip. Prerequisites: 012:092.

**012:193 Sustainability Project**

arr.

Individual or group sustainability project supervised by a faculty member; regular meetings, data collection and interpretation, final project report.

**Primarily for Graduate Students****012:201 Geoscience Seminar Series**

1 s.h.

Scholarly work and research in geoscience. Repeatable.

**012:207 Geologic Orientation**

1 s.h.

Department degree requirements, programs; field survey of local geology; tips for TAs; introduction to specialized facilities; for new graduate students.

**012:210 Hydrogeology Seminar**

3 s.h.

Innovative experimental and modeling studies in hydrogeology; experimental need, design, mathematical formulation, assumptions, data collection techniques; data analysis and its importance to groundwater modeling. Prerequisites: 012:166. Same as 053:215.

**012:225 Paleontology Seminar**

1-3 s.h.

Current controversial issues in paleontology. Repeatable. Recommendations: 012:121.

**012:233 Carbonate Petrology**

2 s.h.

Identification of constituents and interpretation of genesis, structures, environments of formation, and patterns and processes of diagenesis in limestones; laboratory-based. Requirements: familiarity with optical microscope and sedimentation principles.

**012:235 Depositional Environments**

3-4 s.h.

Modern patterns of sedimentation; emphasis on interpreting depositional environments of ancient sedimentary rocks and deciphering resulting stratigraphic patterns. Requirements: knowledge of basic sedimentary geology and paleontology.

**012:238 Process Geomorphology**

1-3 s.h.

Topics in process geomorphology ranging from fluvial dynamics to mass movement to sediment transport and related environmental processes. Repeatable.

**012:239 Advanced Watershed Analysis Seminar**

1-3 s.h.

Integration of existing knowledge of physical, hydrological, and environmental processes with management issues and challenges in water resources and environmental management; aspects of water quantity and quality, water use and treatment, and basin management issues related to forestry, agriculture, urbanization, floods, droughts. Repeatable.

**012:251 Igneous Petrology**

3 s.h.

Phase equilibria, isotope and trace element geochemistry, geochemical modeling; generation, differentiation of magmas in context of plate tectonic theory. Prerequisites: 012:052.

**012:253 Geochronology**

3 s.h.

How to evaluate published ages, and assumptions/errors involved; how to select and sample suitable materials for dating, and choose a suitable dating method and analytical technique; opportunity to develop skills for research and professional careers. Prerequisites: 012:149 or 012:152.

**012:257 Tectonics and Petrology Seminar**

1-2 s.h.

Topics in tectonics, structural geology, petrology. Repeatable.

**012:293 Advanced Structural Geology**

3 s.h.

Kinematic and dynamic analysis of deformed rocks; microstructural analysis; strain analysis, field investigations of highly deformed rocks. Repeatable. Prerequisites: 012:092.

**012:310 Research: Geoscience**

arr.

Independent research related to theses or dissertations in geoscience. Repeatable.

## German

**Chair:** Roland Racevskis  
**Coordinator:** Sarah M.B. Fagan  
**Professors:** Sarah M.B. Fagan, Waltraud Maierhofer  
**Professors emeriti:** Judith P. Aikin, Wolfgang Ertl, James P. Sandrock, Ingeborg H. Solbrig  
**Associate professors:** Glenn Ehrstine, Astrid Oesmann  
**Associate professors emeriti:** Ford B. Parkes, Richard M. Runge  
**Assistant professor:** Bruce Spencer  
**Visiting assistant professor:** Colin Benert  
**Undergraduate degree:** B.A. in German  
**Undergraduate nondegree program:** Minor in German  
**Graduate degrees:** M.A., Ph.D. in German  
**Web site:** <http://www.uiowa.edu/~german>

The Department of German provides education in the language, literature, and culture traditionally designated as German, as expressed in the language and cultural heritage of Germany, Austria, and Switzerland. Its faculty members engage in research and teaching activities focused on German language, literature, and culture from both disciplinary and interdisciplinary perspectives.

Graduate programs in German build on the department's strengths and those of other departments to provide strong, individualized graduate training. The department is committed to helping students identify and pursue their own historical and theoretical interests in the study of German language and literature. The Master of Arts provides for comprehensive study with a concentration in German literature or Germanic linguistics. The Doctor of Philosophy is highly flexible, allowing students to create their own program of literary, cultural, and linguistic studies.

The department also offers courses approved for General Education in foreign languages, humanities, and foreign civilization and culture; language training for students in other graduate programs; and courses that meet the interdisciplinary needs of undergraduate and graduate students throughout the University.

University graduates with degrees in German frequently enter the teaching profession. They also find positions in government, foreign service, and commercial enterprise.

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in German.

### Bachelor of Arts

The Bachelor of Arts in German requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students who plan to complete the undergraduate teaching major in German in conjunction with the College of Education should see "B.A. with Teacher Licensure" below.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Students who begin a German major with no previous German language experience must complete the following course sequences or their equivalents.

013:011 Elementary German I	4 s.h.
013:012 Elementary German II	4 s.h.
013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.

This requirement also may be satisfied by various combinations of 013:013 Intensive Elementary German, 013:014 First-Year German Review, and 013:025 Intensive Intermediate German.

The required 30 s.h. for the major must include at least five upper-level German courses taken at The University of Iowa. Students may count a maximum of two Department of German courses taught in English (prefix 13E) toward requirements for the major if they enroll in a section that includes a German language component. Note: 013:101 Introduction to German Literature is prerequisite to all other German literature courses.

013:101 Introduction to German Literature	3 s.h.
013:103 Composition and Conversation I	3 s.h.
013:104 Composition and Conversation II	3 s.h.
013:116 Advanced Composition and Conversation	3 s.h.

Linguistics--one of these:

013:107 Introduction to German Linguistics	3 s.h.
013:165 History of the German Language	3 s.h.

Culture--one of these:

013:105 German Cultural History	3 s.h.
013:115 Contemporary German Civilization	3 s.h.

Four 100-level electives offered by the Department of German.

German majors, both graduate and undergraduate, are urged to supplement their degree programs with relevant courses in areas such as German history, philosophy, and business.

### **B.A. with Teacher Licensure**

German majors interested in licensure to teach in elementary and/or secondary schools must successfully complete the requirements for a major in German and must be admitted to the College of Education's foreign language teacher education program. Several courses in the College of Education also are required, as is one semester of student teaching in the senior year. Contact the Department of Teaching and Learning for more details.

Students who plan to use a German minor to teach at the elementary and/or secondary level must contact the College of Education concerning requirements.

### **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** language competency equal to first-year German and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** language competency equal to second-year German and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** four courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester:** two to three additional courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

Honors in German is open to exceptional students who are members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). To participate in honors in German, students must have completed three years of college-level German, or the equivalent, with a g.p.a. of at least 3.50 in upper-division German courses.

Participating students register for the following courses.

013:190 Honors Program in German	3 s.h.
013:191 Honors Research and Thesis	3 s.h.

Honors students are expected to engage in readings and discussions in German literature and culture and to write essays in German and English. Students meet with their faculty director of studies on a regular basis.

The program concludes with presentation of an honors thesis to a faculty committee of at least three members.

### **Minor**

The minor in German requires a minimum of 15 s.h. in college-level German courses, including 12 s.h. in 100-level courses taken at The University of Iowa; however, students may count up to 6 s.h. earned in study abroad at a university in a German-speaking country toward the minor. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

All Department of German courses taught in German and numbered 013:100 and above count toward the minor. Students may count one German course taught in English (prefix 13E) toward the minor if they enroll in a section that includes a German language component.

### **Language for Nonmajors**

The department offers a number of opportunities for students who wish to study German. Students who have had experience with the language should take the Foreign Language Placement Test in German online, offered by Evaluation and Examination Service. The test helps determine the level at which a student should begin German language study at The University of Iowa.

Students with no background in German should begin their study with 013:011 Elementary German I.

Students who wish to use German to complete the foreign language component of the General Education Program can choose from a number of course sequences. Each of the following sequences satisfies the requirement. Students are encouraged to talk with departmental advisors about the varied sequences.

013:013 Intensive Elementary German	4-6 s.h.
013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.

013:011 Elementary German I	4 s.h.
013:012 Elementary German II	4 s.h.
013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.

013:014 First-Year German Review	5 s.h.
013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.

013:011 Elementary German I	4 s.h.
013:012 Elementary German II	4 s.h.
013:025 Intensive Intermediate German	4-5, 6 s.h.

013:013 Intensive Elementary German	4-6 s.h.
013:025 Intensive Intermediate German	4-5, 6 s.h.

013:014 First-Year German Review	5 s.h.
013:025 Intensive Intermediate German	4-5, 6 s.h.

### **Joint B.A./M.A.**

The department offers a joint Bachelor of Arts/Master of Arts for undergraduate majors who plan to earn an M.A. in German. The program permits students to count 12 s.h. of appropriate course work toward both degrees and to enter advanced German courses while they are still undergraduates. It is designed to be completed in five years. Students in the program receive the B.A. when they have satisfied all requirements for the bachelor's degree, and they receive the M.A. when they have completed all master's degree requirements.

The joint B.A./M.A. is appropriate for students who enter the University from high school with advanced German language preparation. It is attractive to highly motivated students who plan to study abroad and who plan to pursue a Ph.D. in German or second language acquisition. It may serve as preparation for other programs, such as those related to international studies, library science, business with an international focus, or international relations. Students seeking careers in teaching or other fields may pursue the joint degree as a credential.

Joint program students must fulfill all requirements for the B.A. They ordinarily spend two semesters in their junior year enrolled in the study abroad program at the University of Freiburg, in Germany (see "Study Abroad" below), unless they have satisfied this requirement another way (e.g., a year abroad during high school or a study abroad program with similar content).

During the last two semesters of their senior year, they may take up to 12 s.h. of graduate-level courses, which may be counted toward both degrees, as follows: 6 s.h. may be counted toward the course requirements for the undergraduate German major, and 6 s.h. may be counted as undergraduate electives. Once they complete all B.A. requirements, they complete the remaining M.A. requirements.

Students must maintain an undergraduate German g.p.a. of at least 3.50; if they fail to meet this standard for more

than one semester, they may be required to leave the program. They must have an overall undergraduate g.p.a. of at least 3.00 when they achieve graduate standing.

Applicants must be admitted to the joint program before the beginning of their seventh semester (senior year). They must be University of Iowa undergraduate students; must have completed 80 s.h. or be in the process of completing 90 s.h. of undergraduate work; and must have completed or be in the process of completing at least 21 s.h. of 100-level course work in the German major. They must have completed or be in the process of completing a study abroad program in a German-speaking country, or have satisfied this requirement another way. They also must have a g.p.a. of 3.50 when they apply to the program, or a letter from a Department of German faculty member recommending an exception.

Students pay undergraduate tuition and fees during their first semester in the joint program (normally their seventh semester); beginning with their second semester in the program (normally their eighth semester), they begin paying graduate tuition and fees. Students may hold a graduate appointment beginning with their second semester in the joint program.

## **Study Abroad**

The Department of German participates in an academic year abroad program for undergraduates at the Albert-Ludwigs Universität in Freiburg, Germany. The Freiburg program is offered by a consortium made up of Michigan State University, The University of Iowa, The University of Michigan, and The University of Wisconsin-Madison.

Students arrive during the first week of September and participate in a four-week intensive language program. Then they take a blend of special program classes and regular German university courses. Organized field trips are designed to give students a broader perspective of German culture. Vacation periods permit extensive travel throughout Europe, and students are encouraged to use weekends for shorter trips in the region.

To apply, students must have reached at least junior standing by the beginning of the program, must have completed at least the first four semesters of college German or the equivalent, and must be in good academic standing at a U.S. college or university.

Students earn resident credit in all courses successfully completed in the program. They may count up to 21 s.h. earned at Freiburg toward the major in German. Credit also counts toward the minor in German. Students in other majors should consult with their advisor or their department's undergraduate director.

Contact the Department of German or the Office for Study Abroad for more information.

## **Graduate Programs**

The Board of Regents, State of Iowa, approved a two-year suspension of admission to graduate programs in German beginning September 2009; no new graduate students will be admitted for 2010-11.

The department offers a Master of Arts in German, with and without thesis and with a literature or linguistics concentration; and a Doctor of Philosophy in German, with a literature, linguistics, or combined literature and linguistics concentration. It also offers a joint Bachelor of Arts/Master of Arts for advanced undergraduates; see "Joint B.A./M.A." earlier in this Catalog section.

Courses in the department are offered in two broad categories: German literature and Germanic linguistics.

### **Master of Arts**

The Master of Arts in German requires a minimum of 33 s.h. of graduate credit. It is offered with and without thesis.

M.A. students choose one of two concentrations: German literature and Germanic linguistics. The German literature concentration requires seven literature courses (21 s.h.) and four linguistics courses (12 s.h.). The Germanic linguistics concentration requires seven linguistics courses (21 s.h.) and four literature courses (12 s.h.).

M.A. students are expected to complete at least 24 s.h. in the Department of German. All M.A. course work taken outside the department requires the graduate advisor's approval.

#### **GRADUATE LANGUAGE TOOLS: M.A.**

Before taking the M.A. exam, students must demonstrate reading knowledge of a foreign language other than German, at a level equivalent to two years of college study or four years of high school study.

Students may demonstrate competence by submitting proof that they have taken the required course work with a g.p.a. of at least 3.00, or by passing an exam at the fourth-semester college level as determined by the appropriate language

department.

## **Doctor of Philosophy**

The Doctor of Philosophy in German requires a minimum of 75 s.h. of graduate credit, including at least 27 s.h. in post-M.A. courses and a dissertation. No more than 12 s.h. of post-course-work dissertation credit may be counted toward the degree.

Ph.D. students choose one of three concentrations: German literature, Germanic linguistics, or combined literature and linguistics. In addition to satisfying the course requirements of their concentration, students must develop an independent research program that combines core and specialty areas within their concentration. These areas form the basis for the student's qualifying exam, comprehensive exam, and dissertation.

German literature students must complete five literature courses (15 s.h.) and must earn 12 s.h. of the required 27 s.h. in post-M.A. courses in the Department of German.

Germanic linguistics students must complete at least five linguistics courses (15 s.h.) and must earn 12 s.h. of the required 27 s.h. in post-M.A. courses in the Department of German.

Combined literature and linguistics students must complete at least five concentration area courses (15 s.h.) and must earn 21 s.h. of the required 27 s.h. in post-M.A. courses in the Department of German. They plan the balance of their courses with their advisory committee, generally taking four courses in their dissertation area.

All Ph.D. course work taken outside the department requires the graduate advisor's consent.

### **CORE AND SPECIALTY READING LISTS**

By the end of their second semester in the Ph.D. program, students must have compiled a core area reading list and a specialty area reading list. The expectations for each list vary by concentration.

#### **German Literature Concentration**

The core area reading list for the literature concentration comprises 70-100 works that cover at least three genres from a distinct historical period of German literature. For sample reading lists, contact the Department of German.

The specialty area reading list for the literature concentration comprises approximately 40 works from a specific field of literary research: a genre, body of theory, major author(s), or second historical period.

#### **Germanic Linguistics Concentration**

The core area reading list for the linguistics concentration comprises lists one and two in all six areas of the Department of German linguistics reading list. Students also select one of the six areas as a specialty concentration for the qualifying exam and assemble a reading list of 10-20 titles from the relevant list three of the linguistics reading list. The linguistics reading list is available from the department's linguistics faculty members.

The specialty area reading list for the linguistics concentration comprises 10-20 titles from list three in one of the six areas of the Department of German linguistics reading list. The specialty list for the comprehensive exam must be in an area different from that for the core area of the qualifying exam.

#### **Literature and Linguistics Concentration**

The core area reading list for the combined literature and linguistics concentration comprises 35-50 works of literature in at least two genres from a specific literary period, and all titles from lists one and two in these areas of the Department of German linguistics reading list.

The specialty area reading list for the combined literature and linguistics concentration follows the guidelines for the linguistics or literature specialty area list, depending on the student's preference. The specialty area concentration must be distinct from that of the research paper: students who choose literature as the specialty area write a research paper that concerns linguistics, and those who choose linguistics as the specialty area write a research paper that concerns literature.

### **GRADUATE LANGUAGE TOOLS: PH.D.**

Students must demonstrate a reading knowledge of two languages determined by the advisor to be pertinent to the student's research interests.

Students may demonstrate competence by submitting proof that they have taken the required course work with a g.p.a. of at least 3.00, or by passing an exam at the fourth-semester college level as determined by the appropriate language department.

### **QUALIFYING AND COMPREHENSIVE EXAMS**

Students prepare five essay questions on the basis of their core area reading list, in consultation with their qualifying exam committee, which approves the final list. The committee selects three of the questions for the student to answer in writing on the exam. Approximately one week after the written exam, the committee and student convene for a one-hour oral exam based on the core area reading list and the student's written exam responses.

No later than two weeks before the oral exam, the student must submit two essays to the comprehensive exam committee. One is a review essay (10-15 pages) that analyzes key issues in a selection of works from the student's specialty area reading list, together with an annotated bibliography that covers titles from the reading list not addressed in the essay. The other is a research essay (25-35 pages) of publishable quality written in consultation with the comprehensive exam committee chair; the essay may be based on a seminar paper of exceptional quality or a potential chapter of the student's dissertation. The student takes a final two-hour oral examination focusing on the review essay and research paper, ordinarily during finals week. After the oral exam, the student produces a written dissertation prospectus for approval by the dissertation committee.

### **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### **Financial Support**

Teaching assistantships, research assistantships, and partial tuition scholarships are available for qualified graduate students. The department awards the Wilson and the Funke prizes to students of distinction.

### **Facilities**

Students have the opportunity to improve their comprehension and command of German by working with recorded materials in the Language Media Center. They also may benefit from the multimedia courseware and digital video recordings from German television.

An extensive collection of works and periodicals in the University of Iowa Libraries facilitates research in all major areas of German literature and Germanic linguistics and at all levels of study.

The International Crossroads Community is an on-campus housing option for undergraduate and graduate students.

### **German Courses**

#### **Primarily for Undergraduates**

**013:011 Elementary German I** 4 s.h.  
Understanding and speaking "everyday German"; reading and writing skills; acquaintance with the German-speaking world through discussion, readings, videos. GE: Foreign Language First Level Proficiency.

**013:012 Elementary German II** 4 s.h.  
Continuation of 013:011. Prerequisites: 013:011. GE: Foreign Language Second Level Proficiency.

**013:013 Intensive Elementary German** 4-6 s.h.  
Elementary German I and II combined in one intensive course. GE: Foreign Language Second Level Proficiency.

**013:014 First-Year German Review** 5 s.h.  
Accelerated course in preparation for third-semester German. Requirements: at least two years of high-school German. GE: Foreign Language Second Level Proficiency.

**013:021 Intermediate German I** 4 s.h.



Proficiency in spoken and written German; German-speaking cultures of central Europe, their historical background; emphasis on refinement of reading skills. Prerequisites: 013:012 or 013:014. GE: Foreign Language Second Level Proficiency.

**013:022 Intermediate German II**

4 s.h.

Continuation of 013:021. Prerequisites: 013:021. GE: Foreign Language Fourth Level Proficiency.

**013:025 Intensive Intermediate German**

4-6 s.h.

Intermediate German I and II combined in one intensive course. Prerequisites: 013:012 or 013:013 or 013:014. GE: Foreign Language Fourth Level Proficiency.

**For Undergraduate and Graduate Students****013:100 Individual German**

arr.

Requirements: German major or minor.

**013:101 Introduction to German Literature**

3 s.h.

Literary works from various genres. Taught in German. Prerequisites: 013:022.

**013:103 Composition and Conversation I**

3 s.h.

Active command of German in reading, speaking, writing. Taught in German. Prerequisites: 013:022.

**013:104 Composition and Conversation II**

3 s.h.

Taught in German. Prerequisites: 013:022.

**013:105 German Cultural History**

3 s.h.

Emphasis on development of arts, philosophy, literature. Taught in German. Prerequisites: 013:101 or 013:103 or 013:104. GE: Foreign Civilization & Culture.

**013:107 Introduction to German Linguistics**

3 s.h.

Phonology, morphology, syntax, semantics, historical development. Taught in German. Offered spring semesters of even years. Prerequisite: 013:101 or 013:103 or 013:104.

**013:108 The German Media**

3 s.h.

Reading and listening skills; German culture as portrayed by print media, the web, television. Taught in German. Offered fall semesters of odd years. Prerequisites: 013:101 or 013:103 or 013:104.

**013:114 Business German**

3 s.h.

World of German business, role of German-speaking countries in world trade; emphasis on German business protocol, correspondence. Taught in German. Offered fall semesters of even years. Prerequisites: 013:022 or 013:025.

**013:115 Contemporary German Civilization**

3 s.h.

Government and political structure, economy, mass media, education, social and cultural life of Germany, Austria, Switzerland from the end of World War II to present. Taught in German. Offered spring semesters of odd years. Prerequisites: 013:101 or 013:103 or 013:104. GE: Foreign Civilization & Culture.

**013:116 Advanced Composition and Conversation**

3 s.h.

Speaking and writing. Taught in German. Prerequisites: 013:103 and 013:104. Requirements: German undergraduate standing.

**013:140 Literature in Film**

3 s.h.

Representative texts of German literature with film adaptations as specific readings. Taught in German. Corequisites: 013:101, if not taken as a prerequisite.

**013:142 Twentieth-Century Children's Literature**

3 s.h.

Introduction to literary epochs and genres in 20th-century German literature, through texts written primarily for children. Prerequisites: 013:101.

**013:143 Witch Trials: Fact and Fiction**

3 s.h.

Historical construction and fictional representation of women and men persecuted as witches and witchmasters in German-speaking countries. Prerequisites: 013:101.

**013:144 Self and Other in German Short Fiction**

3 s.h.

Survey of past 200 years of German short stories and novellas; definition of self against "other"; how narrative reinforces identity of self and delineates difference through conflict, terms in which narrative define self (e.g., moral, psychological, sexual, historical, cultural, political), how it stimulates process of reader identification; how narrative complicates or undermines categories of self and other, sameness and difference; Ludwig Tieck, E.T.A. Hoffmann, Heinrich von Kleist, Gottfried Keller, Thomas Mann, Arthur Schnitzler, Franz Kafka, Ingeborg Bachmann. Taught in German. Corequisites: 013:101.

**013:145 Twentieth-Century Literary History in Scenes/Stories**

3 s.h.

Short texts of all genres reflecting on the vast historical changes (especially World War I, Third Reich) in 20th-century Germany. Prerequisites: 013:101.

**013:148 Violence and Culture**

3 s.h.

Violence viewed with a mixture of fear and fascination in modern German society, source of creation and destruction; how this is treated in literary, cinematic, and critical works from the 19th and 20th centuries; how violence is interpreted and evaluated in these works in social, political, psychological, and philosophical terms. Prerequisites: 013:101.

**013:150 Beautiful Souls and Scandalous Writing**

3 s.h.

Varied works of and about the 18th century; fairy tales, plays, short novels, poems, and other texts by authors such as Lichtenberg, Goethe, Naubert, Schiller, Schlegel, Sueskind; gender roles ascribed to women and men. Prerequisites: 013:101.

**013:151 New Literature and Film from Switzerland**

3 s.h.

New directions in Swiss literature and film of late 20th and early 21st centuries; genres, authors, and works including youth fiction and biographical fiction by Eveline Hasler, Gabrielle Alioth, or Corinne Hofmann, a novel by Zoe Jenny, detective fiction by Hansjörg Schneider, popular fiction by Milena Moser; Swiss identity, social and economic issues, migration and immigration, literary works on film, travels to faraway places and times, crosscultural love stories, mystery. Taught in German. Prerequisites: 013:101.

**013:152 German Culture Before the Third Reich**

3 s.h.

Introduction to self-consciously, avant-garde literature (drama, poetry, prose) and other art forms (film, music, visual arts) produced in Germany between 1910-1930; examination of various styles, including expressionism, Dadaism, new objectivity, surrealism; artistic innovation and cultural resonance. Prerequisites: 013:101.

**013:153 Tyrants and Terror**

3 s.h.

Introduction to literature and adaptations in film from 1750 to the present; artists' and writers' views of appalling events and historical figures; application of creative role playing to better understand structural and psychological components and describing and generating emotions; readings range from Schiller's classical dramatization of the Wilhelm Tell myth to recent Nobel-prize winner Herta Mueller writing about communist Romania. Prerequisites: 013:022 and 013:101. Requirements: two years of German language.

**013:165 History of the German Language**

3 s.h.

History of the German language; its Indo-European roots, important characteristics of the language's major periods. Prerequisites: 013:101 or 013:103 or 013:104.

**013:190 Honors Program in German**

3 s.h.

Individual work in literature, linguistics, and culture. Requirements: three years of college-level German and g.p.a. of at least 3.50 in German.

**013:191 Honors Research and Thesis**

3 s.h.

Prerequisites: 013:190. Requirements: honors standing.

**013:199 German Graduation Portfolio**

0 s.h.

Submission of previous course work and language proficiency scores as a part of the departmental outcomes assessment.

## German for Graduate Nonmajors

Graduate students not pursuing a degree in German also may take 013:013 Intensive Elementary German and 013:025 Intensive Intermediate German; see "For Undergraduate and Graduate Students," above.

### 013:128 German Reading for Graduate Students

4 s.h.

Grammar review, vocabulary building, extensive reading of sophisticated texts. Offered spring semesters. Prerequisites: 013:012 or 013:013 or 013:014. Requirements: non-German graduate standing.

## For Graduate Students

### 013:200 Advanced Studies

arr.

Special problems in German literature and linguistics. Repeatable. Requirements: German graduate standing.

### 013:220 The German Novel

3 s.h.

Representative works of German fiction from 17th century to present; historical development of the genre, importance of each work for its period. Repeatable.

### 013:221 Principles of Teaching and Learning Foreign Languages

3 s.h.

Same as 009:234, 039:234, 041:234.

### 013:224 The German Drama

3 s.h.

Repeatable.

### 013:241 History of the German Language

3 s.h.

Same as 103:231.

### 013:243 Early German Theater

3 s.h.

Development of German drama from the 10th to 18th century, beginning with Hrotsvitha of Gandersheim and ending with Johann Christoph Gottsched; the place of theater in contemporary society; the function of religious (passion) and secular (carnival) plays for the late medieval urban community; the role of Protestant plays in spreading religious reform; the purpose of court performance during the Baroque.

### 013:253 Multimedia and Second Language Acquisition

3 s.h.

Foreign language multimedia in the context of current second language acquisition theories and research; readings on interactivity, interface design, feedback, learner control, and acquisition of vocabulary, grammar, and culture; multimedia development project. Requirements: foreign language teaching methodology course. Same as 009:238, 035:212, 164:211.

### 013:254 Advanced CALL Curriculum Development

3 s.h.

Advanced instruction in a variety of software and hardware tools for development of multimedia computer-assisted language learning (CALL) courseware; students develop software for a General Education Program or third-year language course in collaboration with course supervisor. Prerequisites: 164:212. Same as 009:239, 035:214, 164:214.

### 013:255 Semantics

3 s.h.

Meaning in natural language, with focus on German; lexical semantics (sense relations, semantic fields, componential analysis), modality, temporal and spatial deixis, aspect. Same as 164:298.

### 013:256 Modern German Syntax

3 s.h.

Analysis of syntax within a generative framework.

### 013:257 Morphology

3 s.h.

Word structure and formation in Modern German; inflection, derivation, compounding.

### 013:258 Modern German Phonetics and Phonology

3 s.h.

The sounds and sound system of Modern Standard German.

### 013:259 Grammar in Second Language Teaching/Learning

3 s.h.

Grammar, second language acquisition, and teaching. Taught in English, projects in varied languages. Same as 164:225.

**013:260 Crossing Borders Proseminar**

1 s.h.

Same as 016:244, 01H:330, 030:243, 035:271, 044:287, 048:244, 113:248.

**013:262 Crossing Borders Seminar**

2-3 s.h.

Repeatable. Same as 008:231, 016:247, 01H:247, 030:242, 035:273, 044:286, 048:247, 113:247, 129:231, 160:247, 181:247.

**013:283 The Age of Goethe**

3 s.h.

Storm and Stress (Goethe, Schiller, Klinger, Lenz) and the Weimar classicism (1794-1805) of Goethe and Schiller; interdependence of movements and their theoretical basis (Herder, Winckelmann) vis-à-vis representative works.

**013:298 Special Topics in German Literature**

arr.

Repeatable. Requirements: German graduate standing. Same as 048:298.

**013:299 Special Topics in German Linguistics**

3 s.h.

Repeatable. Same as 103:232, 164:299.

**013:300 Master's Thesis**

arr.

**013:350 Pre-Comprehensive Registration**

arr.

**013:371 Seminar in Early German Literature**

3 s.h.

Repeatable.

**013:400 Ph.D. Dissertation**

arr.

Repeatable.

**German in Translation**

**13E:066 Pact with the Devil**

3 s.h.

Pact with the devil a metaphor for humankind's desire to surpass the limits of knowledge and power in German literature and culture from early modern time to early 20th century; Goethe's *Faust*, Klaus Mann's *Mephisto*, Thomas Mann's *Doctor Faustus*, Weber opera; fascination with the forbidden in regard to women, such as in Meinhold's *Amber Witch*; the pact in other cultures and in contemporary American literature and culture. Taught in English. Prerequisites: 010:001. GE: Humanities.

**13E:075 Scandinavian Crime Fiction**

3 s.h.

Contemporary Scandinavian crime novel in its literary, historical, geographic, cultural, and social context. Taught in English. GE: Humanities.

**13E:080 King Arthur Through the Ages**

3 s.h.

Representation and function of King Arthur in European literature and film, from Geoffrey of Monmouth's *History of the Kings of Britain* (ca. 1136) to the present. Taught in English. GE: Humanities.

**13E:085 From the Brothers Grimm to Kafka: The Fantastic and Supernatural in German Literature**

3 s.h.

Themes of the fantastic and supernatural in German literature; works by well-known authors from 18th century to present (Goethe to Kafka, the Romantics, *Magic Flute* to *Neverending Story*) in historical context; writers' struggle to define and maintain themselves through tumultuous social and personal changes. GE: Humanities.

**13E:090 Music and the German Imagination**

3 s.h.

Role of music in German culture, with focus on German opera; social content of musical experience in a range of genres--literature, criticism, philosophy, opera; music viewed as a public phenomenon or a private experience, interplay between these contrary attitudes from 18th to mid-20th century, their place in concept of Germans as "people of music"; texts by Rousseau, Goethe, E.T.A. Hoffmann, Kleist, Grillparzer, Hegel, A.B. Marx, Mörike, Schopenhauer, Nietzsche, Thomas Mann, Kafka, Hesse, Adorno; operas by Mozart, Wagner, Berg, Brecht, Weill. Taught in English. GE: Foreign Civilization & Culture, Humanities.

**13E:118 The Third Reich and Literature**

3 s.h.

Nazi literature, literature of the Holocaust and the Opposition, exile literature, in English translation. Taught in English. GE: Foreign Civilization & Culture, Humanities. Same as 048:148.

**13E:119 German Film**

3 s.h.

Overview 1925-1987; examples of avant-garde films of the Weimar Republic, propagandist filmmaking from the Third Reich, filmmaking traditions of the GDR and FRG. Taught in English. GE: Foreign Civilization & Culture, Humanities.

**13E:120 Germany in the World**

3 s.h.

The Federal Republic of Germany's increasing prominence in post-Cold War international affairs, against backdrop of 20th-century history. Taught in English. GE: Foreign Civilization & Culture. Same as 033:125.

**13E:126 Germany Since 1914: Weimar, Hitler, and After**

3-4 s.h.

Continuity, change in 20th-century German politics, society, culture; creation, collapse of Weimar Republic; Nazism and Third Reich; East and West Germany since 1945; unification and its discontents. GE: Foreign Civilization & Culture. Same as 16E:156.

**13E:151 New Literature and Film from Switzerland: Beyond Heidi and Lucerne**

arr.

New directions in current Swiss literature and film; recent developments in Swiss society, both in Europe and globally; Swiss-German literature as unique, and as part of German literature.

# Global Health Studies

**Director:** Christopher Squier

**Undergraduate nondegree programs:** Minor, Certificate in Global Health Studies

**Graduate nondegree program:** Certificate in Global Health Studies

**Web site:** <http://international.uiowa.edu/centers/global-health/default.asp>

The Global Health Studies Program examines how dynamic processes of change affect health worldwide. It views health issues and health care in developing and developed countries, including the United States, in light of themes, processes, and institutions that influence health and disease. Among these are technology, culture, politics, religion, legal structure, history, and economy.

The Global Health Studies Program emphasizes career and vocational aspects of global health work and prepares students for occupations that increasingly demand critical interdisciplinary and international thinking skills and perspectives. It provides an understanding of phenomena, such as infectious and chronic diseases, fitness and longevity, climate change and natural disasters, environmental hazards, use of legal and illegal drugs, interventions against violence, war and injuries, new biomedical technologies, reproductive health and family planning, human rights, access to health care, and non-Western health cultures and alternative therapies.

It also promotes an institutional focus that enables students and faculty members from different departments, colleges, and disciplines University-wide to meet on the common ground of their shared interests in global health issues.

The program attracts undergraduate, graduate, and professional students from a wide range of disciplines: public health, health and pre-health sciences, health economics, nursing, social sciences, environmental engineering, anthropology, history, law, business, journalism, social work, and education.

The program offers the Certificate in Global Health Studies for undergraduate and graduate students and a minor in global health studies for undergraduates.

## Certificate

The Certificate in Global Health Studies requires 25 s.h. and is open to undergraduate and graduate students. It requires core courses, electives, and health-related research, usually in a foreign country. Courses may be chosen from those offered by the Global Health Studies Program (see "Courses" below) and by other departments and programs (see "Approved Electives"). Students may be granted credit toward the certificate for course work they completed up to two years before beginning the program.

Students must maintain a g.p.a. of 3.00 or higher in work for the certificate.

To enter the program, undergraduate students must already be enrolled at The University of Iowa. To apply, they must complete the certificate program application form, available on the Global Health Studies Program web site. Graduate students should contact the director of the Global Health Studies Program for admission information.

Certificate requirements are as follows.

### CORE COURSES

All of these:

152:111/173:111/175:111 International Health	3 s.h.
152:150 Research Design in Global Health (may be repeated for elective credit)	3 s.h.
152:151 Proseminar in Global Health	1 s.h.
152:152 Global Health Conference (may be repeated for elective credit)	1 s.h.

### ELECTIVES

Students complete 17 s.h. of approved electives, including at least 9 s.h. in residence at The University of Iowa. Students may petition to take courses not on the approved list (see "Courses" and "Approved Electives"), providing they can show that the courses include substantial material related to global health. Contact the Global Health Studies Program for details.

### FOREIGN STUDY OR RESEARCH

Students must complete a study or research project of six to eight weeks duration, typically in a foreign setting but under some circumstances in the United States. They may develop and conduct a research project, participate in a health-related study abroad program, assist a faculty member with research, or complete an internship on a global/environmental health issue.

Projects require approval by the Global Health Studies Program steering committee and must be supervised by a faculty member. Students may apply up to 8 s.h. of academic credit for research or internship experiences to the elective requirement.

Financial support may be available for some projects. Contact the Global Health Studies Program.

### **Foreign Language Study**

Students should complete four semesters of modern language study or course work that fulfills or is equivalent to the College of Liberal Arts and Sciences General Education Program foreign language component. This certificate requirement can be waived for students whose first language is not English.

The Global Health Studies Program steering committee may require students to take additional language study in preparation for a research or internship program. Students interested in learning an infrequently taught language to facilitate their participation in a foreign experience should investigate the Autonomous Language Learning Network (ALLNET) of International Programs.

Unless foreign language course work is integral to a study abroad program, it may not count toward the 25 s.h. required for the certificate.

### **Public Presentation**

During the semester following the foreign experience, students present their foreign research project results to a special session of 152:150 Research Design in Global Health or to an equivalent public forum, such as a departmental seminar. Students also must submit a two- to three-page project report summarizing their research, study abroad, or internship experiences.

### **Approved Electives**

In addition to courses offered by the Global Health Studies Program (see "Courses"), students may use the following courses to complete requirements for the certificate or minor.

#### **AGING sTUDIES**

153:108 Basic Aspects of Aging	3 s.h.
--------------------------------	--------

#### **ANTHROPOLOGY**

113:133 The Anthropology of Women's Health	3 s.h.
113:136 Applied Anthropology (when topic is environmental and community health)	3 s.h.

#### **COMMUNITY AND BEHAVIORAL HEALTH**

172:130 Social Determinants of Health	3 s.h.
172:150 Health Behavior and Health Education	3 s.h.

#### **ECONOMICS**

06E:113 Health Economics	3 s.h.
--------------------------	--------

#### **EDUCATION**

07B:195 Research in Cross-Cultural Settings	3 s.h.
---	--------

**HISTORY**

16W:140 Disease, Politics, and Health in South Asia 3 s.h.

**LITERATURE, SCIENCE, AND THE ARTS**

033:153 Hard Cases: Science Policy and Values (when topic is health related) 3 s.h.

**NURSING**

096:175 Issues in International Nursing and Health Care 3 s.h.

**OCCUPATIONAL AND ENVIRONMENTAL HEALTH**

175:197 Environmental Health 3 s.h.

**PUBLIC HEALTH**

170:101 Introduction to Public Health 3 s.h.  
170:171 Problems in Public Health (when topic is tobacco control and prevention) arr.

**Minor**

The minor in global health studies requires a minimum of 15 s.h., including 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

The minor is interdisciplinary, designed for undergraduates who wish to study health issues in a global context. It draws on a set of courses offered by the Global Health Studies Program and the Departments of Anthropology, Economics, Geography, History, Sociology, and Psychology; the Program in Literature, Science, and the Arts; and the Colleges of Engineering, Law, Nursing, and Public Health, and the Carver College of Medicine.

Students may choose from those offered by the Global Health Studies Program (see "Courses") or by other departments and programs (see "Approved Electives" above). They should choose course work from at least two different disciplines. A period of study abroad focused on global health issues is highly recommended.

Each student's plan of study for the minor is developed according to the student's interests and in consultation with a program advisor.

**Activities and Resources**

The Global Health Studies Program organizes both on-campus and international activities and research opportunities for students and faculty members, enabling them to become acquainted with major global health issues. Several scholarships, academic fellowships, international fellowships, and research and study abroad programs supplement the global health studies certificate program. These are sponsored by the University and a variety of agencies. Contact the Global Health Studies Program for details.

**Global Health Studies Courses**

152:111 International Health 3 s.h.



Urgent health problems in the developing world and among disadvantaged populations in developed countries; biological, social, cultural, political aspects of international health problems; applications of research methods from epidemiology, environmental health, social sciences. Same as 173:111, 175:111.

- 152:112 Global Environmental Health Policy** 3 s.h.
- 152:120 Global Health and Human Rights** 2-3 s.h.  
Requirements: junior or senior standing.
- 152:121 Health of Indigenous Peoples** 3 s.h.  
Health problems and services for indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: 113:003 or 113:010. Same as 113:121, 149:121.
- 152:125 Topics in Global Health** 1-3 s.h.
- 152:131 Geography of Health** 1-3 s.h.  
Provision of health care in selected countries, with particular reference to the Third World; focus on problems of geographical, economic, cultural accessibility to health services; disease ecology, prospective payment systems, privatization, medical pluralism. Same as 044:131.
- 152:135 Global Health and Global Food** 3 s.h.  
Practices, patterns, and policies that contribute to the epidemics of obesity, diabetes, and heart disease in wealthy populations; environmental degradation, hunger, and malnutrition among impoverished populations; strategies to meet food and agricultural needs for the world; local/global aspects or perspectives on food/health concerns for Iowa and the international community. Same as 027:135.
- 152:137 History of Public Health** 3 s.h.  
State-endorsed measures to avert or control disease in society. Same as 16W:137.
- 152:138 History of Global Health** 3 s.h.  
Foremost problems of health and disease in colonial and postcolonial societies; topical approach. Same as 16W:138.
- 152:150 Research Design in Global Health** 2-3 s.h.  
Preparation for an international research project. Offered fall and spring semesters.
- 152:151 Proseminar in Global Health** 1 s.h.  
Important health problems and issues of a global and interrelated nature that affect the developed and developing world.
- 152:152 Global Health Conference** 1 s.h.  
Annual research conference on major global health issues. Requirements: conference registration.
- 152:158 Promoting Health Globally** 3 s.h.  
Major global health threats (e.g., infectious disease, violence, tobacco, and nutrition); the impact of culture, history, and economics on health disparities and remedies. Requirements: junior or senior standing, or certificate student. Same as 027:176.
- 152:160 Global Health Seminar** 3 s.h.  
Local and global dimensions of health and disease.
- 152:162 Principles of Environmental Engineering** 4 s.h.  
Water supply and treatment processes; wastewater treatment processes; processes for air pollution control, groundwater remediation; solid and hazardous waste management. Prerequisites: 053:050. Same as 053:055.
- 152:170 Health Care and Health Reforms in Russia** 3 s.h.  
Societal changes and their continuing effect on the Russian health care system since 1991; guest lectures from public health, nursing, medicine, cultural anthropology. Same as 041:104.
- 152:175 Issues in International Nursing and Health Care** 3 s.h.

Same as 096:175.

**152:182 Health Experience of Immigrants, Migrants, and Refugees** 3 s.h.

Unique health challenges and health care experiences of recent immigrants, refugees, migrants.

**152:184 Anthropology and International Health** 3 s.h.

Anthropological contributions to and critiques of the international health enterprise; case studies illustrating anthropology and international health's intersection, and their differences. Offered spring semesters. Same as 113:184, 172:131.

**152:185 Medical Anthropology** 3 s.h.

Major theoretical, methodological approaches; international health and development; biomedicine as a cultural system; ethnomedicine; anthropology and AIDS, human reproduction, epidemiology, ethnopsychiatry. Prerequisites: 113:003 or 113:010. Same as 113:185, 172:173.

**152:199 Special Projects in Global Health** arr.

**152:217 Health Insurance and Managed Care** 3 s.h.

History and theory of insurance, comparative health systems, health systems and networks, HMOs, public health insurance, care for uninsured; emphasis on public policy. Prerequisites: 046:263 or 174:212, and 174:200. Same as 174:217.

**152:252 Environmental Health Policy** 3 s.h.

Major concerns in environment and human health, legislation enacted to deal with these concerns; emphasis on contemporary issues. Offered fall semesters of odd years. Requirements: (for 175:252) 175:197; (for 053:204) 053:050. Same as 053:204, 175:252.

**152:257 Epidemiology of Infectious Diseases** 3 s.h.

Underlying epidemiological concepts of infection disease, including causation and surveillance; prevention and control; case studies. Offered fall semesters. Prerequisites: 173:140. Same as 173:255.

# Health and Human Physiology

**Chair:** Kevin C. Kregel

**Professors:** John P. Albright (Orthopaedics and Rehabilitation/Health and Human Physiology), Annunziato Amendola (Orthopaedics and Rehabilitation/Health and Human Physiology), Joseph A. Buckwalter (Orthopaedics and Rehabilitation/Health and Human Physiology), Warren G. Darling (Health and Human Physiology/Physical Therapy and Rehabilitation Science), Kathleen F. Janz, Alan K. Johnson (Psychology/Health and Human Physiology), Kevin C. Kregel, Kenneth E. Mobily (Leisure Studies/Health and Human Physiology)

**Professors emeriti:** Donald R. Casady, Jerry A. Maynard

**Associate professors:** Kelly J. Cole (Health and Human Physiology/Physical Therapy and Rehabilitation Science), Gina C. Schatteman, Don D. Sheriff, Harald M. Stauss

**Associate professor emeritus:** Gary F. Hansen

**Assistant professor:** Kerry R. McGannon

**Adjunct assistant professor:** Michael C. Lyons

**Adjunct instructors:** Matthew R. Doyle, Patricia Kutcher, Diane L. Rotella, Jennie L. Sertterh, Michael A. Shaffer

**Lecturers:** Ray F. Fagenbaum, Shawn W. Flanagan, Amy Fletcher, Danny T. Foster, Christina R. Johnson, Katherine R. Mellen, Clayton R. Peterson, Marc A. Pizzimenti, Marylen C. Rimando

**Undergraduate degrees:** B.A. in Health and Human Physiology; B.S. in Health and Human Physiology, Athletic Training

**Undergraduate nondegree programs:** Minor in Human Physiology, Health Promotion

**Graduate degrees:** M.S. in Exercise Science, Ph.D. in Integrative Physiology

**Web site:** <http://www.uiowa.edu/~iphsio/>

The Department of Health and Human Physiology offers undergraduate and graduate programs in health and human physiology. Graduate students may choose from five different areas of specialization for the M.S. with thesis, and from four different areas for the Ph.D. The department also offers an undergraduate major in athletic training, in collaboration with the Department of Orthopaedics and Rehabilitation in the Carver College of Medicine.

In addition, the department is home to the Health and Physical Activity Skills Program (formerly the Physical Education Skills Program), which offers courses that provide instruction and practice in lifetime sports, fitness training, and wellness activities aimed at enhancing physical health and well-being. The program's courses are approved in the health and physical activity area of the General Education Program.

## Undergraduate Programs

The Department of Health and Human Physiology offers a Bachelor of Arts and a Bachelor of Science in health and human physiology, and a Bachelor of Science in athletic training. It also offers a minor in human physiology and in health promotion.

### Bachelor of Arts in Health and Human Physiology

The Bachelor of Arts in health and human physiology requires a minimum of 120 s.h., including work for the major, which varies by track. The health promotion track requires a total of 52-55 s.h. of work for the major; the health studies track requires 40-42 s.h. of work for the major. Students also must complete the College of Liberal Arts and Sciences General Education Program.

The health promotion track is intended for students seeking careers that promote wellness in the community and the workplace. The health studies track is designed for students who want a more flexible health science background.

Admission to the health promotion track is selective; students must apply and be admitted. Applicants must have completed a minimum of 24 s.h. at The University of Iowa, including the three courses listed under "Science and Math Foundation" below (chemistry, biology, and mathematics or statistics); transfer students must have completed a minimum of 12 s.h. at The University of Iowa. Applicants must have a University of Iowa and cumulative g.p.a. of at least 2.70. Applications may be submitted during the semester in which the student is completing the required number of semester hours and final course work required for admission to the major.

Admission to the health studies track is open; no application is required.

Students in both tracks are required to complete a set of common requirements as well as several courses required specifically for their track.

### Common Requirements

Both tracks require the following science and math foundation (at least 10-12 s.h.) and the departmental core (12 s.h.).

#### SCIENCE AND MATH FOUNDATION

All students complete three foundation courses (10-12 s.h.)--one each in chemistry, biology, and mathematics or statistics.

Chemistry--one of these:

004:007 General Chemistry I (or one year of high school chemistry)

3 s.h.

004:011 Principles of Chemistry I

4 s.h.

Biology--one of these:

002:002 Introductory Animal Biology	4 s.h.
002:010 Principles of Biology I	4 s.h.
002:021 Human Biology	4 s.h.

Mathematics or statistics--one of these:

22M:009 Elementary Functions	4 s.h.
22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:016 Calculus for the Biological Sciences	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22M:025 Calculus I	4 s.h.
22S:008 Statistics for Business	4 s.h.
22S:025 Elementary Statistics and Inference	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:102/07P:143 Introduction to Statistical Methods	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.

#### DEPARTMENTAL CORE

All students must complete each course in the departmental core (12 s.h.).

027:039 Physical Activity and Health	3 s.h.
027:040 Nutrition and Health	3 s.h.
027:053 Human Anatomy	3 s.h.
027:130 Human Physiology	3 s.h.

#### Health Promotion Track Requirements

Health promotion track students complete the following health promotion core courses (18 s.h.) and guided electives (12 s.h.) in addition to the courses listed under "Common Requirements" above.

#### HEALTH PROMOTION CORE

All these (18 s.h.):

027:134 Nutrition Interventions	3 s.h.
027:136 Health Behavior and Health Promotion	3 s.h.
027:137 Community and Worksite Health Promotion	3 s.h.
027:138 Exercise Testing and Prescription I: Metabolic Health	3 s.h.
027:139 Exercise Testing and Prescription II: Musculoskeletal Health	3 s.h.
027:156 Planning and Evaluating Health Interventions	3 s.h.

#### HEALTH PROMOTION GUIDED ELECTIVES

Students must complete at least 12 s.h. selected from the courses below; they must earn at least 6 s.h. in courses numbered 100 or above.

#### Entrepreneurship and Leadership

06A:001 Introduction to Financial Accounting	3 s.h.
06T:050 Foundations in Entrepreneurship	2 s.h.
06T:120 Entrepreneurship and Innovation	3 s.h.
06T:144 Nonprofit Organizational Effectiveness I	3 s.h.

#### Global Health and Health Disparities

027:135 Global Health and Global Food	3 s.h.
027:176 Promoting Health Globally	3 s.h.
152:131 Geography of Health	3 s.h.

152:152 Global Health Conference	1 s.h.
152:160 Global Health Seminar	3 s.h.
172:135 Health Disparities and Cultural Competence	2-4 s.h.
174:102 Introduction to the U.S. Health Care System	3 s.h.
175:197 Environmental Health	3 s.h.

#### **Health Communication and Psychology**

07C:175 Motivational Interviewing	3 s.h.
07C:190 Group Processes for Related Professions	3 s.h.
07C:199 Counseling for Related Professions	3 s.h.
019:160 Media and Health	3 s.h.
027:076 Psychological Aspects of Sport and Physical Activity	3 s.h.
027:110 Health Literacy	3 s.h.
027:144 Peer Health Education	3 s.h.
027:174 Applied Sport and Exercise Psychology	3 s.h.
027:244 Seminar in Health and Physical Activity Behavior	3 s.h.
031:152 Health Psychology	3 s.h.
031:170 Behavior Modification	3 s.h.
173:120 Principles of Public Health Informatics	3 s.h.

#### **Health Promotion Specializations**

07C:130 Human Sexuality	3 s.h.
07C:185 Introduction to Substance Abuse	3 s.h.
027:030 Principles of Exercise Leadership	3 s.h.
027:035 Stress Management	3 s.h.
027:133 Sport and Exercise Nutrition	3 s.h.
027:147 Physical Activity and Healthy Communities	3 s.h.
027:249 Epidemiology of Physical Activity	3 s.h.
071:120 Drugs: Their Nature, Action, and Use	2 s.h.
071:130 Drug Mechanisms and Actions	3 s.h.

#### **Human Development and Aging**

027:117 Human Growth and Motor Development	3 s.h.
027:148 Physiology of Aging	3 s.h.
027:160 Motor Control I: Neurophysiological Basis	3 s.h.
027:197 Biomechanics of Human Motion	4 s.h.
153:108 Basic Aspects of Aging	3 s.h.
169:077 Introduction to Child Life	3 s.h.

#### **Human Physiology**

027:054 Human Anatomy Laboratory	1 s.h.
027:132 Human Physiology Laboratory	2 s.h.
027:143 Physiology of Nutrition	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:154 Advanced Anatomy Laboratory	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.

027:140 Exercise Physiology for Practitioners	3 s.h.
or	
027:141 Exercise Physiology	3 s.h.

**Individualized Experiential Learning**

027:152 Practicum in Health Promotion (may be repeated up to 3 s.h.)	1 s.h.
027:187 Honors Readings	1-2 s.h.
027:188 Honors Problems	3-4 s.h.
027:190 Preinternship Seminar	1 s.h.
027:191 Internship	6 s.h.
027:195 Undergraduate Independent Study	arr.

**Health Studies Track Requirements**

In addition to completing the courses listed under "Common Requirements" above, health studies track students must earn at least 18 s.h. in courses chosen from the list below, including 12 s.h. in courses numbered 100 and above.

027:030 Principles of Exercise Leadership	3 s.h.
027:035 Stress Management	3 s.h.
027:054 Human Anatomy Laboratory	1 s.h.
027:076 Psychological Aspects of Sport and Physical Activity	3 s.h.
027:110 Health Literacy	3 s.h.
027:117 Human Growth and Motor Development	3 s.h.
027:120 Equity Issues in the Health Science Workplace	3 s.h.
027:125 Contemporary Nutrition	3 s.h.
027:127 Nutrition in Health and Performance	3 s.h.
027:131 Coaching for Health and Wellness	3 s.h.
027:132 Human Physiology Laboratory	2 s.h.
027:133 Sport and Exercise Nutrition	3 s.h.
027:135 Global Health and Global Food	3 s.h.
027:136 Health Behavior and Health Promotion	3 s.h.
027:140 Exercise Physiology for Practitioners	3 s.h.
027:141 Exercise Physiology	3 s.h.
027:143 Physiology of Nutrition	3 s.h.
027:144 Peer Health Education	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:147 Physical Activity and Healthy Communities	3 s.h.
027:148 Physiology of Aging	3 s.h.
027:149 Seminar: Health in a Changing Society	3 s.h.
027:154 Advanced Anatomy Laboratory	3 s.h.
027:174 Applied Sport and Exercise Psychology	3 s.h.
027:176 Promoting Health Globally	3 s.h.
027:195 Undergraduate Independent Study	arr.
027:197 Biomechanics of Human Motion	4 s.h.

**Bachelor of Science in Health and Human Physiology**

The Bachelor of Science in health and human physiology requires a minimum of 120 s.h., including 61 s.h. of work for the major (4 s.h. for the prerequisite to admission to the major, 27 s.h. in health and human physiology, and 30 s.h. in required cognates). Students also must complete the College of Liberal Arts and Sciences General Education Program.

Transfer credit for course work in the major requires the approval of the undergraduate academic advisor.

The major in health and human physiology is designed primarily for individuals who intend to continue their education beyond the B.S. in the health professions, including medicine, dentistry, optometry, physician assistant, physical therapy, and podiatry, or for those who intend to pursue graduate degrees in basic life sciences. The program includes study in anatomy, biomechanics, health and human physiology, neural control of movement, and the cognate areas of biology, chemistry, mathematics, physics, and statistics.

Admission to the major in health and human physiology is selective; students must apply and be admitted. Admission is based in part based on grades earned in foundational science and math courses. Students denied admission to the major may reapply in a subsequent semester.

**GENERAL EDUCATION COURSES**

The department recommends that students majoring in health and human physiology fulfill the College of Liberal Arts and Sciences General Education Program natural sciences requirement by taking 004:011 Principles of Chemistry I, 004:012 Principles of Chemistry II, and 002:010 Principles of Biology I. It also recommends completing the General Education Program social sciences requirement with 031:001 Elementary Psychology.

**PREREQUISITE TO ADMISSION TO THE MAJOR**

Students must complete the following course before they may be admitted to the health and human physiology major.

004:011 Principles of Chemistry I 4 s.h.

**COURSES FOR THE MAJOR: HEALTH AND HUMAN PHYSIOLOGY**

All of these (9 s.h.)

027:053 Human Anatomy	3 s.h.
027:054 Human Anatomy Laboratory	1 s.h.
027:130 Human Physiology	3 s.h.
027:132 Human Physiology Laboratory	2 s.h.

At least 18 s.h. from these:

027:117 Human Growth and Motor Development	3 s.h.
027:141 Exercise Physiology	3 s.h.
027:143 Physiology of Nutrition	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:146 Molecules to Malady	3 s.h.
027:148 Physiology of Aging	3 s.h.
027:154 Advanced Anatomy Laboratory	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.
027:160 Motor Control I: Neurophysiological Basis	3 s.h.
027:165 Introduction to Human Pharmacology	3 s.h.
027:195 Undergraduate Independent Study	arr.
027:197 Biomechanics of Human Motion	4 s.h.

**COURSES FOR THE MAJOR: COGNATES**

Students must complete the following supporting course work (total of 30 s.h.) in subjects outside of health and human physiology (cognates).

**Biology**

002:010-002:011 Principles of Biology I-II 8 s.h.

At least 3 s.h. from these:

002:108 Vertebrate Zoology	4 s.h.
002:114 Cell Biology	3 s.h.
002:124 Animal Physiology	3 s.h.
002:128 Fundamental Genetics	3-4 s.h.
002:143 Animal Behavior	4 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:150 Endocrinology	3 s.h.
002:180 Fundamental Neurobiology	4 s.h.
002:181 Neurophysiology	3-4 s.h.
061:112 Pharmacy Microbiology	4 s.h.
061:147 Survey of Immunology	4 s.h.
061:157 General Microbiology	5 s.h.
061:164 Nursing Microbiology	4 s.h.
099:110 Biochemistry	3 s.h.

099:120 Biochemistry and Molecular Biology I 3 s.h.

### Chemistry

Students must complete 004:011 Principles of Chemistry I before they may be admitted to the health and human physiology major and before they take 004:012 Principles of Chemistry II.

004:012 Principles of Chemistry II 4 s.h.

These additional chemistry courses are highly recommended.

004:121 Organic Chemistry I 3 s.h.

004:122 Organic Chemistry II 3 s.h.

004:141 Organic Chemistry Laboratory 3 s.h.

### Mathematics

One of these:

22M:016 Calculus for the Biological Sciences 4 s.h.

22M:025 Calculus I (or a mathematics course numbered above 025) 4 s.h.

22M:031 Engineering Mathematics I: Single Variable Calculus 4 s.h.

### Physics

One of these sequences:

029:011-029:012 College Physics I-II 8 s.h.

029:081-029:082 Introductory Physics I-II 8 s.h.

### Statistics

At least 3 s.h. from these:

07P:143 Introduction to Statistical Methods 3 s.h.

22S:101 Biostatistics 3 s.h.

22S:102 Introduction to Statistical Methods 3 s.h.

171:161 Introduction to Biostatistics 3 s.h.

### RECOMMENDED ELECTIVES

The department recommends that students choose from the following electives in order to complete the 120 s.h. required for a B.S. in the College of Liberal Arts and Sciences. Additional recommended courses in biology and chemistry are listed under "Courses for the Major: Cognates" above.

### Anthropology

213:190 Human Osteology 3 s.h.

### Biochemistry

099:110 Biochemistry 3 s.h.

099:120 Biochemistry and Molecular Biology I 3 s.h.

099:130 Biochemistry and Molecular Biology II 3 s.h.

099:140 Experimental Biochemistry 4 s.h.



**Biology**

002:108 Vertebrate Zoology	4 s.h.
002:114 Cell Biology	3 s.h.
002:124 Animal Physiology	3 s.h.
002:128 Fundamental Genetics	4 s.h.
002:143 Animal Behavior	4 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:150 Endocrinology	3 s.h.
002:180 Fundamental Neurobiology	4 s.h.
002:181 Neurophysiology	3 s.h.

**Chemistry**

004:111 Analytical Chemistry I	3 s.h.
004:112 Analytical Chemistry II	3 s.h.
004:121 Organic Chemistry I	3 s.h.
004:122 Organic Chemistry II	3 s.h.
004:131 Physical Chemistry I	3 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.

**Classics**

20E:103 Medical and Technical Terminology	2 s.h.
---	--------

**Communication Sciences and Disorders**

003:116 Basic Neuroscience for Speech and Hearing	3 s.h.
003:140 Manual Communication	1 s.h.

**Computer Science**

06K:070 Computer Analysis	3 s.h.
22C:001 Computer Literacy	3 s.h.
22C:005 Introduction to Computer Science	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
057:017 Computers in Engineering	3 s.h.

**Education**

07C:185 Introduction to Substance Abuse	3 s.h.
---	--------

**Engineering**

057:010 Dynamics	3 s.h.
057:019 Mechanics of Deformable Bodies	3 s.h.

**English**

08N:080 Nonfiction Writing	3 s.h.
----------------------------	--------

**Health Promotion**

027:138 Exercise Testing and Prescription I: Metabolic Health	3 s.h.
027:139 Exercise Testing and Prescription II: Musculoskeletal Health	3 s.h.

**Microbiology**

061:157 General Microbiology	5 s.h.
061:164 Nursing Microbiology	4 s.h.

**Pharmacology**

071:120 Drugs: Their Nature, Action, and Use	2 s.h.
071:130 Drug Mechanisms and Actions	3 s.h.

**Psychology**

031:063 Abnormal Psychology: Health Professions	3 s.h.
031:126 Behavioral Neuroscience	3 s.h.
031:128 Psychopharmacology	3 s.h.
031:129 Neurobiology of Learning and Memory	3 s.h.
031:152 Health Psychology	3 s.h.
031:163 Abnormal Psychology	3 s.h.
031:173 Substance Use and Misuse in America	3 s.h.

**Radiation Biology**

077:103 Radiation Biology	4 s.h.
---------------------------	--------

**Bachelor of Science in Athletic Training**

The Bachelor of Science in athletic training requires a minimum of 120 s.h., including 57-58 s.h. of work for the major, plus one prerequisite (1 s.h.) to application to the major and several prerequisites (34-36 s.h.) to course work for the major. Students also must complete the College of Liberal Arts and Sciences General Education Program.

The program provides concentrated studies and clinical experiences leading to national certification in athletic training.

Athletic trainers work with active patients, including athletes, to help prevent injuries, offer advice about appropriate equipment, recognize and evaluate injuries, administer emergency treatment, and determine need for specialized medical care. Athletic trainers also work as members of health care teams involved in postinjury rehabilitation.

Employment opportunities for graduates include work as health care professionals for sports medicine clinics and hospitals, who often work with secondary school athletic teams. Additional education usually is required for employment with professional, college, and university athletic teams. Teacher certification is recommended but not required.

Admission to the major in athletic training is competitive; students must apply and be admitted. See "Admission to the Major" below.

Students who have not formally contacted the athletic training program director before enrolling at The University of Iowa should talk to an athletic training advisor or their academic advisor upon entering the University. Early advising for course selection is vital to ensure that students take prerequisites and sequenced skill development courses in the right order. Students should begin taking prerequisites for required major courses during their first year and should complete their final prerequisites after admission to the athletic training major.

For current information on rules, procedures, and curriculum, contact the athletic training program director.

**PREREQUISITE TO APPLICATION TO THE MAJOR**

Students must complete this course before they apply for admission to the athletic training major.

027:096 Exploring Athletic Training	1 s.h.
-------------------------------------	--------

**PREREQUISITES TO COURSE WORK FOR THE MAJOR**

Students must complete the following courses (34-36 s.h.) before beginning course work for the major.

One of these:

002:002 Introductory Animal Biology	4 s.h.
002:010 Principles of Biology I	4 s.h.

One of these sequences:

004:007-004:008 General Chemistry I-II	6 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.

One of these:

029:008 Basic Physics	4 s.h.
029:011 College Physics I	4 s.h.

All of these:

07P:075 Educational Psychology and Measurement	3 s.h.
22S:025/07P:025 Elementary Statistics and Inference	3 s.h.
027:053 Human Anatomy	3 s.h.
027:057 Basic Athletic Training	3 s.h.
028:032 First Aid and CPR (or community certifications)	2 s.h.
031:001 Elementary Psychology	3 s.h.

**COURSES FOR THE MAJOR**

Students must complete the following course work for the major (57-58 s.h.).

One of these:

027:140 Exercise Physiology for Practitioners	3 s.h.
027:141 Exercise Physiology	3 s.h.

One of these:

071:120 Drugs: Their Nature, Action, and Use	2 s.h.
071:130 Drug Mechanisms and Actions	3 s.h.

All of these:

07C:199 Counseling for Related Professions (or equivalent)	3 s.h.
027:036-027:037 Practicum in Athletic Training I-II	4 s.h.
027:130 Human Physiology	3 s.h.
027:143 Physiology of Nutrition (or equivalent)	3 s.h.
027:171 Administration of Athletic Training Programs	2 s.h.
027:172 Clinical Sciences I	2 s.h.
027:180 Advanced Emergency Care for Athletic Trainers	2 s.h.
027:182-027:183 Clinical Sciences III-IV	6 s.h.
027:185 Clinical Sciences V: Rehabilitation	2 s.h.
027:186 Practicum in Athletic Training III (must be taken twice)	6 s.h.
027:197 Biomechanics of Human Motion	4 s.h.
027:253 Advanced Human Anatomy	6 s.h.
076:187 Practicum in Athletic Training IV (must be taken twice)	8 s.h.

## Admission to the Athletic Training Major

College of Liberal Arts and Sciences students may be admitted to the athletic training major and begin clinical experience as sophomores. Applicants to the program must meet the following requirements:

completion of at least 11 s.h. of graded college credit, including 027:096 Exploring Athletic Training with a grade of C or higher; course work taken pass/fail cannot be counted; and

a g.p.a. of at least 2.50 on all undergraduate course work.

Preference is given to applicants with high scholastic standing, strong writing skills, and varied athletic training and health care experience. A personal interview may be required; the athletic training program contacts applicants invited for interviews.

Fulfillment of admission requirements does not ensure admission to the athletic training major. The program selects candidates who appear to be best qualified for the study and practice of athletic training. Students denied admission to the major may reapply in a subsequent fall semester.

All students admitted to the major in athletic training are required to comply with entrance and periodic health screening history and immunization, which is coordinated through the program's medical director.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Note: Students must be admitted to the health and human physiology or athletic training majors on schedule in order to complete a four-year graduation plan.

### B.A. in Health and Human Physiology

**Before the third semester begins:** one foundation course, one other course in the major, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least five more courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### B.S. in Health and Human Physiology

**Before the third semester begins:** calculus, one other course in the major, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least five more courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least six more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### B.S. in Athletic Training

**Before the third semester begins:** three courses in the major and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** six courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** nine courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester:** 12 courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

Qualified students may earn a degree with honors in health and human physiology or athletic training. Departmental honors students must be members of the University of Iowa Honors Program, must maintain a cumulative University of Iowa g.p.a. of at least 3.33, and must maintain a g.p.a. of at least 3.33 in work for their major.

In order to graduate with honors for the B.A. in health and human physiology, students must successfully complete a health and human physiology honors designation course, research practicum, teaching practicum, or service learning course; successfully complete 027:187 Honors Readings; 027:188 Honors Problems; and in that course write an honors thesis, usually based on original research or creative work; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or a professional conference.

In order to graduate with honors for the B.S. in health and human physiology, students must complete the honors research course sequence 027:198 Honors Research I and 027:199 Honors Research II; write an honors thesis that is deposited with the University of Iowa Honors Program and is judged to be of honors quality; and make an oral presentation of their research and thesis that is judged to be of honors quality.

In order to graduate with honors in athletic training, students must complete the practicum course sequence 027:186 Practicum in Athletic Training III and 076:187 Practicum in Athletic Training IV and write an honors thesis that is deposited with the University of Iowa Honors Program and is judged to be of honors quality.

## Minor in Human Physiology

The minor in human physiology requires a minimum of 15 s.h. in Department of Health and Human Physiology courses, including 12 s.h. in 100-level courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Transfer credit may not be counted toward the minor.

College-level courses in mathematics, chemistry, and biology usually are required as prerequisite work for health and human physiology courses. Students seeking a minor in human physiology should have sufficient preparation in the supporting sciences before they take advanced courses in the department.

Students choose courses for the minor from the following list. Bachelor of Science students majoring in health and human physiology have priority for enrollment in 027:132 Human Physiology Laboratory and 027:197 Biomechanics of Human Motion; other students must have special permission to enroll in these courses.

027:053 Human Anatomy	3 s.h.
027:054 Human Anatomy Laboratory	1 s.h.
027:117 Human Growth and Motor Development	3 s.h.
027:130 Human Physiology	3 s.h.
027:132 Human Physiology Laboratory	2 s.h.
027:140 Exercise Physiology for Practitioners	3 s.h.
027:141 Exercise Physiology	3 s.h.
027:143 Physiology of Nutrition	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:146 Molecules to Malady	3 s.h.
027:148 Physiology of Aging	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.
027:160 Motor Control I: Neurophysiological Basis	3 s.h.
027:165 Introduction to Human Pharmacology	3 s.h.
027:197 Biomechanics of Human Motion	4 s.h.

## Minor in Health Promotion

The minor in health promotion requires a minimum of 15 s.h. in Department of Health and Human Physiology courses, including at least 9 s.h. in 100-level courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Transfer credit may not be counted toward the minor.

Courses for the minor must be chosen from the list below, according to students' interests and the recommendation of the undergraduate coordinator. Some of these courses have prerequisites, which students must complete before enrolling in the course.

027:030 Principles of Exercise Leadership	3 s.h.
027:035 Stress Management	3 s.h.
027:039 Physical Activity and Health	3 s.h.
027:040 Nutrition and Health	3 s.h.
027:076 Psychological Aspects of Sport and Physical Activity	3 s.h.
027:110 Health Literacy	3 s.h.
027:133 Sport and Exercise Nutrition	3 s.h.
027:135 Global Health and Global Food	3 s.h.
027:136 Health Behavior and Health Promotion	3 s.h.
027:144 Peer Health Education	3 s.h.
027:147 Physical Activity and Healthy Communities	3 s.h.
027:174 Applied Sport and Exercise Psychology	3 s.h.
027:176 Promoting Health Globally	3 s.h.

## Graduate Programs

The Department of Health and Human Physiology offers a Master of Science in exercise science, with or without thesis, and a Doctor of Philosophy in integrative physiology. The M.S. with thesis is a research-oriented program designed for students planning to pursue a Ph.D. The M.S. without thesis is a terminal degree intended for athletic training students.

### Master of Science with Thesis

The Master of Science with thesis requires a minimum of 30 s.h. of graduate credit. It is a research-oriented program designed primarily as a first step in graduate study leading to the Doctor of Philosophy. It introduces students to the nature and quality of research in integrative physiology and gives them an opportunity to specialize in an area of interest.

The M.S. with thesis offers five specialization areas: anatomy, athletic training, biomechanics, exercise and integrative physiology, and motor control.

Because the M.S. with thesis is regarded as the first step toward the Ph.D., the required undergraduate background course work depends on the area in which the candidate intends to specialize for doctoral study. Specific undergraduate courses in mathematics, chemistry, physics, biology, physiology, or psychology are required as prerequisites to some areas of specialization. These courses must be approved by the M.S. advisor and the professor in charge of the student's chosen specialization area.

The M.S. with thesis requires the following course work (total of 30 s.h.).

#### COURSES OUTSIDE THE SPECIALIZATION AREA

Two of these:

027:141 Exercise Physiology (not for students specializing in physiology)	3 s.h.
027:155 Skeletal Muscle Biology (not for students specializing in motor control)	3 s.h.
027:160 Motor Control I: Neurophysiological Basis (not for students specializing in motor control)	3 s.h.
027:197 Biomechanics of Human Motion (not for students specializing in biomechanics)	4 s.h.
027:253 Advanced Human Anatomy (not for students specializing in anatomy or athletic training)	6 s.h.

#### CORE COURSE REQUIREMENT

One of these:

22S:101 Biostatistics	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.

#### SPECIALIZATION AREA COURSES

027:404 Thesis: M.S.	4 s.h.
Specialization courses approved by advisor	5-7 s.h.

Electives

5-6 s.h.

## Master of Science Without Thesis

The Master of Science without thesis requires a minimum of 30 s.h. of graduate credit, with a g.p.a. of at least 3.00. It is a terminal degree, intended for athletic training students. The program provides advanced study in clinical education and research for certified athletic trainers. It emphasizes development of a base of research and education, and application of that base to the knowledge and skills of the entry-level athletic trainer. Its focus is on a health care team approach to sports medicine, medical care management, wellness, pediatric/adolescent health, and special health populations.

The following undergraduate course work (total of 30 s.h.) is required background for the M.S. nonthesis program in athletic training. Students must have a g.p.a. of 3.00 in the required background course work.

### Anatomy

Human anatomy: at least 3 s.h.

Human physiology: 3 s.h.

### Athletic training core

Prevention: 3 s.h.

Evaluation and recognition: 3 s.h.

Modalities and rehabilitation: 3 s.h.

Administration: 2 s.h.

### Integrative physiology core

Motor control: 3 s.h.

Exercise physiology: 3 s.h.

Biomechanics or kinesiology: 3 s.h.

Electives in related areas: 3-4 s.h.

Current emergency certifications

BOC certification

For the M.S. without thesis, students must complete 20 of the required 30 s.h. in integrative physiology. The degree requires the following course work.

### INTEGRATIVE PHYSIOLOGY

Three of these:

027:141 Exercise Physiology	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:146 Molecules to Malady	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.
027:160 Motor Control I: Neurophysiological Basis	3 s.h.
027:197 Biomechanics of Human Motion	4 s.h.
027:253 Advanced Human Anatomy	6 s.h.

### CLINICAL RESEARCH TOOLS

07P:143/22S:102 Introduction to Statistical Methods	3 s.h.
An approved tools or special interest area course	2-4 s.h.

### ATHLETIC TRAINING

027:184 Seminar in Athletic Training	1-4 s.h.
027:200 Problems (repeatable)	2 s.h.
027:202 Practicum in College Teaching	3 s.h.
027:301 Non-Thesis Seminar	2 s.h.

One of these:

07P:205 Design of Instruction	3 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
173:140 Epidemiology I: Principles	3 s.h.

#### **ELECTIVES**

Maximum of 4 s.h.

### **Doctor of Philosophy**

The Doctor of Philosophy in integrative physiology requires a minimum of 72 s.h. of graduate credit. Ph.D. students should have a strong background in the natural sciences, a working knowledge of statistics and research methodology, and a specific interest in at least one area of specialization in the department. Students can acquire additional knowledge of statistics and research methodology after entering the program.

The Ph.D. program offers four specialization areas: anatomy, biomechanics, integrative physiology, and motor control.

All Ph.D. students must complete a dissertation in their specialization area and must submit an appropriate manuscript of the dissertation to a refereed professional journal for publication.

Many of the courses in the specialization areas are offered by departments other than health and human physiology. Faculty members from these departments frequently serve on comprehensive examination committees and on dissertation committees for the initial presentation of a candidate's prospectus. They also participate in the final oral examination.

The Ph.D. requires the following course work.

#### **GENERAL REQUIREMENTS**

At least 72 s.h. of graduate credit beyond the B.A. or B.S.

At least 10 s.h. of independent research, exclusive of the thesis requirement

#### **CORE COURSE REQUIREMENTS**

Two approved courses in statistics	6 s.h.
027:201 Research	10 s.h.
027:202 Practicum in College Teaching	2 s.h.
027:405 Thesis: Ph.D.	12 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.

#### **SCIENTIFIC AREA COURSES**

In order to ensure that integrative physiology Ph.D. students obtain a breadth of knowledge over the key scientific areas that constitute the basis of the major, each student must complete at least one course in each specialization area. This requirement may be met by transfer credit if approved by the student's advisor. The areas of specialization are anatomy, biomechanics, integrative physiology, and motor control.

#### **Specializations**

Candidates are expected to obtain a broad knowledge base within their area of specialization. This normally entails approximately 30 s.h. of course work. The following courses are recommended choices for each area of specialization.

#### **ANATOMY**

002:128 Fundamental Genetics	4 s.h.
002:150 Endocrinology	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.
027:253 Advanced Human Anatomy	6 s.h.



060:205 General Histology for Graduate Students	4 s.h.
060:234 Medical Neuroscience	4 s.h.
077:103 Radiation Biology	4 s.h.
099:110 Biochemistry	3 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
142:220 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System	1 s.h.
142:225 Growth Factor Receptor Signaling	1 s.h.

One of these:

003:219 Fundamentals of Laboratory Instrumentation	3 s.h.
101:212 Biomedical Instrumentation and Measurement	3 s.h.

#### **BIOMECHANICS**

027:253 Advanced Human Anatomy	6 s.h.
057:019 Mechanics of Deformable Bodies	3 s.h.
057:020 Fluid Mechanics	4 s.h.
101:212 Biomedical Instrumentation and Measurement	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.

#### **INTEGRATIVE PHYSIOLOGY**

002:128 Fundamental Genetics	4 s.h.
002:150 Endocrinology	3 s.h.
027:141 Exercise Physiology	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:146 Molecules to Malady	3 s.h.
027:241 Integrative Physiology Seminar	1 s.h.
027:253 Advanced Human Anatomy	6 s.h.
050:240 Human Organ Systems	8 s.h.
060:205 General Histology for Graduate Students	4 s.h.
071:130 Drug Mechanisms and Actions	3 s.h.
072:153 Graduate Physiology	4 s.h.
077:103 Radiation Biology	4 s.h.
077:222 Free Radicals in Biology and Medicine	4 s.h.
099:110 Biochemistry	3 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
099:140 Experimental Biochemistry	4 s.h.

#### **MOTOR CONTROL**

027:155 Skeletal Muscle Biology	3 s.h.
027:160 Motor Control I: Neurophysiological Basis	3 s.h.
027:197 Biomechanics of Human Motion	4 s.h.
027:253 Advanced Human Anatomy	6 s.h.
027:314 Seminar in Motor Control	1 s.h.
051:150 Musculoskeletal Biomechanics	3 s.h.
057:019 Mechanics of Deformable Bodies	3 s.h.
060:234 Medical Neuroscience	4 s.h.
101:212 Biomedical Instrumentation and Measurement	3 s.h.
101:275 Analysis of Sensori-Motor Systems in Health and Disease	3 s.h.
101:285 Biomechanical Analysis in Rehabilitation	3 s.h.

Courses chosen from the following areas: computer science, neuroscience, anatomy, exercise physiology, psychology

## Admission

Admission to the graduate programs in exercise science (M.S.) and integrative physiology (Ph.D.) is based on grade-point average and score on the Graduate Record Examination (GRE) General Test. Applicants to the M.S. programs must have an undergraduate g.p.a. of at least 3.00. Applicants to the Ph.D. program must have a g.p.a. of at least 3.00 on both undergraduate and previous graduate work.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Deadlines for admission applications are October 15, March 15, and May 15; notification is made approximately two months after the respective application deadline.

## Facilities

Classroom and research laboratories for anatomy, biomechanics, exercise physiology, and motor control are located in the Field House and in other buildings on campus. They provide excellent facilities for instruction and research at both the undergraduate and graduate levels.

Cooperative efforts with other departments facilitate specialization by allowing health and human physiology students to use additional special facilities and research equipment in other departments on campus (e.g., biology, biochemistry, molecular physiology and biophysics, orthopaedic surgery, internal medicine, pharmacology, and the College of Engineering).

## Health and Human Physiology Courses

### Primarily for Undergraduates

- 027:020 Alcohol and Your College Experience** 1 s.h.  
Patterns of alcohol, drug use focused on college years; strategies for monitoring use, behavioral change plans for implementing lower-risk drinking practices; for drinkers and non-drinkers. GE: Health and Physical Activity.
- 027:021 Tobacco and Your College Experience** 1 s.h.  
Current behavior change theories related to tobacco use, cessation; nicotine replacement therapies (NRT), non-NRT methods; triggers, relapse prevention, cognitive behavioral skills, support systems; for smokers and non-smokers. GE: Health and Physical Activity.
- 027:022 Resiliency and Your College Experience** 1 s.h.  
Resiliency and psychological hardiness theories relevant to college life; resiliency and ability to cope with challenges; components of psychological fitness; skills for personal growth and emotional well-being. GE: Health and Physical Activity.
- 027:023 Food and Your College Experience** 1 s.h.  
Sociocultural perspective on the forces that facilitate "junk" diets, particularly during young adulthood; basic components of nutrition; opportunity to develop skills in diet planning and healthy eating.
- 027:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- 027:030 Principles of Exercise Leadership** 3 s.h.  
Exercise standards, guidelines for aerobic/exercise instructors; aerobic workout components, contraindicated exercises, injury prevention and treatment.
- 027:035 Stress Management** 3 s.h.

Recent theoretical concepts and scientific evidence regarding stress and its effects on body and mind; intervention methods, strategies for managing stress; opportunity for students to use intervention techniques to manage stress. GE: Health and Physical Activity.

**027:036 Practicum in Athletic Training I** 2 s.h.  
Basic clinical skill instruction, evaluation, and integration for athletic trainers. Requirements: athletic training major.

**027:037 Practicum in Athletic Training II** 2 s.h.  
Integration of basic physical skills and orientation to traditional settings; clinical experience for first-year students arranged through the athletic training program. Requirements: grade of C or higher in 027:036.

**027:039 Physical Activity and Health** 3 s.h.  
Physical activity determinants in society; school, workplace, community-based health promotion interventions to improve activity levels; practicum experiences. GE: Health and Physical Activity.

**027:040 Nutrition and Health** 3 s.h.  
Physiology, biochemistry of human nutrition; appropriate food sources; qualitative and quantitative evaluation of diets using standard references. Requirements: health and sport studies major.

**027:053 Human Anatomy** 3 s.h.  
General human anatomy covering most systems of the body. GE: Natural Sciences.

**027:054 Human Anatomy Laboratory** 1 s.h.  
All major systems of the human body, understood through computer-generated images, models, histological slides, anatomical specimens.

**027:056 First Aid and CPR** 2 s.h.  
American Red Cross certification: basic first aid, CPR procedures.

**027:057 Basic Athletic Training** 3 s.h.  
Basic pathology, epidemiology, materials biology for prevention and immediate care of athletic injuries.

**027:075 Health in Everyday Life** 3 s.h.  
Personal health strategies; focus on disease prevention, wellness.

**027:076 Psychological Aspects of Sport and Physical Activity** 3 s.h.  
Psychological theory and research related to sport and physical activity; motivation, aggression, attribution, socialization, competitive anxiety, leadership.

**027:096 Exploring Athletic Training** arr.  
Exploration of professional preparation for athletic trainers; application, career opportunities, professional organizations, awareness of basic athletic training principles.

**027:110 Health Literacy** 3 s.h.  
Community and clinical issues related to health literacy; focus on understanding individual and systemic factors that influence health literacy, including education, context, culture, and health care systems. Prerequisites: 027:039 and 027:040.

**027:117 Human Growth and Motor Development** 3 s.h.  
Human growth and biological maturation; focus on motor development from birth through puberty. Offered fall semesters. Recommendations: anatomy, human physiology, or animal biology course.

**027:120 Equity Issues in the Health Science Workplace** 3 s.h.  
Examination of equity issues in the health sciences, including a review of the historical challenges that led to Human Subjects Review Boards, FDA oversight of drug development and clinical trials, inclusion of women in research; effect of situational ethics in the workplace; potential danger of making assumptions about clients/patients; importance of developing an inclusive communication style; assessing the effectiveness of family-friendly employment policies in providing equitable opportunities for career advancement for both women and men. Same as 145:120.

**027:125 Contemporary Nutrition** 3 s.h.

Introduction to nutrition; importance of understanding food choices and diet to fit individual needs. Same as 145:125.

**027:127 Nutrition in Health and Performance**

3 s.h.

Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as 145:127.

**027:131 Coaching for Health and Wellness**

3 s.h.

Opportunities to expand knowledge and develop skills to help individuals change behavior and meet health-related goals; general health and wellness principles; principles and techniques for change; experience providing health-coaching services to clients. Same as 145:130.

**027:133 Sport and Exercise Nutrition**

3 s.h.

Relationship between nutrition, fitness and sport performance; basic nutrition, physiology, chemistry, psychology, food preparation. Prerequisites: 027:040. Requirements: health and sport studies major.

**027:134 Nutrition Interventions**

3 s.h.

Strategies for meeting unique nutritional needs of individuals with limitations imposed by genetics, trauma, aging, medications, and so forth. Prerequisites: 027:039 and 027:040. Requirements: health and sport studies major.

**027:135 Global Health and Global Food**

3 s.h.

Practices, patterns, and policies that contribute to the epidemics of obesity, diabetes, and heart disease in wealthy populations; environmental degradation, hunger, and malnutrition among impoverished populations; strategies to meet food and agricultural needs for the world; local/global aspects or perspectives on food/health concerns for Iowa and the international community. Same as 152:135.

**027:136 Health Behavior and Health Promotion**

3 s.h.

Principles of epidemiology and health behavior theories applied to multilevel frameworks for health promotion. Prerequisites: 027:039 and 027:040.

**027:137 Community and Worksite Health Promotion**

3 s.h.

Management and organizational theories; assessment, planning, implementation, and evaluation of clinical and work-setting (targeted) health promotion programs. Prerequisites: 027:136.

**027:138 Exercise Testing and Prescription I: Metabolic Health**

3 s.h.

Basic techniques in physical fitness assessment, prescription of exercise for healthy and unhealthy adults, promotion of physical activity within communities; provides knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: 027:039 and 027:130. Requirements: admission to health promotion program.

**027:139 Exercise Testing and Prescription II: Musculoskeletal Health**

3 s.h.

Educational and practical experience for designing resistance training and flexibility programs; competencies for certification with National Strength and Conditioning Association. Prerequisites: 027:039 and 027:130.

**027:144 Peer Health Education**

3 s.h.

Experience acting as a peer educator, assisting students in their residential areas, presenting educational outreach programs on health topics, making referrals to campus and area agencies.

**027:147 Physical Activity and Healthy Communities**

3 s.h.

Development, implementation, evaluation of effective health communication interventions; identification of health education resources for targeted groups. Prerequisites: 027:039 and 027:040. Requirements: health and sport studies major.

**027:149 Seminar: Health in a Changing Society**

3 s.h.

Diverse health issues explored from individual and cultural perspectives; uncharted health issues addressed through contemporary health-related readings; racial and ethnic differences in personal health. Same as 145:145.

**027:152 Practicum in Health Promotion**

1-2 s.h.

Experience in planning, implementing clinical and community health promotion strategies including nutrition, physical fitness, cardiac rehabilitation, respiratory rehabilitation.

**027:156 Planning and Evaluating Health Interventions**

3 s.h.

Assessment, planning, implementation, and evaluation of health promotion programs. Prerequisites: 027:136.

**027:174 Applied Sport and Exercise Psychology**

3 s.h.

Concepts that underlie peak performance; hands-on experience through lecture/discussion, overnight assignments, activities; understanding of how to achieve peak performance in sport and physical activity, other areas of life. Prerequisites: 027:039 and 027:076.

**027:176 Promoting Health Globally**

3 s.h.

Major global health threats (e.g., infectious disease, violence, tobacco, and nutrition); the impact of culture, history, and economics on health disparities and remedies. Requirements: junior or senior standing, or certificate student. Same as 152:158.

**027:187 Honors Readings**

1-2 s.h.

First step to complete an honors thesis; work with health and human physiology faculty member; comprehensive readings in a specific area (e.g., obesity in children, disabilities and sport); readings include primarily research reviews, popular press, and editorials; production of an annotated bibliography summarizing readings and presentation to faculty member at end of semester; brief research proposal summarizing background, research questions, and methods of selected area.

**027:188 Honors Problems**

3-4 s.h.

Continuation of 027:187; original research or creative project supervised by a faculty member.

**027:190 Preinternship Seminar**

1 s.h.

Preparation for internship experience.

**027:191 Internship**

arr.

Directed practical field experience; program planning, implementation, evaluation, administrative procedures. Prerequisites: 027:190.

**027:198 Honors Research I**

2 s.h.

Research for honors thesis; selection of faculty mentor, preparation of research proposal, written and oral presentations of research proposal, literature review, participation in experiments designed to develop laboratory skills for research; first of a two-semester sequence. Requirements: honors standing.

**027:199 Honors Research II**

3 s.h.

Completion of honors research begun in 027:198, analysis of data, writing and oral presentation of honors thesis; second of a two-semester sequence. Requirements: honors standing and grade of B or higher in 027:198.

**For Undergraduate and Graduate Students****027:130 Human Physiology**

3 s.h.

Organ system approach to physiology, with focus on normal function of the human body; information on all levels of integration, from submolecular to whole organism, with emphasis on how the intact organism functions. GE: Natural Sciences.

**027:132 Human Physiology Laboratory**

2 s.h.

Fundamental laboratory measurements; major physiological systems, experimental design, presentation of experimental data. Corequisites: 027:130, if not taken as a prerequisite.

**027:140 Exercise Physiology for Practitioners**

3 s.h.

Effects of acute and chronic exercise on different physiological systems (energy, respiratory, circulatory, endocrine); fitness evaluation, weight-control strategies, training programs; preparation for ACSM Fitness Instructor Certification. Recommendations: human physiology course.

**027:141 Exercise Physiology**

3 s.h.

Mechanisms responsible for the acute and chronic effects of exercise on the different organ systems of the body. Offered fall semesters. Prerequisites: 027:130.

- 027:142 Exercise Physiology Laboratory** 2 s.h.  
Supplements 027:141; principles of scientific investigation used to demonstrate acute and chronic effects of exercise.
- 027:143 Physiology of Nutrition** 3 s.h.  
Metabolic and biological aspects of human energy production, relationship to energy consumption; systems or integrative approach.
- 027:145 Cardiovascular Physiology** 3 s.h.  
Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, regulation during physical stress. Prerequisites: 027:130. Recommendations: calculus and physics.
- 027:146 Molecules to Malady** 3 s.h.  
Changes in single molecules that lead to systemic physiological alterations in mammals; relationship of these changes to development, aging, exercise, and specific diseases; current methodologies for studying mammalian genetics and physiology. Prerequisites: 027:130.
- 027:148 Physiology of Aging** 3 s.h.  
Aging's effects on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: 027:053 and 027:130.
- 027:154 Advanced Anatomy Laboratory** 3 s.h.  
Detailed gross anatomy of all major systems of the body; structure of the human body at organ, tissue, and cellular levels; examination of various human and other mammalian specimens. Prerequisites: 027:053 and 027:054.
- 027:155 Skeletal Muscle Biology** 3 s.h.  
Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Offered spring semesters.
- 027:160 Motor Control I: Neurophysiological Basis** 3 s.h.  
Neuroanatomical and neurophysiological bases of human motor control; mechanisms for locomotion and posture, control of arm and hand movements, role of sensory information. Offered spring semesters. Requirements: anatomy or human physiology course.
- 027:165 Introduction to Human Pharmacology** 3 s.h.  
General pharmacology (e.g., administration, distribution, and elimination of drugs, dose response curves, adverse effects, placebos, homeopathy); pharmacotherapy of selected human diseases, pathophysiologic aspects of the disease, how different classes of drugs modify pathophysiologic effects to restore health or reduce disease's impact; focus on mechanisms of drug actions in humans; adverse effects, pharmacokinetic considerations, drug interactions; how to write prescriptions. Prerequisites: 027:130.
- 027:171 Administration of Athletic Training Programs** 2 s.h.  
Health care supervision, professional athletic training responsibilities, philosophies in athletic health care. Offered fall semesters. Prerequisites: 027:057.
- 027:172 Clinical Sciences I** 2 s.h.  
Theoretical knowledge base in therapeutic modalities. Offered spring semesters. Requirements: grade of C or higher in 027:036.
- 027:173 Clinical Sciences II** 1 s.h.  
Orientation for musculoskeletal evaluation and equipment fit techniques. Offered summer sessions. Prerequisites: 027:172. Requirements: athletic training major.
- 027:180 Advanced Emergency Care for Athletic Trainers** 1-2 s.h.  
Coordinated initial professional emergency response certifications for athletic trainers; recertification for those holding valid certifications. Requirements: Red Cross First Aid and CPR certifications.
- 027:182 Clinical Sciences III** 3 s.h.

Theoretical and practical skill development in the areas of musculoskeletal evaluation for ankle, knee, shoulder, and upper extremity. Offered fall semesters. Prerequisites: 027:172. Requirements: athletic training major.

**027:183 Clinical Sciences IV** 3 s.h.

Continuation of musculoskeletal evaluation, completion of EENT, chest, abdomen, and dermatologic evaluation; integration of rehabilitation programs. Offered spring semesters. Requirements: grade of C or higher in 027:182.

**027:184 Seminar in Athletic Training** 1-4 s.h.

Educational issues faced by approved clinical instructors in athletic training education programs. Offered fall semesters. Requirements: graduate standing.

**027:185 Clinical Sciences V: Rehabilitation** 2 s.h.

Rehabilitation for athletic trainers based on the theory and principles of therapeutic exercise; application of current research concepts. Prerequisites: 027:172. Corequisites: 027:182. Requirements: athletic training major.

**027:186 Practicum in Athletic Training III** 3 s.h.

Advanced clinical skill instruction, evaluation, and integration for athletic trainers. Requirements: grade of C or higher in 027:037.

**027:195 Undergraduate Independent Study** arr.

Library or laboratory research related to a specific topic in human physiology, normally culminating with a written manuscript; work directed by a faculty member.

**027:197 Biomechanics of Human Motion** 4 s.h.

Application of the principles of mechanics to investigation of human motion in two dimensions; system modeling, force system and equilibrium analysis, particle and rigid body kinematics, Newton's and Euler's equations of motion, work-energy and impulse-momentum integral principles. Offered spring semesters.

## Primarily for Graduate Students

**027:200 Problems** arr.

Repeatable.

**027:201 Research** arr.

Repeatable.

**027:202 Practicum in College Teaching** arr.

**027:241 Integrative Physiology Seminar** 1 s.h.

Current topics in cardiovascular physiology, vascular biology, free radical biology. Repeatable.

**027:244 Seminar in Health and Physical Activity Behavior** 3 s.h.

Health behavior theories and their relevance to individual, interpersonal, and community-wide health promotion interventions.

**027:249 Epidemiology of Physical Activity** 3 s.h.

Physical activity/disease relationships examined through application of epidemiologic methods, including research design, interpretation of studies, selection of measures to fit research questions. Same as 173:245.

**027:253 Advanced Human Anatomy** 6 s.h.

Offered summer sessions.

**027:270 Social Psychology of Sport and Physical Activity** 3 s.h.

Theoretical and applied bases of social psychology of sport and exercise; motivation, arousal, group processes related to sport, physical activity.

**027:301 Non-Thesis Seminar** 2 s.h.

For candidates for the M.S. without thesis. Offered spring semesters.

<b>027:314 Seminar in Motor Control</b> Current topics in neural control of movement, biomechanics, and rehabilitation sciences. Repeatable.	1 s.h.
<b>027:404 Thesis: M.S.</b> Repeatable.	0-4 s.h.
<b>027:405 Thesis: Ph.D.</b> Repeatable.	arr.

## Health and Physical Activity Skills

All Health and Physical Activity Skills courses (formerly known as Physical Education Skills) are approved as an option in the distributed general education portion of the General Education Program.

<b>28S:006 Core Strengthening</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:007 Aerobics: Low Impact</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:009 Aquatic Exercise</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:011 Badminton I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:020 Fitness Walking</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:021 Flexibility</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:023 Golf</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:025 Hatha Yoga</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:029 Jogging I: Beginners</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:030 Jogging II</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:031 Karate I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:033 Kick Boxing I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:037 Lap Swimming I</b> Prerequisites: 28S:064. GE: Health and Physical Activity.	1 s.h.
<b>28S:038 Lap Swimming II</b> Prerequisites: 28S:037. GE: Health and Physical Activity.	1 s.h.
<b>28S:042 Personal Fitness</b> GE: Health and Physical Activity.	1 s.h.



<b>28S:043 Pilates</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:045 Racquetball I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:047 Relaxation Techniques</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:049 Sand Volleyball</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:052 Self Defense</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:053 Slow-Pitch Softball I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:055 Soccer I: Outdoor</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:056 Soccer II: Outdoor</b> Prerequisites: 28S:055. GE: Health and Physical Activity.	1 s.h.
<b>28S:057 Soccer: Indoor</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:058 Speed Walking</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:059 Spinning</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:061 Resistance Training</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:063 Swimming I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:064 Swimming II</b> Prerequisites: 28S:063. GE: Health and Physical Activity.	1 s.h.
<b>28S:066 Table Tennis</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:071 Tennis I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:075 Ultimate Frisbee</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:077 Volleyball I</b> GE: Health and Physical Activity.	1 s.h.
<b>28S:078 Volleyball II</b> Prerequisites: 28S:077. GE: Health and Physical Activity.	1 s.h.
<b>28S:081 Weight Training I</b> GE: Health and Physical Activity.	1 s.h.

**28S:082 Weight Training II**

1 s.h.

Prerequisites: 28S:081. GE: Health and Physical Activity.

## Health and Sport Studies

**Undergraduate degree:** B.A. in Health and Sport Studies  
**Undergraduate nondegree program:** Minor in Health and Sport Studies  
**Graduate degrees:** M.A., Ph.D. in Health and Sport Studies  
**Web site:** <http://www.uiowa.edu/~hss>

The Department of Health and Sport Studies is closing. No new enrollments are being accepted in the undergraduate majors. Students who declared one of the majors before the beginning of fall semester 2010 may complete the major. Some courses required by the program may be dropped, so students are urged to finish the major as quickly as possible. See "Bachelor of Arts" below.

Undergraduate programs in health promotion and sport studies are now available in other departments. For information about the health promotion program, see Health and Human Physiology in the Catalog. For information about sport studies, see American Studies.

## Undergraduate Programs

The department offers a Bachelor of Arts in health and sport studies, with two tracks: health promotion and sport studies. It also offers a minor in health and sport studies.

The undergraduate major in health and sport studies provides students with learning experiences in the promotion of health and the historical and cultural context of sport and physical activity.

Admission to the major is selective.

### Bachelor of Arts

The Bachelor of Arts in health and sport studies requires a minimum of 120 s.h., including work for the major, which varies by track. The health promotion track requires 43-50 s.h. of work for the major; the sport studies track requires 45 s.h. of work for the major.

All students majoring in health and sport studies complete the HSS foundation courses and requirements specific to each track; students should complete the foundation courses as early as possible. At least half of all credit in the major must be earned in residence at The University of Iowa. Students must complete the College of Liberal Arts and Sciences General Education Program.

Admission to health and sport studies is selective; students must apply for and be admitted to the major.

Admission and curriculum requirements for each track are listed under "Health Promotion Track" and "Sport Studies Track" below.

### Health Promotion Track

Health promotion is a developing discipline committed to improving the health and quality of life of individuals and communities. Health promotion practitioners assess, plan, implement, and evaluate programs that increase health-enhancing behaviors, decrease health risk behaviors, and create environments that support healthy lifestyles.

The health promotion track integrates the theory and applied study of health education with the biological, behavioral, and social factors that affect health. Its content emphases include exercise prescription, active living, dietary assessment, and healthy eating. The curriculum blends natural science and social science approaches to focus on empowering individuals and building healthy communities through changes in lifestyle and the environment.

Community and clinical practicum experiences give students the opportunity to apply health promotion concepts and skills. Supervised capstone internships are available in a variety of organizational settings, both nationally and internationally.

Health promotion courses address certification competencies of the most prestigious national health promotion organizations. Certification competencies include the American College of Sports Medicine (ACSM) Health Fitness Instructor and the ACSM Personal Trainer; the National Strength and Conditioning Association (NSCA)--Certified Strength and Conditioning Specialist; and the National Commission for Health Education Credentialing Certified Health Education Specialist (CHES).

Health promotion track graduates have a strong foundation for a variety of careers. They are prepared for health promotion positions in hospital- and corporate-based wellness programs, nonprofit health agencies, commercial fitness enterprises, municipal recreation programs, and federal and state health promotion agencies. Employment opportunities in these sectors have been good to excellent and are projected to increase according to the U.S. Department of Labor. The curriculum's rigor also prepares students for graduate study in other academic disciplines, including public health, and provides excellent preparation for professional study in health professions such as physical

therapy and occupational therapy.

Students must apply for admission to the health promotion track. Applicants must have completed a minimum of 24 s.h. at The University of Iowa, including the prerequisite courses for admission listed below; transfer students must have completed a minimum of 12 s.h. at The University of Iowa and must have completed the same prerequisite course work in chemistry, biology, anatomy, and statistics.

Applicants to the health promotion track must have a cumulative g.p.a. of at least 2.70 and a University of Iowa g.p.a. of at least 2.70; having the required grade-point average does not guarantee admission to the track. Students with a cumulative or University of Iowa g.p.a. lower than 2.70 may apply for exceptional admission.

The following courses are prerequisites for admission to the health promotion track. The department determines whether to accept equivalent or higher-level courses that address the same content areas.

Biology--one of these:

002:002 Introductory Animal Biology	4 s.h.
002:010 Principles of Biology I	4 s.h.
002:021 Human Biology	4 s.h.

Chemistry--two of these:

004:007 General Chemistry I	3 s.h.
or	
004:011 Principles of Chemistry I	4 s.h.
004:008 General Chemistry II	3 s.h.
or	
004:012 Principles of Chemistry II	4 s.h.

Statistics/mathematics--one of these:

22S:008 Statistics for Business	4 s.h.
22S:025 Elementary Statistics and Inference	3 s.h.
22S:030 Statistical Methods and Computing	3 s.h.
22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.
22S:120 Probability and Statistics	4 s.h.
22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:016 Calculus for the Biological Sciences	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22M:025 Calculus I	4 s.h.
22M:026 Calculus II	4 s.h.
171:161 Introduction to Biostatistics	3 s.h.

Anatomy--one of these:

027:053 Human Anatomy	3 s.h.
060:113 Human Anatomy Online	4 s.h.
060:110 Principles of Human Anatomy	3 s.h.

Students must complete the application form for the health promotion track, available on the Department of Health and Sport Studies web site (see Undergraduate Programs). Applications must be submitted to the director of undergraduate studies by October 15 for admission the following spring semester or by March 15 for admission the following fall semester.

Once students are admitted to the health promotion track, they should plan on at least three semesters of study to complete the requirements for the major.

Because health promotion is a highly interdisciplinary field, students are encouraged to pursue concentrated study in another area. They may earn one or more minors, a second major, or a certificate; or they may complete a cluster of courses related to study in a professional health program. Examples of minors and second majors related to health promotion include psychology, sociology, biology, integrative physiology, geography, and Spanish. Related certificates include the Certificate in Entrepreneurial Management, the Certificate in Aging Studies, and the Certificate in Global Health Studies.

Course work for the major in health and sport studies with health promotion track includes HSS foundation courses, the health promotion core, approved electives, and an internship option.

Students select approved elective courses in specialized content areas such as stress management, tobacco and alcohol, health communications, facility-based management, small business management, aging studies, and global health studies. These content areas allow students to tailor their health promotion program to specific interests and career paths.

The internship option is a capstone experience that provides students with community and clinical practicum experiences, giving them additional opportunities to apply health promotion concepts and skills. Supervised academic internships are available in a variety of organizational settings, both nationally and internationally.

The major in health and sport studies with health promotion track requires the following course work.

#### **HSS FOUNDATION COURSES**

Students should complete the HSS foundation courses as early as possible; all three are required (9 s.h.).

027:039 Physical Activity and Health	3 s.h.
027:076 Psychological Aspects of Sport and Physical Activity	3 s.h.
028:074 Inequality in Sport	3 s.h.

Once a student has declared a major in health and sport studies, he or she may not use Guided Independent Study courses to meet the HSS foundation course requirement. Once a transfer student has declared a major in health and sport studies, he or she may not use a course previously completed at another institution to meet the HSS foundation course requirement, unless a substitution is granted. Students who wish to substitute a transfer course for an HSS foundation course must complete a Request for Substitution of Courses form, available at the department office. Substitutions are granted only on the basis of course content duplication.

#### **HEALTH PROMOTION: CORE**

All of these (21 s.h.):

027:040 Nutrition and Health	3 s.h.
027:075 Health in Everyday Life	3 s.h.
027:136 Health Behavior and Health Promotion	3 s.h.
027:137 Community and Worksite Health Promotion	3 s.h.
027:138 Exercise Testing and Prescription I: Metabolic Health	3 s.h.
027:140 Exercise Physiology for Practitioners	3 s.h.
027:156 Planning and Evaluating Health Interventions	3 s.h.

#### **HEALTH PROMOTION: ELECTIVES**

Students complete 12 s.h. selected from the following list of approved electives; or they complete the internship option, which consists of 6 s.h. chosen from the following list plus 027:190 Preinternship Seminar and 027:191 Internship. In order to be eligible for an internship, students must earn a grade of C-minus or higher in each of their health promotion core and elective courses.

06T:120 Entrepreneurship and Innovation	3 s.h.
07C:130 Human Sexuality	3 s.h.
07C:185 Introduction to Substance Abuse	3 s.h.
027:020 Alcohol and Your College Experience	1 s.h.
027:021 Tobacco and Your College Experience	1 s.h.
027:022 Resiliency and Your College Experience	1 s.h.
027:023 Food and Your College Experience	1 s.h.
027:030 Principles of Exercise Leadership	3 s.h.
027:035 Stress Management	3 s.h.
027:133 Sport and Exercise Nutrition	3 s.h.
027:134 Nutrition Interventions	3 s.h.
027:135 Global Health and Global Food	3 s.h.
027:139 Exercise Testing and Prescription II: Musculoskeletal Health	3 s.h.
027:144 Peer Health Education	3 s.h.

027:147 Physical Activity and Healthy Communities	3 s.h.
027:152 Practicum in Health Promotion	1-2 s.h.
027:174 Applied Sport and Exercise Psychology	3 s.h.
027:176 Promoting Health Globally	3 s.h.
027:190 Preinternship Seminar	1 s.h.
028:133 Nutrition Through the Life Span	3 s.h.
028:166 Exercise for Special Populations	1 s.h.
028:194 Honors Readings	1-2 s.h.
028:195 Honors Problems	3-4 s.h.
071:120 Drugs: Their Nature, Action, and Use	2 s.h.
071:130 Drug Mechanisms and Actions	3 s.h.
152:152 Global Health Conference	1 s.h.
152:160 Global Health Seminar	3 s.h.
174:102 Introduction to the U.S. Health Care System	3 s.h.
175:197 Environmental Health	3 s.h.

#### **HEALTH PROMOTION: INTERNSHIP OPTION**

Students who choose the internship option complete all of the following course work.

Courses chosen from the preceding list of electives above	6 s.h.
027:190 Preinternship Seminar	1 s.h.
027:191 Internship	arr.

#### **Sport Studies Track**

The sport studies track is for students who want to examine sport in its historical and contemporary cultural contexts. Course work in history, sociology, and psychology of sport and physical activity provides students with the critical skills necessary to understand sport as a significant aspect of cultural life. Sport's interactions with educational institutions, the media, the economy, and the political system are examined critically. The sport studies track also explores race, class, and gender differences in the sport experience.

Many students use their experience in the program to prepare for graduate school. For others, the required second concentration area or minor serves as an introduction to careers in a number of fields, such as sport journalism and athletic administration.

Students must apply for admission to the sport studies track. Applicants must have completed a minimum of 24 s.h. of course work, including 12 s.h. at The University of Iowa. They must have a cumulative g.p.a. of at least 2.50 and a University of Iowa g.p.a. of at least 2.50. They also must have satisfactorily completed 028:074 Inequality in Sport.

Applicants must complete the application form for the sport studies track, available on the Department of Health and Sport Studies web site (see Undergraduate Programs). They must submit a personal statement (one or two pages, typed, double-spaced), detailing the applicant's interest in the health and sport studies major and in the sport studies track.

Applications must be submitted to the director of undergraduate studies by October 15 for admission the following spring semester or by March 15 for admission the following fall semester.

Applications may be submitted during the semester in which the student completes the number of semester hours and/or the prerequisite course work required for admission to the track. In such cases, admission decisions are pending until the work in progress is completed.

Applicants who have a cumulative g.p.a. of 2.80 or above and who meet all other admission criteria are admitted to the track, but they must complete the application process.

Students who believe they qualify for exceptional admission should submit a written appeal and any other supporting documentation or evidence that may be relevant to their appeal for admission to the sport studies track.

Course work for the major in health and sport studies with sport studies track includes HSS foundation courses, the sport studies core (one course from each of four content areas), approved electives, and a second concentration area or a minor. Requirements are as follows.

#### **HSS FOUNDATION COURSES**

Students should complete the HSS foundation courses as early as possible; all three are required (9 s.h.).

027:039 Physical Activity and Health	3 s.h.
--------------------------------------	--------

027:076 Psychological Aspects of Sport and Physical Activity	3 s.h.
028:074 Inequality in Sport	3 s.h.

Once a student has declared a major in health and sport studies, he or she may not use Guided Independent Study courses to meet the HSS foundation course requirement. Once a transfer student has declared a major in health and sport studies, he or she may not use a course previously completed at another institution to meet the HSS foundation course requirement, unless a substitution is granted. Students who wish to substitute a transfer course for an HSS foundation course must complete a Request for Substitution of Courses form, available at the department office. Substitutions are granted only on the basis of course content duplication.

#### **SPORT STUDIES: CORE**

Students must complete one course from each of four content areas (total of 12 s.h.).

##### **Diversity in Sport**

One of these:

028:078 Women, Sport, and Culture	3 s.h.
028:079 Race and Ethnicity in Sport	3 s.h.

##### **International Dimensions**

One of these:

028:072 The Olympics - Ancient and Modern	3 s.h.
028:176 Sport and Nationalism	3 s.h.
028:177 Western World Sport: Greeks to Present	3 s.h.

##### **Contemporary Sport**

One of these:

028:175 Sport and the Media	3 s.h.
028:188 Twentieth-Century U.S. Sport	3 s.h.

##### **History of Sport and Leisure in the United States**

One of these:

028:178 Sport in the U.S. to 1900	3 s.h.
028:179 The American Vacation	3 s.h.

#### **SPORT STUDIES: ELECTIVES**

Students must complete at least 9 s.h. of approved elective courses offered by the Department of Health and Sport Studies. Courses from the following list and courses that were not used to fulfill the sports studies core, above, are recommended.

027:035 Stress Management	3 s.h.
027:147 Physical Activity and Healthy Communities	3 s.h.
027:174 Applied Sport and Exercise Psychology	3 s.h.
027:176 Promoting Health Globally	3 s.h.
028:180 Theory and Ethics of Coaching	3 s.h.
028:193 Independent Study	arr.
028:194 Honors Readings	1-2 s.h.
028:195 Honors Problems	3-4 s.h.

**SPORT STUDIES: SECONDARY AREA**

All sport studies students must complete 15 s.h. of course work in a secondary area outside the department. Work for the secondary area must include 6 s.h. in 100-level courses or in courses designated advanced by the department or program that offers them. Courses may not be taken pass/nonpass.

Students may use courses required for the coaching authorization/endorsement to fulfill the secondary area requirement; see "B.A. with Coaching Authorization or Endorsement" below.

**Sport Studies: Internship Option**

Students may earn up to 6 s.h. of credit for an approved internship experience in 027:191 Internship. In order to undertake an internship, a student must have completed the sport studies foundation and core courses, at least 15 s.h. in one secondary area, and 027:190 Preinternship Seminar.

**B.A. with Coaching Authorization or Endorsement**

Sport studies students may prepare for coaching by completing additional course work that also qualifies them for a coaching authorization from the State of Iowa. This course work is a combination of specific HSS electives and a secondary area made up of courses required to fulfill the coaching authorization. An internship option is available.

Students may fulfill the requirements for coaching authorization by taking the following courses (total of 15 s.h.) as their secondary area requirement (see "Sport Studies: Secondary Area" above).

027:053 Human Anatomy	3 s.h.
027:057 Basic Athletic Training	3 s.h.
027:117 Human Growth and Motor Development	3 s.h.
028:180 Theory and Ethics of Coaching	3 s.h.
One or more electives, totaling at least 3 s.h.	

Students may choose from several electives to fulfill the final 3 s.h. The following courses are suggested. Courses chosen to fulfill the sport studies elective requirement may not be double counted.

027:056 First Aid and CPR	2 s.h.
027:140 Exercise Physiology for Practitioners	3 s.h.
028:032 First Aid and CPR	2 s.h.

Students who successfully complete the requirements for the coaching authorization must submit an application to the Iowa Board of Educational Examiners. For more information, visit Coaching Authorization FAQs on the board's web site.

**Four-Year Graduation Plan**

The Four-Year Graduation Plan is not available for the health and sport studies major. Students should work with their advisors to develop an individual graduation plan.

**Honors**

The Department of Health and Sport Studies is committed to offering high-quality academic opportunities to students. One of those opportunities is honors study in the discipline. In order to graduate with honors in health and sport studies, students must go beyond the basic requirements of the major to demonstrate advanced understanding and skill development in sport, physical activity, and health promotion. They also must be members of the University of Iowa Honors Program.

Students must meet the following requirements in order to graduate with honors:

- maintain a g.p.a. of at least 3.33 in all University of Iowa and health and sport studies course work;
- successfully complete a health and sport studies honors designation course, research practicum, teaching practicum, or service learning course;
- successfully complete 028:194 Honors Readings (1-2 s.h.) under the supervision of a health and sport studies faculty member;
- successfully complete 028:195 Honors Problems (3-4 s.h.) under the supervision of a health and sport studies faculty member; in this course, students write an honors thesis, usually based on original research or creative work; and



make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or a professional conference.

## Minor

The minor in health and sport studies requires a minimum of 15 s.h. in courses offered by the University of Iowa Department of Health and Sport Studies with prefix 028, including 6 s.h. in 100-level courses. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students select courses for the minor according to their interests and the recommendation of the undergraduate coordinator.

## Graduate Programs

The department offers a Master of Arts and a Doctor of Philosophy in health and sport studies, both with two specialization areas: psychology of sport and physical activity, and sport studies. The department's graduate programs feature an interdisciplinary and multidisciplinary approach to curriculum and scholarship.

The psychology of sport and physical activity specialization integrates examination of the psychosocial aspects of participation in sport and physical activity with analysis of the health consequences of a sedentary lifestyle. The sport studies specialization takes a critical cultural studies approach to understanding sport in its historical and contemporary contexts.

## Master of Arts

The Master of Arts in health and sport studies requires a minimum of 36 s.h. of graduate credit. The thesis option requires 30 s.h. of course work and 6 s.h. of thesis credit; the nonthesis option requires 36 s.h. of course work. The program offers specialization areas in psychology of sport and physical activity, and sport studies. Students in the psychology of sport and physical activity specialization may choose an emphasis in sport psychology or health promotion. The sport studies program focuses on cultural studies and the history of sport.

All M.A. students must complete a group of foundation courses, supplemented with work in their specialization area.

## FOUNDATION COURSES

028:202 Critical Perspectives	3 s.h.
028:204 Research Methodologies	3 s.h.
028:300 Research Colloquium	0-1 s.h.

## Psychology of Sport and Physical Activity Specialization

The psychology of sport and physical activity specialization focuses on the dynamic interaction of psychological, cultural, and behavioral processes that inform and explain behavior in sport, health, and physical activity. The curriculum integrates the psychosocial aspects of participation in sport and physical activity with an analysis of the health consequences of a sedentary lifestyle.

In addition to providing a theoretical framework for understanding sport and health-related behavior, the specialization provides students with an opportunity to develop skills in exercise prescription and assessment, dietary assessment, and stress management. Practicums are available at the University of Iowa Student Health Service, University of Iowa Hospitals and Clinics, Johnson County Public Health, and local community agencies.

Graduates go on to doctoral programs in sport, health, or associated fields, or they enter health promotion, athletic, or sport professions in government, nonprofit organizations, and business.

## Sport Studies Specialization

Sport studies is an interdisciplinary program that draws on the insights of history, sociology, philosophy, and psychology to produce analyses of health, sport, and physical activity. Students supplement departmental course work with courses in other departments, such as American studies, African American studies, communication studies, women's studies, history, psychology, sociology, and business. Most graduates go on to doctoral study in cultural studies of sport or history of sport. The M.A. program also provides excellent theoretical grounding for doctoral work in athletic administration, sport management, or law.

## Doctor of Philosophy

The Doctor of Philosophy in health and sport studies requires a minimum of 72 s.h. of graduate credit, with 60 s.h. beyond the master's degree.

The program offers two areas of specialization: psychology of sport and physical activity, and sport studies.

Most students enter the doctoral program after completing a master's degree.

All doctoral students must satisfy the residency requirement by enrolling as full-time students (minimum of 9 s.h.) for two semesters, or by enrolling in 6 s.h. for three semesters while holding an assistantship of one-third-time or more.

In addition, all doctoral students must complete the following three foundation courses, at least 3 s.h. of course work in advanced research methodologies, and a dissertation.

#### **FOUNDATION COURSES**

028:202 Critical Perspectives	3 s.h.
028:204 Research Methodologies	3 s.h.
028:300 Research Colloquium (total of 3 s.h.)	0-1 s.h.

#### **Psychology of Sport and Physical Activity Specialization**

The psychology of sport and physical activity specialization focuses on psychological processes as they interact with social and cultural forces. Scholarship in this program advances understanding of behavior in sport and physical activity through evaluation of theories that predict behavior and through testing interventions that promote sport and physical activity. Interdepartmental study is central to the program; students may select course work in psychology, epidemiology, counselor education, and women's studies. The program provides students with the analytical and research skills necessary for teaching and scholarship at the university level.

#### **Sport Studies Specialization**

The sport studies specialization is an interdisciplinary program, grounded in sport history and cultural studies. It explores sport with insights from history, sociology, and the humanities as well as interdisciplinary fields such as American studies, African American studies, communication studies, and women's studies. Students develop analytical skills in order to produce research and cultural criticism of sport, leisure, dance, and physical activity. Careers in scholarship and teaching are the usual outcomes of this curriculum.

#### **Assistantships**

The department offers teaching assistantships and research assistantships. Teaching assistants teach health and physical activity skills courses, or they support undergraduate courses offered by the departments. Research assistants work directly with faculty members to support research programs. Apply to the Department of Health and Sport Studies chair.

# History

**Chair:** Colin Gordon

**Professors:** Constance A. Berman, Jeffrey L. Cox, James L. Giblin, Colin Gordon, Paul Greenough, Linda K. Kerber (May Brodbeck Professor in the Liberal Arts and Sciences), H. Shelton Stromquist, Katherine Tachau, Stephen Vlastos

**Professors emeriti:** R. David Arkush, T. Dwight Bozeman, Lawrence E. Gelfand, Ralph E. Giesey, Sarah Hanley, Ellis W. Hawley, Henry G. Horwitz, Jaroslaw Pelenski, Malcolm J. Rohrbough, David Schoenbaum, Alan B. Spitzer

**Associate professors:** Douglas Baynton (History/Communication Sciences and Disorders), Michel Gobat, Laura Gotkowitz, Elizabeth Heineman, Paula Michaels, Kevin Mumford (History/African American Studies), H. Glenn Penny, Marshall Poe, Jacki Rand, Johanna Schoen (History/Gender, Women's, and Sexuality Studies), Leslie A. Schwalm (History/Gender, Women's, and Sexuality Studies), Allen Steinberg

**Assistant professors:** Mériam Belli, Shuang Chen, Michaela Hoenicke-Moore, Catherine Komisaruk, Tom Arne Midtrød, Michael E. Moore, Jennifer E. Sessions, Elke Stockreiter, Omar Valerio-Jiménez

**Lecturers:** Kathleen Kamerick, Rosemary Moore (Classics/History)

**Undergraduate degree:** B.A. in History

**Undergraduate nondegree program:** Minor in History

**Graduate degrees:** M.A., Ph.D. in History

**Web site:** <http://www.uiowa.edu/~history>

The Department of History's purpose is to increase knowledge of human experience and provide students with opportunities to gain information about and learn methods for understanding their world in light of its past. In addition to offering these essential elements of a liberal education, the department trains professional historians and teachers of history and serves those who require knowledge of a period or aspect of history as background for their own specialized interests in other fields.

Faculty and students in the department participate in many of the University's interdisciplinary departments and programs, including American studies, African American studies, ancient civilizations, Asian studies, international studies, Latin American studies, and gender, women's, and sexuality studies.

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in history. Graduates of the B.A. program work in a variety of positions in business, education, public service, advertising, and journalism. Many plan further training in history, law, religion, library and information science, or social work.

History majors are encouraged to take courses in other fields that illuminate and expand the meaning of history courses and that introduce information and a variety of approaches to understanding how societies and cultures work.

For example, students majoring in history are encouraged to complete the College of Liberal Arts and Sciences General Education Program foreign language component by choosing a language that fits their interests in history. The history faculty particularly encourages study abroad programs that complement students' foreign area interests. Majors also are encouraged to improve their writing and speaking skills.

### Bachelor of Arts

The Bachelor of Arts in history requires a minimum of 120 s.h., including 36 s.h. of work for the major. The program is designed for students with a general interest in history. Course requirements include a colloquium, which usually is taken during the sophomore year or the semester after the student elects a major in history. The required portfolio, which should consist of at least three papers the student has written while enrolled in history classes, is submitted to the student's advisor during the semester before graduation.

College Level Equivalency Program (CLEP) and Advanced Placement Program credit cannot be used as part of the history major. Transfer work that is equivalent to University of Iowa course work can be accepted toward the major, but at least 18 s.h. of work for the major, including the colloquium, must be earned at The University of Iowa.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Undergraduate courses are divided into four areas: American history (prefix 16A), European history (16E), non-Western world history (16W), and courses that have no area designation (016).

The major requires 36 s.h. in history courses, as follows. Students may count a maximum of 18 s.h. of American history (prefix 16A) toward the major.

#### HISTORY COLLOQUIUM

One of these:

16A:051 Colloquium for History Majors (American)	3 s.h.
16E:051 Colloquium for History Majors (European)	3 s.h.
16W:051 Colloquium for History Majors (World)	3 s.h.

History majors take the colloquium as soon as possible after declaring their major. Every colloquium includes assigned papers; students must include in their history portfolio at least one paper from their colloquium.

#### **GEOGRAPHICAL AREA AND ERA**

All of these (semester hours are minimum requirements):

Two American history courses, including at least one numbered 16A:100 or above	6 s.h.
Two European history courses, including at least one numbered 16E:100 or above	6 s.h.
Two non-Western world history courses, including at least one numbered 16W:100 or above	6 s.h.
One pre-1700 history course (see "Pre-1700 Courses" below)	3 s.h.

A course taken to fill the pre-1700 history requirement also may be counted toward the requirement in American, European, or non-western world history.

#### **HISTORY ELECTIVES**

Elective courses in history (may include the history colloquium) 15 s.h.

History electives may include a maximum of two of the following: 016:001 Western Civilization I, 016:002 Western Civilization II, 016:003 Western Civilization III, 016:005 Civilizations of Asia: China, 016:006 Civilizations of Asia: Japan, and 016:007 Civilizations of Asia: South Asia. Electives also may include all other courses offered by the department numbered above 016:040, 16A:040, 16E:040, and 16W:040.

#### **PRE-1700 COURSES**

The following courses fulfill the 3 s.h. requirement for pre-1700 history.

016:001 Western Civilization I	3-4 s.h.
016:002 Western Civilization II	3-4 s.h.
016:005 Civilizations of Asia: China	3 s.h.
016:006 Civilizations of Asia: Japan	3-4 s.h.
016:007 Civilizations of Asia: South Asia	3-4 s.h.
016:045 Middle East and Mediterranean: Alexander to Suleiman	3 s.h.
16A:115 Native North America I: Precontact-1789	3 s.h.
16A:131 The Frontier in American History to 1840	3 s.h.
16A:161 Colonial North America, ca. 1600-1775	3 s.h.
16E:101 Ancient Egypt and the Ancient Near East	3 s.h.
16E:104 The World of Ancient Greece	3 s.h.
16E:106 Warfare in Ancient Mediterranean Society	3 s.h.
16E:107 The Hellenistic World and Rome	3 s.h.
16E:110 Medieval Civilization II	3 s.h.
16E:111 Medieval Intellectual History 300-1150	3 s.h.
16E:112 Medieval Intellectual History 1150-1500	3 s.h.
16E:113 Economic and Social History of Medieval Europe	3 s.h.
16E:116 Ireland in the Early Middle Ages	3 s.h.
16E:117 History of the Medieval Church	3 s.h.
16E:118 The Transition from Manuscript to Print	3 s.h.
16E:119 Women, Power, and Society in Medieval Europe	3 s.h.
16E:120 The Book in the Middle Ages	3 s.h.
16E:125 Society and Gender in Europe 1200-1789	3 s.h.
16E:126 The French Revolutions and Human Rights	3 s.h.
16E:139 Ancient and Medieval Science	3 s.h.
16W:111 Colonial Latin America	3 s.h.
16W:120 Pre-Colonial African History	3 s.h.
16W:172 Japan--Age of the Samurai	3 s.h.

## B.A. with Teacher Licensure

Students who wish to qualify for licensure to teach social studies in secondary schools must complete the major in history and must earn at least 15 s.h. in U.S. history (16A), at least 15 s.h. in non-U.S. history (16E and 16W), and 15 s.h. in a related area chosen from economics, geography, anthropology, psychology, sociology, or American government. Courses taken as part of the history major, including Colloquium for History Majors (numbered 16A:051, 16E:051, or 16W:051), may be counted as part of the 15 s.h. in U.S. history and the 15 s.h. in non-U.S. history required for certification.

Students also must complete College of Education professional education courses required for teaching licensure. Not all political science courses count toward certification to teach American government. Course content must center around the American political system or American political issues.

For information about the Teacher Education Program (TEP) or the secondary social studies education program, consult the social studies program coordinator at the College of Education.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** three courses in the major (including Colloquium for History Majors) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** four more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** three more courses in the major and submission of the portfolio of written work to the student's advisor

**During the eighth semester:** enrollment in all remaining course work in the major (two courses), all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

The requirement for entry into the history department's honors program is the same as that for entry into the University of Iowa Honors Program: a cumulative University of Iowa g.p.a. of at least 3.33. Through its honors program, the department provides outstanding students with opportunities to enhance their history major in several ways.

The most significant part of the honors program in history is the honors thesis. The thesis is an extended research paper (30-50 pages), usually completed during the spring semester of the junior year or fall semester of the senior year. Research for the thesis is done under the supervision of a faculty member who specializes in the field in which the student undertakes his or her research. Students register for 3 s.h. of 016:091 Honors Seminar and 016:092 Honors Thesis in each of two semesters. The 6 s.h. count toward the total number of hours needed for the history major.

## Minor

The minor in history requires a minimum of 15 s.h. in history courses, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, all courses numbered above 016:080, 16A:080, 16E:080, and 16W:080 are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

## Graduate Programs

The department offers a Master of Arts and a Doctor of Philosophy in history. The graduate programs prepare students for occupations such as high school or college teaching, publishing, commercial research, foundations and nongovernmental organizations, and government or other public service. With additional specialized training, students of history become qualified for careers in archival work, library work, museum work, or historical site preparation and display. Some students enter the joint program leading to degrees in both law and history (see "Joint Law and Graduate Degree Programs" in the College of Law section of the Catalog).

Students interested in graduate work should obtain a copy of the current *Guide to Graduate Study at The University of Iowa* from the Department of History office. The guide is revised every spring to include the latest faculty listing, research interests of faculty members, detailed regulations on study toward advanced degrees, and other information for prospective students.

## Master of Arts

The Master of Arts in history requires a minimum of 30 s.h. of graduate credit and is offered with two options: one for students who plan to work toward the Ph.D., the other for students who do not. The two plans differ mainly in their concentration in fields: the Ph.D. track emphasizes development of research capabilities culminating in the essay; the non-Ph.D. track stresses breadth of learning.

The M.A. with Ph.D. track requires completion of a research essay. Students must earn at least 24 s.h. of the required 30 s.h. in Department of History courses, including at least two seminars, or one seminar and one readings course. One seminar or readings course must be taken in each of the first two semesters of residence. Students must earn 12 s.h. in the area of their essay topic and at least 6 s.h. in a second division, including either a seminar or a readings course.

The essay in the major division must be based on original research and should be approximately 10,000 to 15,000 words long. It usually begins as a term paper for the seminar in the major division and is completed the following semester under the supervisor's guidance. The finished product should emulate the character of articles in learned journals, just as the Ph.D. dissertation takes the form of a full-length scholarly monograph.

Requirements for the M.A. with non-Ph.D. track are similar to those for the Ph.D. track program. Students earn 24 of the required 30 s.h. in history. They earn 12 s.h. in one major division of history and must include at least one readings or seminar course. They earn an additional 12 s.h. in history by taking 6 s.h. in each of two other divisions of history, or 6 s.h. in one other division of history and 6 s.h. in a related department. The additional 12 s.h. in history must include at least one readings or seminar course.

After completing these requirements, or during the semester in which they will complete them, M.A. students must take an oral and written comprehensive examination in their major division.

## Doctor of Philosophy

The Ph.D. requires at least 72 s.h. of graduate credit, including credit for work done for the master's degree.

Students who earn the M.A. with research essay at Iowa are admitted to the Ph.D. program on the favorable recommendation of the examining committee. Students who earn an M.A. at another university must meet the admission requirements of the Graduate College and the Department of History. They must submit a writing sample, such as a seminar paper or an M.A. thesis. They also must take a research seminar during their first two semesters in residence at Iowa.

Ph.D. students must complete at least eight 200-level courses of 4 s.h. each, taken in research seminars (not fewer than three) or graduate readings courses. At least five of the eight courses must be completed before the student takes the comprehensive examination. Courses taken at the M.A. level may be counted toward this requirement. The student also must take a graduate course in the philosophy of history, historiography, or methods of historical research.

The department has no general language requirement for the Ph.D., but the supervising faculty member may require the student to demonstrate a reading knowledge of one or more foreign languages and proficiency in the use of other study tools. Students may not complete the comprehensive examination until these requirements have been met.

The comprehensive written and oral examination covers three distinct fields, two of which must be in a major division that is chosen from the following divisions.

The ancient world  
Medieval Europe  
Europe, early modern  
Europe, modern  
Russia and the former Soviet Union  
United States  
Latin America  
China  
Japan  
India  
Africa

Students may construct another field, subject to approval by the comprehensive exam committee.

The third field must be a division outside the student's major division or in a related department outside history. The

committee may define and delimit the individual fields for examination. It may also set, separately for each field, the character of the written portion of the comprehensive examination, which may take the form of a syllabus, a critical bibliography, a topical paper, or any other form or combination of forms that the committee deems suitable. The oral portion of the comprehensive examination focuses on issues and problems arising from the examination papers.

The candidate must submit to the dissertation committee a written prospectus for the dissertation no later than the semester following completion of the comprehensive exams. The committee consists of at least five members, including at least one member from outside the department. It considers the prospectus and may approve it, reject it, or require its revision. When the dissertation is completed in final form, the committee administers the final examination for the doctorate, a formal oral defense of the dissertation that usually lasts two hours.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants must submit academic transcripts and Graduate Record Examination (GRE) General Test scores. They also must submit examples of original writing to the history department, such as a term paper, a seminar paper, or an honors thesis; letters of recommendation from three persons familiar with the student's past academic work; and a one- or two-page personal statement of the applicant's purpose in taking graduate work. All application materials are due by January 15 for entry the following August.

## Facilities

The University of Iowa Libraries has unusual strength in all aspects of U.S. history. The Main Library houses the Henry A. Wallace papers and related collections, the Iowa Women's Archives, and other unique materials. In European history, special strengths include the fine collections of French and English materials. The State Historical Society of Iowa in Iowa City and the Herbert Hoover Presidential Library and Museum in West Branch also hold valuable research materials.

## History Courses

Courses numbered 016:001 Western Civilization I through 016:040 Perspectives: Diversity in American History are approved for General Education, except 016:008 Civilizations of Africa, which is not approved for General Education. Some other courses are approved in the foreign civilization and culture General Education area. They cannot be taken pass/nonpass, even when they are taken as electives. Majors should take 16A:051 Colloquium for History Majors (American), 16E:051 Colloquium for History Majors (European), or 16W:051 Colloquium for History Majors (World) in the sophomore year or in the first semester after declaring the major. Other courses numbered below 200 are open to first-year students who already have fulfilled the General Education Program historical perspectives requirement. Courses numbered 200 and above are offered as occasion demands.

### For Undergraduates

<b>016:001 Western Civilization I</b>	3-4 s.h.
Ancient and medieval. GE: Foreign Civilization & Culture, Historical Perspectives.	
<b>016:002 Western Civilization II</b>	3-4 s.h.
Early modern world. GE: Foreign Civilization & Culture, Historical Perspectives.	
<b>016:003 Western Civilization III</b>	3-4 s.h.
The modern world. GE: Foreign Civilization & Culture, Historical Perspectives.	
<b>016:005 Civilizations of Asia: China</b>	3 s.h.
GE: Foreign Civilization & Culture, Historical Perspectives. Same as 039:055.	
<b>016:006 Civilizations of Asia: Japan</b>	3-4 s.h.
GE: Foreign Civilization & Culture, Historical Perspectives. Same as 039:056.	
<b>016:007 Civilizations of Asia: South Asia</b>	3-4 s.h.
GE: Foreign Civilization & Culture, Historical Perspectives. Same as 039:057.	
<b>016:008 Civilizations of Africa</b>	3 s.h.

Introduction to the study of Africa; brief survey of African history; aspects of modern African life, including political and social issues, economic and health problems (including HIV-AIDS); classroom discussion of selected African films shown in class and selected African novels included in course reading.

**016:009 India Now! A Survey from Bollywood Films to Global Terror** 3 s.h.

Experience of change on adaptations made by India to global conditions in the last 50 years, and on contemporary Indian contributions to global conditions and culture; India environmentalism, Bollywood films and world music, celebrity culture and Nobel prizes, Gandhian activism, economic performance, the explosion of cricket, the place of English language, social movements among women and Untouchables, the Indian diaspora abroad, internal dissent, and the Indian war on terror.

**016:011 Issues in Human History: The Vietnam War in Historical Perspective** 3 s.h.

GE: Historical Perspectives.

**016:012 Issues in Human History: Communities and Society in History** 3 s.h.

GE: Historical Perspectives.

**016:014 Issues in Human History: Europe's Expansion Overseas** 3 s.h.

GE: Historical Perspectives.

**016:015 Issues in Human History: Gender in Historical Perspective** 3 s.h.

GE: Historical Perspectives.

**016:017 Issues: Twentieth-Century Crisis** 3 s.h.

GE: Historical Perspectives.

**016:020 Issues in Medieval Society** 3 s.h.

GE: Historical Perspectives.

**016:022 Issues: Nature and Society in Historical Perspective** 3 s.h.

GE: Historical Perspectives.

**016:023 Issues in European Politics and Society** 3 s.h.

GE: Historical Perspectives.

**016:035 Medieval Religion and Culture** 3 s.h.

Religion in Europe from classical antiquity to dawn of the Reformation; the religious element in traditions such as art, architecture, literature. GE: Historical Perspectives. Same as 032:025.

**016:036 Modern Religion and Culture** 3 s.h.

European and American religious life from Renaissance to 21st century; focus on specific themes, such as secularism, regionalism, pluralism. GE: Historical Perspectives. Same as 032:026.

**016:040 Perspectives: Diversity in American History** 3 s.h.

People, cultures, behaviors, and values that have shaped American society and its past. GE: Cultural Diversity.

**016:045 Middle East and Mediterranean: Alexander to Suleiman** 3 s.h.

GE: Foreign Civilization & Culture. Same as 032:061, 20E:071.

**016:046 Middle East and Mediterranean: Saladin to Napoleon** 3 s.h.

Complement to 016:045; Mediterranean world from the age of Saladin (12th century) to Napoleon (early 19th century); history and imaginaries of the relationship between Europe and the Middle East.

**016:049 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**16A:051 Colloquium for History Majors (American)** 3 s.h.

Requirements: history major.



**16E:051 Colloquium for History Majors (European)** 3 s.h.

Requirements: history major.

**16W:051 Colloquium for History Majors (World)** 3 s.h.

Requirements: history major.

**16E:058 Liturgy and Devotion in Christian Tradition** 3 s.h.

Liturgical traditions and devotional practices in western Christianity; Medieval Christian tradition, changes in liturgy and devotion that occurred with reformations of the 16th and 17th centuries; overview of modern developments. Same as 032:058.

**16W:061 Africa and the Atlantic Slave Trade** 3 s.h.

**016:082 The World Since 1945** 3 s.h.

GE: Foreign Civilization & Culture.

**16E:085 Early Modern Catholicism** 3 s.h.

Same as 032:085.

**016:088 Introduction to New Media in the Humanities and Social Sciences** 4 s.h.

Use of New Media software in research, presentation, and instruction; includes HTML editors (Dreamweaver), wikis (Confluence), blogs (WordPress), collaborative mark-up programs (CommentPress), graphics editors (Illustrator), map editors (MapPoint, ArcView), photographic editors (Photoshop), audio editors (Garage Band, Soundbooth, Audio Hijack Pro), video editors (iMovie, Premiere Pro, Photo-To-Movie), and animation editors (Flash); projects.

**016:089 History Internship** 3-6 s.h.

Internship involving historical work. Prerequisite: consent of director of undergraduate studies and Pomerantz Career Center.

**016:090 Individual Study: Undergraduate** arr.

**016:091 Honors Seminar** 0-3 s.h.

**016:092 Honors Thesis** 3 s.h.

Individual research and writing under supervision of faculty member; occasional group sessions with other students in the course.

## For Undergraduate and Graduate Students

### World and General History

**016:100 Historical Background of Contemporary Issues** arr.

**16W:106 Society and Revolution in Cuba** 3 s.h.

Cuban society and revolutionary movements since the late colonial period, including the years since 1959.

**16W:107 History of Mexico** 3 s.h.

Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as 149:107.

**16W:109 Latin American Studies Seminar** 3 s.h.

Interdisciplinary approach. Taught in English. Recommendations: Spanish or Portuguese sufficient for background readings. Same as 035:176, 038:176, 048:153, 113:132, 130:176.

**16W:110 Topics in Latin American History** 3 s.h.

- 16W:111 Colonial Latin America** 3 s.h.  
Cultural, institutional continuity from 16th century to independence.
- 16W:112 Introduction to Modern Latin America** 3 s.h.  
Cultural, institutional continuity from independence to present.
- 16W:114 Latin America and the U.S.: The Historical Perspective** 3 s.h.
- 016:115 Policy Matters: Perspective on Contemporary Problems** 3 s.h.  
Public policy issues in scholarly perspective; UI experts provide background introduction to weekly issues; presentations of new policy initiatives, roundtable on policy options; panels representing local, state, and national options and experience involving policy practitioners, legislators, and advocates. Same as 030:129.
- 16W:115 Latin American Revolution** 3 s.h.
- 16W:116 Dictatorships of Latin America** 3 s.h.  
Dictatorships, truth commissions, politics of memory in modern Latin America; the political and socio-economic origins of authoritarian regimes as well as their forms of rule, sources of support, uses of violence, and eventual downfall; the experience of specific sectors of society under authoritarian regimes, forms of resistance to authoritarianism, memories of terror, efforts to forge peace and justice in the aftermath of horror; includes personal testimony, film, human rights, reports, historical studies.
- 016:120 Museum Literacy and Historical Memory** 3 s.h.  
Concepts and methods for understanding the role of museums in shaping knowledge and collective memory of history; institutionally based exhibits and collections, historical markers and public monuments, public holidays and events, media and artistic works that interpret the past; how events, people, and civic ambitions are memorialized and how memories of them are shaped; appearance of museums and related practices in the non-Western world after 1850. Same as 024:115.
- 16W:120 Pre-Colonial African History** 3 s.h.  
Africa to 1880; oral tradition, other sources; political development, ecological change, slavery and slave trade. GE: Foreign Civilization & Culture. Same as 129:163.
- 16W:121 African History Since 1880** 3 s.h.  
Africa in colonial, post-colonial period; economics, political structures of colonialism; social change, political life in the 20th century. GE: Foreign Civilization & Culture. Same as 129:164.
- 16W:123 Slavery, Gender, and Identity in East Africa** 3 s.h.  
Forms of slavery in East African societies; focus on 18th to 20th centuries; primary source readings (i.e., life histories of former slaves); slavery outside the United States; women as important historical actors; processes of enslavement; integration of slaves into East African societies; and perpetuation of social and economic ties between former masters and slaves into the present.
- 16W:124 Crossing the Indian Ocean** 3 s.h.  
Transnational history of Western Indian Ocean; explore cultural and economic networks in the Indian Ocean World; how Islam and colonization are common experiences of peoples in this region; Indian Ocean World historical diversity; analytical concepts such as migration, Islam, globalization.
- 16W:125 Women and Gender in African History** 3 s.h.  
Importance of female agency in African history; African women's history in historiographical framework of women's history, challenges historians face in exploring African women's past; varied sources (e.g., novels, films, court records) from sub-Saharan Africa, urban and rural settings; current literature on African women, African women's experiences in a comparative context. Same as 131:125.
- 16W:126 Islam in Sub-Saharan Africa** 3 s.h.  
Islamization of sub-Saharan Africa; process, history of Muslim societies from beginnings of Islamization to present; source material on Islam in sub-Saharan Africa, historiographical approaches; jihad; Islamic law, learning, networks; Muslim women; historical role of African Muslims in global Muslim community.

- 16W:137 History of Public Health** 3 s.h.  
State-endorsed measures to avert or control disease in society. Same as 152:137.
- 16W:138 History of Global Health** 3 s.h.  
Foremost problems of health and disease in colonial and postcolonial societies; topical approach. Same as 152:138.
- 16W:140 Disease, Politics, and Health in South Asia** 3 s.h.  
South Asia's long-term success lengthening lives and stopping disease, weighed against its continuing burden of infection, violence, pollution, and class-based suffering.
- 16W:142 Palestine, Israel, and the World Since 1890** 3 s.h.
- 016:144 War and Peace in the Twentieth Century** 3 s.h.
- 16W:152 History of the Modern Middle East** 3 s.h.
- 16W:153 Topics in the Modern Middle East** 3 s.h.
- 16W:155 Europe and the U.S. in the Twentieth Century** 3 s.h.  
The U.S.-European transatlantic relationship over the 20th century in historical perspective; sense of common heritage transformed into program of political purpose; alliances in defense of a shared civilization--the West--challenged by nations and ideologies, from the Wilhelmine Empire to Nazi Germany, from U.S.S.R. to Islamist groups; reluctant American involvement in Europe, East European claims of inclusion, mutual frustrations and suspicions, differences in interpreting the shared tradition; diverging concepts of security, legitimacy, sovereignty, and history lessons underscored by U.S. role as sole superpower and European Union experiment in integration.
- 16W:157 Gender, Sexuality, and Human Rights** 3 s.h.  
History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as 131:157, 154:157.
- 16W:167 Patterns in World History** 3 s.h.  
Patterns in world history from the evolution of humankind to the present; basic texts in evolution, migration, social evolution.
- 16W:168 Cooperation in World History** 3 s.h.  
Origins and role of human cooperation in world history, from human evolution to present; basic evolutionary theory, origins of humans, character of human nature, emergence of human cooperation, human cooperation in comparative zoological perspective; evolution of cooperative institutions such as family, tribe, market, state, mass religion, science, Internet.
- 16W:172 Japan--Age of the Samurai** 3 s.h.  
Society, culture, and politics of feudal Japan; social class, gender, norms, and political and economic developments explored through cinema and literature. Same as 39J:172.
- 16W:173 Modern Japan** 3 s.h.  
Political, social, and cultural developments of Japanese feudalism; feature films, fiction. Same as 39J:173.
- 16W:174 History, Memory, and Pacific War** 3 s.h.  
Contemporary meanings of the Pacific War in the collective memory of Americans and Japanese; readings and travel to war/peace memorials in Hawaii and Japan.
- 16W:175 Japan--U.S. Relations** 3 s.h.  
Political, social, economic, and cultural developments in Japan mid-19th to late-20th century. Same as 39J:175.
- 16W:178 Topics in Asian History** 3 s.h.  
Same as 039:175.
- 016:180 Readings: International Security** 3-4 s.h.

- 16W:183 Vietnam War on Film** 3-4 s.h.
- 016:185 History and the New Media** 3 s.h.  
How to do history on the Internet; project/methods approach.
- 016:186 Modern Warfare, 1500-Present** 3 s.h.  
World military history from 15th century to present; development of weapons, tactics, strategies.
- 016:190 Teaching History: Approaches in Lesson Design** 3 s.h.
- 016:192 Traditions of Religious Reform** 3 s.h.  
Same as 032:192.
- 16W:194 Imperialism and Modern India** 3 s.h.  
Introduction to the political, economic, social, and cultural history of India from 1700 to present; historically India included the territories of present-day Pakistan and Bangladesh; at present India extends through diasporic Indian communities to East Africa, North America, Europe, and the Caribbean.
- 16W:198 China Since 1927** 3 s.h.  
Communist revolution from 1920s to founding of People's Republic of China in 1949; Mao Zedong's radical policies, Cultural Revolution; Deng Xiaoping's economic reforms; China today. GE: Foreign Civilization & Culture. Same as 039:196.

## American History

- 16A:061 American History 1492-1877** 3 s.h.  
Discovery through Civil War, Reconstruction; emphasis on social history of colonial era and social, economic, political developments of Revolutionary, antebellum periods.
- 16A:062 American History 1877-Present** 3 s.h.  
Emphasis on social, political developments of Gilded Age, Progressive Era, Great Depression; the United States as a world power.
- 16A:065 Introduction to African American History** 3 s.h.  
GE: Cultural Diversity. Same as 129:065.
- 16A:066 Civil War and Reconstruction** 3 s.h.
- 16A:069 Introduction to Mexican American History** 3 s.h.  
Introduction to major themes in Mexican American history from the 18th century to the present; settlement of Mexico's Far North by Spanish Mexican residents, their incorporation into the United States after a war of conquest, and the growth of Mexican Americans into the nation's largest Latino group. GE: Cultural Diversity.
- 16A:104 History of the American Deaf Community** 3-4 s.h.  
Creation of a distinct language and culture of deaf people in America during the 19th and 20th centuries. Taught in American Sign Language. Prerequisites: 158:014. Same as 158:100.
- 16A:106 Disability in American History** 3 s.h.
- 16A:107 American Cultural History 1820-1920** 3 s.h.  
Culture as contested terrain; creation of cultural hierarchy (high and popular culture); struggles over the cultural construction of meaning; competing stories of America; advent and significance of mass culture.
- 16A:110 Introduction to American Indian History and Policy** 3 s.h.  
Same as 149:102.

**16A:112 Mexican American History**

3 s.h.

Survey of Chicana/o (Mexican American) history from 18th century to present; Mexican American society's diverse nature, explored through class, ethnic, gender, and regional divisions. Approved for GE: Cultural Diversity.

**16A:113 Latina/o Immigration**

3 s.h.

Immigration experiences of people arriving in the United States from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration--social, political, and economic developments in the United States and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latino identity in the United States.

**16A:115 Native North America I: Precontact-1789**

3 s.h.

Same as 149:115.

**16A:116 Native North America II: 1789-Present**

3 s.h.

Same as 149:116.

**16A:117 U.S. Indian Policy in the American Indian Family**

3 s.h.

**16A:122 Varieties of American Religion**

3 s.h.

World views of religious groups (e.g., Mormon, Scientology, Jehovah's Witness, Black Muslim, Unification Church of Sun Myung Moon). Same as 032:141.

**16A:131 The Frontier in American History to 1840**

3 s.h.

**16A:132 The Frontier in American History 1840-Present**

3 s.h.

**16A:133 American West in Film**

4 s.h.

**16A:135 American West in the Twentieth Century**

3-4 s.h.

Focus on growth, redistribution of political power, exploitation of and competition for natural resources, intermingling of diverse cultural groups.

**16A:137 History of Iowa**

3 s.h.

**16A:139 The Social History of American Baseball**

3 s.h.

History of baseball in the United States from its beginnings as a working-class recreation through the present; history of the game and the people who have played it, how the history of American society is viewed through the lens of baseball, how the game has contributed to social change; social class, race, urbanization, crime and political corruption, public health, big business and professionalism, spectatorship, entertainment and mass culture, national mythology, the exercise of legitimate authority (umpires!).

**16A:141 Work and Society in Industrializing America**

3 s.h.

Industrialization, formation of an American working class; changing patterns of labor organization, strike activity, politics; impact of ethnic, racial, gender divisions on working class communities, culture.

**16A:142 American Labor in the Twentieth Century**

3-4 s.h.

Competing philosophies and organizational strategies of workers in a maturing industrial economy; impact of world wars and Great Depression on American workers and their unions; rise of service sector, deindustrialization.

**16A:144 American Economic History**

3 s.h.

Emphasis on role of population and technology. Requirements: 06E:001 and 06E:002 for economics majors; 06E:001 and 16A:061 for non-economics majors. Same as 06E:158.

**16A:146 Immigrant America 1845-1925**

3 s.h.

Era of mass immigration in world context; formation, organization of immigrant communities; diverse processes of adaptation, assimilation; rural, urban contrasts; coercive Americanization, immigration restriction.

**16A:147 History of Slavery in the U.S.A.**

3-4 s.h.

Origins, development; focus on labor, family, gender, community, culture, resistance; South's defense of slavery; wartime collapse, destruction of slavery. Same as 129:137.

**16A:148 Race, Gender, U.S. International History**

3 s.h.

Interplay between the United States' 20th-century rise to world power and its racial and gender politics, in context of the dynamic interaction of U.S. domestic society and international relations; U.S. colonialism in the Caribbean and Pacific, struggles over migration, world wars as crucibles of social and political change, cultural politics of the Cold War, racial and gendered dimensions of the war on terror.

**16A:149 Transnational America 1880-1939**

arr.

The United States as a society increasingly embedded in global history during the late 19th- and early 20th-centuries; approaches for thinking about history in transnational ways; intensification of European, Asian, and Latin American immigration; cross-national dimensions of American reform; emergence of diasporic social movements; international scale of the corporate state; politics of colonialism and world war.

**16A:150 The United States as Empire**

3 s.h.

The U.S. rise to world power; continental empire-building in the 19th century; industrial, military and colonial power in the early 20th century; global hegemony from the mid-20th century to the present; white settler colonialism; overseas rule of Philippines and Puerto Rico; cultural Americanization; Cold War interventionism; post-9/11 unilateralism; meanings of American exceptionalism, intersections of U.S. nationalism with race and gender, remaking of domestic U.S. society within a changing global and imperial context.

**16A:151 United States in World Affairs to 1900**

3 s.h.

Origins of modern diplomatic practices; security, territorial and commercial expansion; legal, constitutional problems.

**16A:152 United States in World Affairs**

3-4 s.h.

America's emergence as leader in world affairs; imperialism, international collaboration, participation in world wars, the Cold War.

**16A:153 U.S.A. in a World at War 1931-1945**

3 s.h.

Significance of World War II to the United States.

**16A:154 Sexuality in the United States**

3 s.h.

Same as 131:158.

**16A:155 Political Culture of U.S. Foreign Policy**

3 s.h.

Political culture of U.S. foreign policy in historical perspective; connections and interactions between the domestic scene and international realities, from time of manifest destiny to national security state; domestic foundations of American power and its projection abroad, including constitutional framework, economic developments, rise of the state, role of media, public opinion, civilian-military relations; concepts of race, ethnic identifications, and religious and political beliefs have shaped understandings of patriotism, national interest, international responsibility; great debates in which American national identity and purpose are renegotiated.

**16A:156 Major Topics in U.S. Foreign Policy**

3 s.h.

Continuation of 16A:152; select themes in the history of U.S. foreign policy studied in greater detail; examination of major conflicts (i.e., World War Two, the Cold War or the Vietnam War, and recent engagements in the Middle East), drawing from a wide range of primary sources, film material, and secondary material.

**16A:158 History of American Society 1820-1920**

3-4 s.h.

Social foundation of the Civil War, Reconstruction; emergence of industrial and urban society, immigration, agrarian and working class protest, segregation, social reform, progressivism, nationalism, roots of imperialism.

**16A:159 Warfare in American History 1492-1924**

3 s.h.

Impact of wars fought in North America on the development of American politics, society, and culture, from the arrival of Columbus to early 20th century.

**16A:160 North America in the Atlantic World**

3 s.h.

**16A:161 Colonial North America, ca. 1600-1775**

3 s.h.

Introduction to major themes in colonial American history prior to the American Revolution.

**16A:162 American Revolutionary Period 1740-1789** 3 s.h.

Political, military history of colonies 1754-1776; imperial upheaval; building a new nation; creation of federal system.

**16A:163 Native Americans in the Age of Empires, ca. 1500-1815** 3 s.h.

Overview of major issues in Native American history during the period of European Imperialism in North America.

Recommendations: junior or senior standing.

**16A:165 The Gilded Age in America** 3 s.h.

Emergence of industrial, urban America, from Civil War through 1890s; emphasis on social, political developments.

**16A:166 The Progressive Era in America** 3 s.h.

Protest and reform, imperialism, World War I, from 1890s to 1920.

**16A:167 The New Era and the New Deal 1920-1940** 3 s.h.

United States between the wars; emphasis on New Era system, impact of the Great Depression and response by the Hoover administration, the New Deal.

**16A:168 The Contemporary U.S. 1940-Present** 3 s.h.

United States as a global power; emphasis on World War II and Cold War, recent patterns of social and economic change, politics of 1950s, 1960s.

**16A:171 U.S. Women's History to 1870** 3 s.h.

American history through women's eyes; interaction of biology, economics, politics, ideology; how traditional historical generalizations change when women's experience is considered; legal history, women's education. Same as 131:171.

**16A:175 Family, Gender, and Constitutional History** 3 s.h.

Same as 091:252.

**16A:176 U.S. Legal History** 3 s.h.

History of the law in the United States, as it developed from era of the Revolution to present; interaction of courts and legislatures with social movements; readings on court decisions, social histories, fiction (film and prose).

**16A:184 Black Global Metropolis: Sexual History** 3 s.h.

Dispersion of people of African descent into the global metropolis, from expansion of port cities in the slave trade to industrialization of European and American cities, decolonization of the Third World, and proliferation of spatial cultures in contemporary geography; readings cover prostitution in colonial New York, sexual danger in Victorian London, jazz age Chicago, sexual psyches in Algiers, black gay expatriates in Paris, social science in Harlem and Puerto Rico ghettos, black/white sex in Johannesburg, transsexuals in Rio de Janeiro, Black Panther sexual politics in urban America, global hip-hop sexualities. Same as 129:184, 154:184.

**16A:185 Themes in African American History** 3 s.h.

Same as 129:189.

**16A:187 African American History 1619-1865** 3 s.h.

Race and African American history, from the rise of racial slavery to the Civil War; advanced course. Same as 129:170.

**16A:188 African American History 1865-Present** 3 s.h.

African American history since Reconstruction; survey of African American politics and society from Reconstruction to present. Same as 129:187.

## European History

**16E:065 Europe Since 1945** 3 s.h.

Europe since World War II: recovery, cold war, social and economic change, global perspectives.

**16E:101 Ancient Egypt and the Ancient Near East** 3 s.h.

Same as 20E:101.

- 16E:102 Food in Ancient Mediterranean Society** 3 s.h.  
Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as 20E:136.
- 16E:103 Alexander the Great** 3 s.h.  
History of Alexander the Great and the generals who succeeded him in ruling the lands he conquered; military, political, and social history.
- 16E:104 The World of Ancient Greece** 3 s.h.
- 16E:106 Warfare in Ancient Mediterranean Society** 3 s.h.  
Same as 20E:106.
- 16E:107 The Hellenistic World and Rome** 3 s.h.  
Social, economic, political, intellectual history of Graeco-Roman world, from fourth century B.C.E. to Justinian's reign. GE: Foreign Civilization & Culture.
- 16E:108 The Twelfth-Century Renaissance** 3 s.h.  
Social, economic, intellectual, and cultural rebirth of Europe in the 12th century; Latin learning and education; developments in vernacular literature, art, architecture, new religious orders and institutions, pilgrimage and Crusade. Same as 162:108.
- 16E:109 Medieval Civilization I** 3 s.h.  
Europe from the decline of Roman empire to the eleventh century; cultural, political, economic, artistic and architectural foundations of Western civilization. Same as 162:109.
- 16E:110 Medieval Civilization II** 3 s.h.  
Europe from the eleventh century to the Italian Renaissance; cultural, political, economic, artistic, and architectural foundations of Western civilization. GE: Foreign Civilization & Culture. Same as 162:110.
- 16E:111 Medieval Intellectual History 300-1150** 3 s.h.  
Philosophy, art, literature, religious culture of Europe from waning of classical intellectual modes of culture in late antiquity, to their recovery in 12th century. Same as 162:111.
- 16E:112 Medieval Intellectual History 1150-1500** 3 s.h.  
European philosophy, religion, literature, art from 12th-century rise of scholasticism; their transformation in period of Copernicus, Luther. Same as 162:112.
- 16E:113 Economic and Social History of Medieval Europe** 3 s.h.  
Changes in western Europe from 300 to 1500 A.D.; feudalism, manorialism, revival of towns, heresy, women, monasticism, agricultural and commercial revolutions, Black Death. GE: Foreign Civilization & Culture. Same as 162:113.
- 16E:114 Medieval Philosophy** 3 s.h.  
Main trends and major figures, such as Augustine and Aquinas. Same as 026:112.
- 16E:116 Ireland in the Early Middle Ages** 3 s.h.  
Ireland and the northern British islands 400-1000 CE, a region of small kingdoms and thin population, lacking natural resources, far from Rome and ancient centers of Mediterranean culture; development of civilization, including monastic, legal, theological, and scholarly traditions that had a major impact on continental Europe; early medieval Irish history; introduction to the world of historical scholarship. Same as 162:116.
- 16E:117 History of the Medieval Church** 3 s.h.



Development of Christianity to end of great schism; rise of Roman primacy, development of monasticism, orthodox and heterodox groups. GE: Foreign Civilization & Culture. Same as 162:117.

**16E:118 The Transition from Manuscript to Print** 3 s.h.

Western manuscripts and books 1200-1600; changes in production and distribution methods and in how texts were used, in cultural context. Same as 021:258, 108:183.

**16E:119 Women, Power, and Society in Medieval Europe** 3 s.h.

Same as 162:119.

**16E:120 The Book in the Middle Ages** 3 s.h.

Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Prerequisites: 01H:005 or 16E:110. Same as 108:182.

**16E:121 The Middle Ages in Film** 3 s.h.

How films that represent medieval events and literature may be analyzed to reveal the culture and times in which the films were made; Middle Ages and European nationalistic mythmaking as represented in film. Same as 162:121.

**16E:123 Religious Conflict/Early-Modern Period** 3 s.h.

Reformation of 16th century--Lutheran, Calvinist, Radical, English; readings from major representatives of each. Same as 032:154.

**16E:125 Society and Gender in Europe 1200-1789** 3 s.h.

Social and gender ideologies as inscribed in patterns of authority (household, church, state); ranges of human endeavor (intellectual, psychological, biological); community organization (social, economic, legal, sexual); their influence on concept of community. GE: Foreign Civilization & Culture. Same as 131:181.

**16E:126 The French Revolutions and Human Rights** 3 s.h.

Worldwide issues of human rights posed by the French Revolution, Caribbean Slave revolution, Napoleonic regime; state governance, class status, religious freedoms, marital inequities, plantation economy, slave trade, citizenship. GE: Foreign Civilization & Culture.

**16E:130 Modern European Imperialism** 3 s.h.

Introduction to the history of European imperialism since the 18th century; major shifts in the nature of European empire examined through the Haitian Revolution, India, Australia, Congo, Algeria.

**16E:132 War and Society in Modern Europe** 3 s.h.

Impact of war on European societies since the French Revolution. Requirements: advanced history major or beginning graduate standing.

**16E:134 Nineteenth-Century Europe** 3 s.h.

Political, social, economic, and cultural factors.

**16E:135 Twentieth-Century Europe: The Nazi Era** 3 s.h.

**16E:136 Twentieth-Century Europe: The Cold War and After** 3 s.h.

**16E:139 Ancient and Medieval Science** 3 s.h.

Greeks' initiation of scientific inquiry; developments in astronomy, cosmology, optics, mathematics, physics, medicine, psychology in ancient and medieval societies of Middle East, Europe. Same as 162:139.

**16E:141 Special Topics in European History** arr.

European history topics of current interest (i.e., food, environment, climate, water use); for advanced history majors and beginning graduate students.

**16E:143 Modern France 1789-1871** 3 s.h.

**16E:144 Modern France 1870-Present** 3 s.h.

- 16E:146 France from 1815-Present** 3 s.h.
- 16E:150 Modern Britain: The Eighteenth Century** 3 s.h.  
Great Britain from Glorious Revolution of 1688 to end of the Napoleonic Wars in 1815; post-revolution political settlement, political conflict, growth of British empire, religious dissent, evangelical revival, Industrial Revolution, American Revolution, British response to the French Revolution.
- 16E:151 Modern Britain: The Nineteenth Century** 3-4 s.h.  
Great Britain 1780-1914; evangelical revival, Industrial Revolution, growth of modern political parties, progress of political reform, scientific developments, influence of Darwin and Mill, growth of secularism, British Empire, Boer War, advent of World War I.
- 16E:152 Modern Britain: The Twentieth Century** 3 s.h.  
Great Britain from Boer War to Tony Blair's political triumph; liberal revival, World War I, rise of the Labour Party, the Depression, appeasement, World War II, Labour's triumph after the war, rise of consensus politics, 1960s cultural changes, Margaret Thatcher's political ascendancy, transformation of the Labour Party under Blair.
- 16E:153 Notions of Progress in Modern European History** 3 s.h.  
The idea of progress used to understand the relationships between society, government, economics, and power; what constitutes progress; how notions of progress have shaped modern Europe and the United States; how the idea of progress has helped to legitimate political, social, and cultural projects; how it continues to inform local, national, and international politics and individuals' personal lives.
- 16E:155 German History 1648-1914** 3 s.h.  
History of German speaking lands 1648-1918.
- 16E:156 Germany Since 1914: Weimar, Hitler, and After** 3-4 s.h.  
Continuity, change in 20th-century German politics, society, culture; creation, collapse of Weimar Republic; Nazism and Third Reich; East and West Germany since 1945; unification and its discontents. GE: Foreign Civilization & Culture. Same as 13E:126.
- 16E:158 Holocaust in History and Memory** 3 s.h.  
Origins and implementation of the Holocaust; perpetrators, victims, and bystanders; impact of the Holocaust on the post-World War II world.
- 16E:171 History of the Russian Empire, 900-1917** 3 s.h.  
Introduction to history of polities and peoples of western Eurasia from 10th century to Russian Revolution; formation and vicissitudes of the Russian Empire; ethnogenesis in western Eurasia; origins of the Rus', Kievan Rus' and its competitors, the Mongol invasion of Rus', rise of Muscovy, Muscovite political system, birth of the Russian empire, Russian empire during republicanism and nationalism.
- 16E:178 Soviet Union 1917-1945** 3-4 s.h.  
Revolution, foundation of Soviet Union; Leninism; major political, social, ideological developments during Stalinist period--collectivization, industrialization, terror; nationalities, foreign policy; World War II; Cold War; socialist state system. GE: Foreign Civilization & Culture.
- 16E:179 Soviet Union 1945-1991** 3-4 s.h.  
Selected topics in history of the Soviet Union: political system, ideology, socioeconomic developments, nationalities problems, foreign policy; period of second revolution from above, openness, restructuring; fall of Soviet empire, 1985-1991. GE: Foreign Civilization & Culture.
- 16E:185 First World War** 3-4 s.h.  
Social, economic, political, technological, military aspects of causes, conduct, consequences of war of 1914-18; fiction, contemporary documents, historical works, films.

## For Graduate Students

- 016:201 First-Year Graduate Colloquium** 3 s.h.

Introduction to history graduate program.

- 016:202 Introduction to New Media in the Humanities and Social Sciences** arr.  
Use of New Media software in research, presentation, and instruction; includes HTML editors (Dreamweaver), wikis (Confluence), blogs (WordPress), collaborative mark-up programs (CommentPress), graphics editors (Illustrator), map editors (MapPoint, ArcView), photographic editors (Photoshop), audio editors (Garage Band, Soundbooth, Audio Hijack Pro), video editors (iMovie, Premiere Pro, Photo-To-Movie), and animation editors (Flash); projects.
- 016:205 Gender and Race in Nineteenth-Century U.S.** arr.  
Same as 129:205, 131:206.
- 016:207 The American Civil War in History and Memory** arr.
- 016:209 Seminar: Medieval Social and Economic History** arr.
- 016:210 Readings: Medieval Women** arr.
- 016:211 Seminar: Medieval Intellectual History** arr.
- 016:212 Readings: Medieval Intellectual History** arr.
- 016:213 Seminar: History of Science** arr.
- 016:214 Readings: Medieval and Early Modern Universities** arr.
- 016:215 Graduate Readings: Monastic History** arr.  
History of Christian monasticism in the medieval west; the developing monastic and religious orders, nuns of those groups; tertiaries, beguines, other orthodox penitent movements from the development of Christianity to the Reformation.
- 016:217 Source Criticism for Medieval Studies** arr.
- 016:218 Medieval Latin Paleography** arr.
- 016:220 Research Seminar** arr.  
Research for students in all areas of history.
- 016:223 Seminar: Reformation Culture and Theology** arr.  
Culture and theology of 16th-century Europe. Same as 032:223.
- 016:224 Seminar: History of Disability** arr.
- 016:225 Readings: History of Sexuality** arr.  
History of sexuality within the family, its move into the marketplace; social customs and taboos, methods of birth control and abortion, religion, medical and psychological writings, state policies. Same as 131:225.
- 016:230 Readings in Middle East History** arr.
- 016:231 Seminar: African History** arr.  
Themes in African precolonial and modern history.
- 016:232 Readings in African History** arr.
- 016:233 Readings: Women, Men, and Gender in Modern Europe** arr.  
Same as 131:233.
- 016:235 Seminar: Modern Europe** arr.

- 016:236 Readings: Modern European History** arr.
- 016:238 Readings in the History of Modern France** arr.
- 016:239 Readings: War and Society in Modern Europe** arr.  
Preparation, conduct, and aftermath of war; social-historical examination; conflicts on European territory, colonial wars, and wars of decolonization, from French Revolution through late 20th century.
- 016:244 Crossing Borders Proseminar** 1 s.h.  
Same as 013:260, 01H:330, 030:243, 035:271, 044:287, 048:244, 113:248.
- 016:246 United States in the World** arr.  
Historiographies that situate modern U.S. history in a global context; how historians study the American past beyond traditional, nation-centered frames; transnational histories of migration, nativism and exclusion; social movements; colonial empire-building; commercial and cultural Americanization; transfer of policy ideas; military occupations; decolonization; Cold War's impact on social reform; post-9/11 moment.
- 016:247 Crossing Borders Seminar** 2-3 s.h.  
Repeatable. Same as 008:231, 013:262, 01H:247, 030:242, 035:273, 044:286, 048:247, 113:247, 129:231, 160:247, 181:247.
- 016:248 Seminar: Research in Race and Ethnicity** arr.
- 016:249 Teaching Seminar: Graduate Instructors** 2-3 s.h.  
Issues and methods for effective history teaching at the college level.
- 016:250 Readings: History of Medicine and Health** arr.
- 016:254 Teaching Proseminar** 2-4 s.h.  
Preparation for leading undergraduate discussion sections for 016:001 - 016:003 Western Civilization I-III; specific subject matter preparation similar to that offered in graduate readings courses; for first-time graduate teaching assistants.
- 016:256 Theories of World History** arr.  
Macrohistorical theories of world history; can a prominent theory or combination of theories explain the social evolution of humankind over hundreds of thousands of years; how to periodize world history; does history have a direction, and if so, what direction; the future of humankind.
- 016:259 Seminar: Interpreting Oral Histories** arr.  
Interpretations and methods applied by historians in various world regions to different forms of oral history, from old oral traditions to contemporary autobiographical testimony. Same as 129:259.
- 016:260 Readings: Comparative Labor History** arr.
- 016:261 Seminar: American Colonial History** arr.
- 016:262 Readings: American Colonial History** arr.
- 016:263 The Art and Craft of Historical Writing** arr.  
Focus on improving students' skills in historical writing; readings from exemplary texts, ancient to contemporary; all aspects of historical writing, from sentence composition and paragraph structure to evidence and narrative voice.
- 016:264 Seminar: Social History of the American Working Class** arr.
- 016:265 Seminar: American Social History** arr.
- 016:266 Readings: The Gilded Age and the Progressive Era** arr.
- 016:267 Seminar: Contemporary United States** arr.

<b>016:269 Readings in Transnational U.S. History</b>	arr.
Emerging historiographies that problematize national frameworks of history writing and reexamine U.S. history from transnational and global perspectives; methodological works on transnational, imperial, and global history; literatures on transnational migration, global production and trade, social movements, intercultural borrowing and exchange, and empire-building.	
<b>016:270 Readings in the History of Women and Gender in the U.S.A.</b>	arr.
Same as 131:270.	
<b>016:271 Seminar: American Frontier</b>	arr.
<b>016:272 Readings: The American Frontier</b>	arr.
<b>016:273 Readings in American Social History</b>	arr.
<b>016:277 Feminist Research Seminar</b>	arr.
Feminist research methodologies; how to conduct original research, write a research proposal and research paper, read and criticize others' work. Repeatable. Same as 131:204.	
<b>016:278 Research in Transnational U.S. History</b>	arr.
Experience framing, organizing, and carrying out an original investigation on a theme in U.S. transnational history, followed by review and discussion of drafts; opportunity to explore transnational methodologies while developing professional skills of literature review, source interpretation, and collegial critique.	
<b>016:280 Readings in Latina/o History</b>	arr.
Introduction to major works and recent scholarship in Latina/Latino history.	
<b>016:281 Readings in Borderlands History</b>	arr.
Comparative borderlands; articles on diverse topics from borderland regions worldwide (main focus on U.S.-Mexico borderlands, with inclusion of European, Asian, African, and Latin American borderlands); analysis of each article for its thesis, research questions, methodology, primary sources, and weaknesses; seminar.	
<b>016:284 Seminar: History of Women and Gender</b>	arr.
Opportunity to pursue research for a single paper, M.A. thesis, or doctoral dissertation in the history of women and gender in the United States; interdisciplinary and internationally comparative projects; meetings and evaluations with attention to the craft of writing.	
<b>016:285 Readings: Gender in Latin American History</b>	arr.
Same as 131:285.	
<b>016:287 Readings: African American Women's History</b>	arr.
Same as 129:287, 131:287.	
<b>016:288 Readings: Latin American History</b>	arr.
Same as 035:247.	
<b>016:289 Archives Master Course</b>	1 s.h.
<b>016:292 Readings in Chinese History</b>	arr.
Same as 039:258.	
<b>016:294 Readings: Japanese History</b>	arr.
Same as 39J:257.	
<b>016:295 Readings in Modern India</b>	arr.
<b>016:296 Individual Study: Graduate</b>	arr.

**016:297 Thesis**

arr.

**016:298 Predissertation Seminar**

arr.

Preparing for dissertation work for students in all areas of history; thesis topic, relevant literature in the topic field, potential sources, primary research strategy, sources of research funding, research proposal; preparation for submitting applications for dissertation research fellowships and beginning of completing the thesis prospectus.

**016:299 History Workshop: Theory and Interpretation**

arr.

# Interdepartmental Studies

**Coordinator:** David Gould  
**Undergraduate degree:** B.A. in Interdepartmental Studies  
**Web site:** <http://www.uiowa.edu/~indepart>

The Interdepartmental Studies Program (ISP) provides an alternative to traditional undergraduate majors. It gives students the opportunity to design an individualized plan of study track or to choose one of three preapproved tracks: business studies, health science, or recreation management. Each track includes course work from a variety of departments.

## Undergraduate Program

The program offers a Bachelor of Arts in interdepartmental studies. It does not offer a minor.

### **B.A. with Double Major or Second Degree**

Interdepartmental studies students may earn a second Bachelor of Arts major (a double major). They may count a maximum of two of the same courses toward the requirements of both majors.

Students also may earn a second undergraduate degree (for example, a Bachelor of Science) while working toward a B.A. in interdepartmental studies.

See Earning Two or More Majors and Earning Multiple Undergraduate Degrees under Earning a Degree in the CLAS Academic Handbook.

### **B.A. with Certificates, Minors**

Interdepartmental studies students also may earn certificates and minors in other programs, departments, or colleges. Courses used to meet requirements for a minor may not be counted toward the requirements for the major in interdepartmental studies.

See Certificates and Minors under Earning a Degree in the CLAS Academic Handbook.

## **Bachelor of Arts**

The Bachelor of Arts in interdepartmental studies requires a minimum of 120 s.h., including 36-40 s.h. of work for the major. Students choose one of four tracks: the individualized plan of study track, the business studies track, the health science track, or the recreation management track. Credit required for the major depends on the student's choice of track.

The individualized plan of study track requires students to design and gain approval for their own study plan. The business studies, health science, and recreation management tracks each provide a preapproved plan of study and a choice of emphasis areas.

Students must complete the College of Liberal Arts and Sciences General Education Program.

### **Individualized Plan of Study Track**

The individualized plan of study track requires a minimum of 36 s.h. of work for the major, all taken at The University of Iowa. Students who choose the individualized plan of study track build their own study plan, creating a unique major that speaks to interests across departments and that integrates varied approaches to a particular topic (e.g., aging studies, international business, children's studies, environmental issues, health issues).

Students must submit their study plan for approval. The plan must include an essay that provides a clear statement of the area of intellectual focus; the reasons for preferring the ISP to any departmental program; a concrete discussion of how the advanced courses relate to each other, to personal interests, and to the central focus of the study plan; a description of academic goals for the bachelor's degree; a list of advanced-level course work already completed; and a list of advanced-level course work planned for all remaining semesters.

Each study plan is approved by a faculty advisory committee. Reviews are held once a semester. Deadlines are posted on the Interdepartmental Studies Program web site.

If the committee does not grant approval, the study plan may be returned to the student for revisions and resubmission at the next committee meeting. In some cases, the student may be referred to an appropriate departmental major.

Students are required to take the courses approved in the study plan. A limited number of substitutions may be allowed, but only if they are clearly consistent with the area of intellectual focus in the approved study plan, and only if they are approved in advance by the ISP advisor. Unauthorized substitutions may be designated as elective course work.

Significant changes in the focus of a student's study plan require the submission and approval of a revised study plan. The student's academic advisor determines whether changes warrant a revised plan.

See the Interdepartmental Studies Program web site for up-to-date information on the individualized plan of study track and rules for submission of study plans.

Students who choose the individualized plan of study track are advised by the Interdepartmental Studies Program coordinator and work closely with the Interdepartmental Studies Program office while designing the study plan. Students who intend to submit a study plan should contact the Interdepartmental Studies Program coordinator as early as possible.

### **Business Studies Track**

The business studies track requires 35-40 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized business background with a choice of three emphasis areas: workplace practices and perspectives, values and ethics, and arts management. Students also have the option of proposing their own business-related emphasis area to the faculty advisory committee.

Students must have achieved second-year standing to declare the business studies track.

Business studies track students must complete foundation course work (16-19 s.h.), business electives (4-6 s.h.), and one emphasis area (15 s.h.). A minimum of 15 s.h. for the major must be completed at The University of Iowa. The Academic Advising Center advises business studies track students; contact the center for more information about requirements.

### **FOUNDATION COURSES**

Foundational math--all of these:

22M:017 Calculus and Matrix Algebra for Business	4 s.h.
--	--------

22S:008 Statistics for Business	4 s.h.
---------------------------------	--------

or

22S:025 Elementary Statistics and Inference	3 s.h.
---	--------

Foundational economics--both of these:

06E:001 Principles of Microeconomics	4 s.h.
--------------------------------------	--------

06E:002 Principles of Macroeconomics	4 s.h.
--------------------------------------	--------

Foundational accounting--one of these:

06A:001 Introduction to Financial Accounting	3 s.h.
--	--------

06T:050 Foundations in Entrepreneurship (if not used as business elective)	2 s.h.
--	--------

06T:113 Basics of Small Business Accounting	1 s.h.
---	--------

### **BUSINESS ELECTIVES**

Two of these:

06A:002 Managerial Accounting	3 s.h.
-------------------------------	--------

06E:071 Statistics for Strategy Problems	3 s.h.
--	--------

06F:100 Introductory Financial Management	3 s.h.
---	--------

06J:047 Introduction to Law	3 s.h.
-----------------------------	--------

06J:048 Introduction to Management	3 s.h.
------------------------------------	--------

06K:100 Operations Management	3 s.h.
-------------------------------	--------

06K:070 Computer Analysis	3 s.h.
---------------------------	--------

or

22C:001 Computer Literacy	3 s.h.
---------------------------	--------

06M:100 Introduction to Marketing Strategy	3 s.h.
--	--------

or

06T:050 Foundations in Entrepreneurship (if not used in foundational accounting requirement)	2 s.h.
--	--------

or

06T:116 Basics of Small Business Marketing	1 s.h.
--	--------



**WORKPLACE PRACTICES AND PERSPECTIVES EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the workplace practices and perspectives emphasis must complete at least one course from each of four components (speaking and writing, foundations and practices, cultural diversity, and entrepreneurship). The required 15 s.h. must include 9 s.h. earned in advanced courses (100 level or above). Advanced courses for each component are listed below.

**Speaking and Writing Component**

At least one chosen from these or from the advanced-level courses:

08C:001 Creative Writing Studio Workshop	3 s.h.
08N:020 Introduction to Creative Nonfiction	3 s.h.
20E:050 Word Power: Building English Vocabulary (offered only fall 2010)	3 s.h.
036:012 Interpersonal Communication	3 s.h.
036:017 Theory and Practice of Argument	4 s.h.
036:021/07E:021 Oral Interpretation	3 s.h.
036:030 The Art of Persuading Others	3 s.h.

Advanced-level courses:

01J:115/033:115 What is Storytelling For?	3 s.h.
06B:140 Business Writing	3 s.h.
08A:104 Personal Writing for Non-English Majors	3 s.h.
08A:113 Writing for Business and Industry for Non-English Majors	3 s.h.
08C:023 Creative Writing	3 s.h.
08C:097 Fiction Writing	3 s.h.
08C:108/145:108 Creative Writing for New Media	3 s.h.
08C:110/145:110 Creative Writing for the Ecologically Aware: Stories in the Land	3 s.h.
08C:115/145:115 Creative Writing and Popular Culture	3 s.h.
08N:080 Nonfiction Writing	3 s.h.
08N:104 Personal Writing	3 s.h.
08N:113 Writing for Business and Industry	3 s.h.
08N:120 Advanced Nonfiction Writing	3 s.h.
08N:133 Team Writing for Business	3 s.h.
010:141 Rhetoric and Past Public Controversy	3 s.h.
20E:142 Word Power: Building English Vocabulary	3 s.h.
103:100/08L:100 Introduction to Linguistics	3 s.h.
145:101 Creative Writing for Business	3 s.h.

**Foundations and Practices Component**

At least one chosen from these or from the advanced-level courses:

019:090 Media Uses and Effects	3 s.h.
019:091 Media History and Culture	3 s.h.
019:095 Media and Consumers	3 s.h.
036:001 Core Concepts in Communication Studies	3 s.h.
036:018 Leadership and Organizational Procedures	2 s.h.
036:019 Organizational Leadership	2-3 s.h.
113:014 Language, Culture, and Communication	3 s.h.

Advanced-level courses:

010:131 Classical Rhetoric and Greek Culture	3 s.h.
034:162/131:160 Work and Family Institutions	3 s.h.
036:070 Communication Theory in Everyday Life	3 s.h.
036:074 Media and Society	3 s.h.

**Cultural Diversity Component**

At least one chosen from these or from the advanced-level courses:

01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
08G:005/149:005 Literatures of Native American Peoples	3 s.h.
08G:011 Literature and Sexualities	3 s.h.
016:040 Perspectives: Diversity in American History	3 s.h.
16A:065/129:065 Introduction to African American History	3 s.h.
025:080 Jazz Cultures in America and Abroad	3 s.h.
032:016 Religion and Liberation	3 s.h.
032:060/149:060 Introduction to Native American Religions	3 s.h.
034:018/131:018 Gender and Society	3-4 s.h.
034:066 Social Inequality	3 s.h.
035:070/187:070/130:070/038:070 Introduction to Latin American Studies	3 s.h.
113:051 Diversity in Action in American Society	1-3 s.h.
129:050/032:034 Introduction to African American Religions	3 s.h.
129:060 Introduction to African American Society	3 s.h.
129:061/045:030 Introduction to African American Culture	3 s.h.
131:010 Introduction to Gender, Women's, and Sexuality Studies	3 s.h.
131:055 Gender, Race, and Class in the U.S.	3 s.h.
149:049/045:049 Introduction to American Indian and Native Studies	3 s.h.

Advanced-level courses:

07B:154 Education, Race, and Ethnicity	2-3 s.h.
07U:133 The Culturally Different in Diverse Settings	3 s.h.
008:118 Jewish American Literature	3 s.h.
16A:104/158:100 History of the American Deaf Community	3-4 s.h.
16A:106 Disability in American History	3 s.h.
16A:112 Mexican American History	3 s.h.
019:165/129:122 African Americans and the Media	3 s.h.
025:141 History of Jazz	3 s.h.
042:112/096:112 Human Sexuality, Diversity, and Society	1-3 s.h.
103:150 Language and Gender	3 s.h.
113:110/149:110 Native Peoples of North America	3 s.h.

**Entrepreneurship Component**

At least one of these (all are advanced-level courses):

06E:119 Policy Analysis	3 s.h.
06J:147/024:147/032:127/042:157/096:168 Nonprofit Organizational Effectiveness I	3 s.h.
06J:148/024:148/032:128/042:158/096:169 Nonprofit Organizational Effectiveness II	3 s.h.
06T:120 Entrepreneurship and Innovation	3 s.h.
06T:133 Entrepreneurial Finance	3 s.h.
06T:134 Entrepreneurial Marketing	3 s.h.
06T:145 Legal Aspects of Entrepreneurship	3 s.h.
06T:146 Strategic Management of Technology and Innovation	3 s.h.
06T:147 Social Entrepreneurship	3 s.h.
06T:148 E-Commerce Strategies for Entrepreneurs	3 s.h.
06T:150 Managing the Growth Business	3 s.h.
06T:190 Seminar in Entrepreneurship	2-3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.
06T:194 Entrepreneurship: Advanced Business Planning	3 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.

**VALUES AND ETHICS EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the values and ethics emphasis must complete at least two courses from each of the two components (values and theories, institutions and policies).

**Values and Theories Component**

At least two of these:

019:140 Media Law and Communication	3 s.h.
026:102 Introduction to Ethics	3 s.h.
026:135 Philosophy of Law	3 s.h.
030:030 Introduction to Political Thought and Political Action	3 s.h.
030:050 Introduction to Political Behavior	3 s.h.
030:117 Political Decision Making	3 s.h.
030:136 Strategy in Politics	3 s.h.
030:137 Introduction to Political Economy	3 s.h.
030:151 Political Leadership	3 s.h.
034:150 Political Sociology	3 s.h.

**Institutions and Policies Component**

At least two of these:

026:001 Matters of Life and Death	3 s.h.
026:132 Introduction to Political Philosophy	3 s.h.
030:115 The Presidency	3 s.h.
030:116 American Constitutional Law and Politics	3 s.h.
030:118 American Political Development	3 s.h.
030:120 Public Administration and Bureaucratic Politics	3 s.h.
030:152 The Legislative Process	3 s.h.
030:153 The Judicial Process	3 s.h.
030:158 The Criminal Justice System	3 s.h.
034:040 Criminology	3 s.h.
034:066 Social Inequality	3 s.h.
034:162/131:160 Work and Family Institutions	3 s.h.
034:175 Community and Urban Sociology	3 s.h.
034:186 Criminal Legal System	3 s.h.

**ARTS MANAGEMENT EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the arts management emphasis must complete two courses from the administration component, one course from the history component, 3 s.h. from the production component, 3 s.h. from the elective component, and the internship (0 s.h.).

**Administration Component**

Two of these:

049:109/145:109/188:109 Introduction to Arts Management	3 s.h.
145:195/06T:155/049:195/188:195 Arts Leadership Seminar	3 s.h.
049:111/06T:125/145:111/188:111 New Ventures in the Arts	3 s.h.
or	
06T:120 Entrepreneurship and Innovation	3 s.h.

**History Component**

One of these:

01H:002 Arts of Africa	3 s.h.
01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:016/039:016 Asian Art and Culture	3 s.h.
008:037 Introduction to Drama	3 s.h.
024:102/07S:112/097:115/113:103 Introduction to Museology	3 s.h.
025:014 Great Musicians	3 s.h.
025:080 Jazz Cultures in America and Abroad	3 s.h.
025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:137/188:137 World of the Beatles	3 s.h.
025:141 History of Jazz	3 s.h.
045:075 American Popular Music	3 s.h.
049:002 Theatre and Society: Ancients and Moderns	3 s.h.
049:003 Theatre and Society: Romantics and Rebels	3 s.h.
137:080/188:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
188:161/033:161/137:161/049:161 The Arts in Performance	3 s.h.

**Production Component**

Complete 3 s.h. chosen from these:

01B:001 Elements of Art	3 s.h.
01P:180 Digital Portfolios in the Arts	1-3 s.h.
024:104 Exhibition Planning	3 s.h.
024:105 Designing History Exhibits	3 s.h.
025:173/188:173 Introduction to Afro-Cuban Drumming (only one enrollment may count toward major)	1 s.h.
049:001 Art of the Theatre	3 s.h.
049:020 Basic Acting	3 s.h.
049:043 Elements of Design	3 s.h.
049:044 Theatre Crafts	3 s.h.
049:133 Theatre Design I	3 s.h.
137:001 Beginning Tap (only one enrollment may count toward major)	1-2 s.h.
137:002 Beginning Jazz (only one enrollment may count toward major)	1-2 s.h.
137:003 Beginning Ballet (only one enrollment may count toward major)	1-2 s.h.
137:004 Beginning Modern Dance (only one enrollment may count toward major)	1-2 s.h.
137:012 Continuing Jazz (only one enrollment may count toward major)	1-2 s.h.
137:013 Continuing Ballet (only one enrollment may count toward major)	1-2 s.h.
137:014 Continuing Modern Dance (only one enrollment may count toward major)	1-2 s.h.
137:034 Beginning/Contact Improvisation (only one enrollment may count toward major)	1-2 s.h.
137:050 Dance Production	3 s.h.
137:060 Music Essentials for Dance	2 s.h.
137:174/188:174 Introduction to Afro-Cuban Dance (only one enrollment may count toward major)	1 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.

**Elective Component**

One of these:

01P:185/024:170 Grant Writing in the Arts	3 s.h.
06J:048 Introduction to Management (if not already used to fulfill foundation course work requirement)	3 s.h.
06T:133 Entrepreneurial Finance	3 s.h.

06T:134 Entrepreneurial Marketing	3 s.h.
008:145/049:184 English Renaissance Drama	3 s.h.
019:140 Media Law and Communication	3 s.h.
024:161/01H:182/033:175/091:192 Art, Law, and Ethics	3 s.h.
025:178 Music, Culture, and Identity	3 s.h.
113:003 Introduction to the Study of Culture and Society	3 s.h.
145:101 Creative Writing for Business	3 s.h.

Or complete 3 s.h. from these:

049:045 Production: Run Crew	1-2 s.h.
049:046 Production: Crew Chief	2 s.h.
025:064 Recital Attendance for Non-Majors	1 s.h.
025:074 Recital Attendance	1 s.h.
137:051 Production Run Crew	1-2 s.h.

#### Internship

409:145 Internship in Interdepartmental Studies	0 s.h.
---	--------

#### Health Science Track

The health science track requires 37 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized health background with a varied choice of emphasis areas: multidisciplinary science, entrepreneurship, aging, sexuality studies, global health, and health coach. Students also have the option of proposing their own health science-related emphasis area to the faculty advisory committee.

Health science track students must complete foundation course work (22 s.h.) and one emphasis area (15 s.h.). A minimum of 15 s.h. for the major must be completed at The University of Iowa. The Academic Advising Center advises health science track students; contact the center for more information about requirements.

#### FOUNDATION COURSES

Foundational chemistry--two of these:

004:007 General Chemistry I	3 s.h.
or	
004:011 Principles of Chemistry I	4 s.h.

004:008 General Chemistry II	3 s.h.
or	
004:012 Principles of Chemistry II	4 s.h.

Foundational biology--one of these:

002:002 Introductory Animal Biology	4 s.h.
002:010 Principles of Biology I	4 s.h.
002:021 Human Biology	4 s.h.

Foundational math and statistics--one of these:

22S:008 Statistics for Business	4 s.h.
22M:009 Elementary Functions	4 s.h.
22S:025/07P:025 Elementary Statistics and Inference	3 s.h.
22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:016 Calculus for the Biological Sciences	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22M:025 Calculus I	4 s.h.
22S:101 Biostatistics	3 s.h.
22S:102/07P:143 Introduction to Statistical Methods	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.

## Foundational social science--one of these:

031:001 Elementary Psychology	3 s.h.
034:001 Introduction to Sociology Principles	3-4 s.h.
034:002 Social Problems	3-4 s.h.
113:003 Introduction to the Study of Culture and Society	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.

## Foundational science elective--one of these:

002:011 Principles of Biology II	4 s.h.
027:053 Human Anatomy	3 s.h.
060:110 Principles of Human Anatomy	3 s.h.

## Foundational elective--one of these:

027:130 Human Physiology	3 s.h.
027:140 Exercise Physiology for Practitioners	3 s.h.
031:014 Introduction to Developmental Science	3 s.h.
096:030/153:030 Human Development and Behavior	3 s.h.
145:120 Equity Issues in the Health Science Workplace	3 s.h.
169:045 Health for Living	3 s.h.
145:125 Contemporary Nutrition	3 s.h.
or	
027:143 Physiology of Nutrition	3 s.h.

**MULTIDISCIPLINARY SCIENCE EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the multidisciplinary science emphasis must complete 15 s.h. chosen from these.

002:114 Cell Biology	3 s.h.
002:128 Fundamental Genetics	3-4 s.h.
002:145 Introduction to Neurobiology	3 s.h.
002:150 Endocrinology	3 s.h.
08C:107/145:107 Creative Writing for the Health Professions	3 s.h.
061:157 General Microbiology	5 s.h.
099:110 Biochemistry	3 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
145:127 Nutrition in Health and Performance	3 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.
004:121 Organic Chemistry I	3 s.h.
or	
004:123 Organic Chemistry I for Majors	3 s.h.
004:122 Organic Chemistry II	3 s.h.
or	
004:124 Organic Chemistry II for Majors	3 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.
or	
004:142 Organic Chemistry Laboratory for Majors	3 s.h.
061:112 Pharmacy Microbiology	4 s.h.
or	
061:164 Nursing Microbiology	4 s.h.

145:125 Contemporary Nutrition (if not used to fulfill foundation requirement)	3 s.h.
or	
027:143 Physiology of Nutrition (if not used to fulfill foundation requirement)	3 s.h.
029:011 College Physics I	4 s.h.
or	
029:081 Introductory Physics I	4 s.h.
029:012 College Physics II	4 s.h.
or	
029:082 Introductory Physics II	3-4 s.h.

#### ENTREPRENEURSHIP EMPHASIS

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the entrepreneurship emphasis must complete 15 s.h. chosen from these.

06A:001 Introduction to Financial Accounting	3 s.h.
06B:140 Business Writing	3 s.h.
06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06J:048 Introduction to Management	3 s.h.
06J:147/024:147/032:127/042:157/096:168 Nonprofit Organizational Effectiveness I	3 s.h.
06J:148/024:148/032:128/042:158/096:169 Nonprofit Organizational Effectiveness II	3 s.h.
06M:100 Introduction to Marketing Strategy	3 s.h.
06T:050 Foundations in Entrepreneurship	2 s.h.
06T:120 Entrepreneurship and Innovation	3 s.h.
06T:133 Entrepreneurial Finance	3 s.h.
06T:134 Entrepreneurial Marketing	3 s.h.
06T:145 Legal Aspects of Entrepreneurship	3 s.h.
06T:146 Strategic Management of Technology and Innovation	3 s.h.
06T:147 Social Entrepreneurship	3 s.h.
06T:148 E-Commerce Strategies for Entrepreneurs	3 s.h.
06T:150 Managing the Growth Business	3 s.h.
06T:190 Seminar in Entrepreneurship	2-3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.
06T:194 Entrepreneurship: Advanced Business Planning	3 s.h.
08N:113 Writing for Business and Industry	3 s.h.
145:101 Creative Writing for Business	3 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.

#### AGING EMPHASIS

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the aging emphasis must complete 15 s.h. chosen from these.

08C:107/145:107 Creative Writing for the Health Professions	3 s.h.
010:161/153:161/160:161 Rhetorical Issues in Health Care	3 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.
153:108/042:108/096:108/169:108 Basic Aspects of Aging	3 s.h.
153:135/042:135 Global Aging: Cultural Comparisons	3 s.h.
153:146/096:146/169:146 Health Promotion for Older Adults	3 s.h.
153:150/031:050 Psychology of Aging	3 s.h.
153:153/042:153 Programs and Services for Aging Adults	3 s.h.
153:160 Biology of Aging	3 s.h.
153:168/169:168 Aging and Leisure	3 s.h.
153:186/042:186 Death/Dying: Issues Across the Life Span	3 s.h.
153:195/042:195 Introduction to Nursing Homes	3 s.h.

**SEXUALITY STUDIES EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the sexuality studies emphasis must complete 15 s.h. chosen from these.

07C:130 Human Sexuality	3 s.h.
08C:107/145:107 Creative Writing for the Health Professions	3 s.h.
042:112/096:112 Human Sexuality, Diversity, and Society	1-3 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.
154:060/045:060 Sex and Popular Culture in the Postwar U.S.	3 s.h.
154:069 Topics in Sexuality Studies	1-3 s.h.
154:110 Frameworks for the Study of Sexuality	3 s.h.
154:145/034:135 Sociology of Sexuality	3 s.h.

**GLOBAL HEALTH EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the global health emphasis must complete 15 s.h. chosen from these.

145:127 Nutrition in Health and Performance	3 s.h.
145:198 Independent Study (only 3 s.h. may count toward major)	3 s.h.
145:199 Interdepartmental Studies Practicum (only 3 s.h. may count toward major)	3 s.h.
152:120 Global Health and Human Rights	2-3 s.h.
152:121/113:121/149:121 Health of Indigenous Peoples	3 s.h.
152:125 Topics in Global Health	1-3 s.h.
152:131/044:131 Geography of Health	1-3 s.h.
152:135/027:135 Global Health and Global Food	3 s.h.
152:137/16W:137 History of Public Health	3 s.h.
152:138/16W:138 History of Global Health	3 s.h.
152:150 Research Design in Global Health (only one enrollment may count toward major)	2-3 s.h.
152:152 Global Health Conference (only one enrollment may count toward major)	1 s.h.
152:158/027:176 Promoting Health Globally	3 s.h.
152:160 Global Health Seminar (only one enrollment may count toward major)	3 s.h.
152:170/041:104 Health Care and Health Reforms in Russia	3 s.h.
152:182 Health Experience of Immigrants, Migrants, and Refugees	3 s.h.
152:184/113:184/172:131 Anthropology and International Health	3 s.h.
152:185/113:185/172:173 Medical Anthropology	3 s.h.
152:199 Special Projects in Global Health (only one enrollment may count toward major)	arr.

**HEALTH COACH EMPHASIS**

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the health coach emphasis must complete 15 s.h. chosen from these.

07C:130 Human Sexuality	3 s.h.
07C:175 Motivational Interviewing	3 s.h.
07C:178 Microcounseling	1-3 s.h.
07C:185 Introduction to Substance Abuse	3 s.h.
07C:190 Group Processes for Related Professions	3 s.h.
07C:199 Counseling for Related Professions	3 s.h.
08C:107/145:107 Creative Writing for the Health Professions	3 s.h.
027:035 Stress Management	3 s.h.
027:039 Physical Activity and Health	3 s.h.
027:053 Human Anatomy (if not taken as foundation course)	3 s.h.
027:117 Human Growth and Motor Development	3 s.h.
027:130 Human Physiology (if not taken as foundation course)	3 s.h.
027:140 Exercise Physiology for Practitioners (if not taken as foundation course)	3 s.h.
031:063 Abnormal Psychology: Health Professions	3 s.h.
031:152 Health Psychology	3 s.h.
042:112/096:112 Human Sexuality, Diversity, and Society	1-3 s.h.



042:129 Substance Use and Abuse	3 s.h.
042:196 Family Violence	2-3 s.h.
044:174/175:101 Health, Work, and the Environment	3 s.h.
060:110 Principles of Human Anatomy (if not taken as foundation course)	3 s.h.
145:127 Nutrition in Health and Performance	3 s.h.
145:130 Coaching for Health and Wellness	3 s.h.
145:198 Independent Study	arr.
145:199 Interdepartmental Studies Practicum	arr.
153:108/042:108/096:108/169:108 Basic Aspects of Aging	3 s.h.
153:146/096:146/169:146 Health Promotion for Older Adults	3 s.h.
154:110 Frameworks for the Study of Sexuality	3 s.h.
169:045 Health for Living (if not taken as foundation course)	3 s.h.
169:142 Health Promotion in the Workplace Setting	3 s.h.
169:148 Introduction to Personal Training	3 s.h.
172:115 Community Preventive Programs and Services	3 s.h.
145:125 Contemporary Nutrition (if not taken as foundation course)	3 s.h.
or	
027:143 Physiology of Nutrition (if not taken as foundation course)	3 s.h.

### Recreation Management Track

The recreation management track requires a minimum of 36 s.h. of work for the major. It provides a preapproved plan of study that combines a foundation in recreation management with a choice of two emphasis areas: the workplace practices and perspectives emphasis and the entrepreneurship emphasis. Students also have the option of proposing their own recreation-related emphasis area to the faculty advisory committee.

Recreation management track students must complete foundation course work (at least 24 s.h.) and one emphasis area (12 s.h.). A minimum of 15 s.h. for the major must be completed at The University of Iowa. The Academic Advising Center advises recreation management track students; contact the center for more information about requirements.

### FOUNDATION COURSES

All of these:

169:060 Leisure in Contemporary Society	3 s.h.
169:061 Recreation Leadership and Programming	3 s.h.
169:150 Recreation Administration	3 s.h.
or	
169:157 Managerial Operations in Sport	3 s.h.

Foundational management expertise--three of these:

145:199 Interdepartmental Studies Practicum	arr.
169:151 Liability in Recreation and Sport	3 s.h.
169:152 Park and Recreation Facility Management	3 s.h.
169:153 Sport Business Practices	3 s.h.
169:156 Design of Recreation Facilities	3 s.h.
169:160 Introduction to Therapeutic Recreation	3 s.h.

Foundational leisure and sport--two of these:

027:039 Physical Activity and Health	3 s.h.
169:040/033:040 The Good Society	3 s.h.
169:045 Health for Living	3 s.h.
169:050/033:050 Making Choices: Interdisciplinary Perspectives	3 s.h.
169:070 Perspectives on Leisure and Play	3 s.h.
169:072 Leisure and the Liberal Arts	3 s.h.
169:080/033:080 Introduction to Place Studies	3 s.h.
169:168/153:168 Aging and Leisure	3 s.h.

**WORKPLACE pRACTICES AND pERSPECTIVES EMPHASIS** Workplace Practices and Perspectives Emphasis

Students must earn 12 s.h. in their chosen emphasis area. Students who choose the workplace practices and perspectives emphasis must complete at least one course from each of three components (speaking and writing, foundations and practices, cultural diversity). The required 12 s.h. must include 6 s.h. earned in advanced courses (100 level or above). Advanced courses for each component are listed below.

**Speaking and Writing Component**

At least one chosen from these or from the advanced-level courses:

08C:001 Creative Writing Studio Workshop	3 s.h.
08N:020 Introduction to Creative Nonfiction	3 s.h.
20E:050 Word Power: Building English Vocabulary (offered only fall 2010)	3 s.h.
036:012 Interpersonal Communication	3 s.h.
036:017 Theory and Practice of Argument	4 s.h.
036:021 Oral Interpretation	3 s.h.
036:030 The Art of Persuading Others	3 s.h.

Advanced-level courses:

01J:115/033:115 What is Storytelling For?	3 s.h.
06B:140 Business Writing	3 s.h.
08A:104 Personal Writing for Non-English Majors	3 s.h.
08A:113 Writing for Business and Industry for Non-English Majors	3 s.h.
08C:023 Creative Writing	3 s.h.
08C:097 Fiction Writing	3 s.h.
08C:108 Creative Writing for New Media	3 s.h.
08C:110 Creative Writing for the Ecologically Aware: Stories in the Land	3 s.h.
08C:115/145:115 Creative Writing and Popular Culture	3 s.h.
08N:080 Nonfiction Writing	3 s.h.
08N:104 Personal Writing	3 s.h.
08N:113 Writing for Business and Industry	3 s.h.
08N:120 Advanced Nonfiction Writing	3 s.h.
08N:133 Team Writing for Business	3 s.h.
010:141 Rhetoric and Past Public Controversy	3 s.h.
20E:142 Word Power: Building English Vocabulary	3 s.h.
103:100/08L:100 Introduction to Linguistics	3 s.h.
145:101 Creative Writing for Business	3 s.h.

**Foundations and Practices Component**

At least one chosen from these or from the advanced-level courses:

019:090 Media Uses and Effects	3 s.h.
019:091 Media History and Culture	3 s.h.
019:095 Media and Consumers	3 s.h.
036:001 Core Concepts in Communication Studies	3 s.h.
036:018 Leadership and Organizational Procedures	2 s.h.
036:019 Organizational Leadership	2-3 s.h.
113:014 Language, Culture, and Communication	3 s.h.

Advanced-level courses:

010:131 Classical Rhetoric and Greek Culture	3 s.h.
034:162/131:160 Work and Family Institutions	3 s.h.
036:070 Communication Theory in Everyday Life	3 s.h.
036:074 Media and Society	3 s.h.

## Cultural Diversity Component

At least one chosen from these or from the advanced-level courses:

01H:003 Art of Pre-Columbian America, Native America, and Oceania	3 s.h.
08G:005/149:005 Literatures of Native American Peoples	3 s.h.
08G:011 Literature and Sexualities	3 s.h.
016:040 Perspectives: Diversity in American History	3 s.h.
16A:065/129:065 Introduction to African American History	3 s.h.
025:080 Jazz Cultures in America and Abroad	3 s.h.
032:016 Religion and Liberation	3 s.h.
032:034/129:050 Introduction to African American Religions	3 s.h.
032:060/149:060 Introduction to Native American Religions	3 s.h.
034:018/131:018 Gender and Society	3-4 s.h.
034:066 Social Inequality	3 s.h.
113:051 Diversity in Action in American Society	1-3 s.h.
129:060 Introduction to African American Society	3 s.h.
129:061/045:030 Introduction to African American Culture	3 s.h.
130:070/035:070/038:070/187:070 Introduction to Latin American Studies	3 s.h.
131:010 Introduction to Gender, Women's, and Sexuality Studies	3 s.h.
131:055 Gender, Race, and Class in the U.S.	3 s.h.
149:049/045:049 Introduction to American Indian and Native Studies	3 s.h.

Advanced-level courses:

07B:154 Education, Race, and Ethnicity	2-3 s.h.
07U:133 The Culturally Different in Diverse Settings	3 s.h.
008:118 Jewish American Literature	3 s.h.
16A:104/158:100 History of the American Deaf Community	3-4 s.h.
16A:106 Disability in American History	3 s.h.
16A:112 Mexican American History	3 s.h.
019:165/129:122 African Americans and the Media	3 s.h.
025:141 History of Jazz	3 s.h.
042:112/096:112 Human Sexuality, Diversity, and Society	1-3 s.h.
103:150 Language and Gender	3 s.h.
113:110/149:110/045:105 Native Peoples of North America	3 s.h.
153:108/042:108/096:108/169:108 Basic Aspects of Aging	3 s.h.

## ENTREPRENEURSHIP EMPHASIS

Students must earn 12 s.h. in their chosen emphasis area. Students who choose the entrepreneurship emphasis must complete 06T:120 Entrepreneurship and Innovation (3 s.h.) and an additional 9 s.h. chosen from the courses listed below. The 9 s.h. may include one of the writing courses listed below (06B:140 Business Writing, 08N:113 Writing for Business and Industry, or 145:101 Creative Writing for Business).

06T:120 Entrepreneurship and Innovation	3 s.h.
---	--------

Complete 9 s.h. chosen from these:

06A:001 Introduction to Financial Accounting	3 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06J:048 Introduction to Management	3 s.h.
06J:147/024:147/032:127/042:157/096:168 Nonprofit Organizational Effectiveness I	3 s.h.
06J:148/024:148/032:128/042:158/096:169 Nonprofit Organizational Effectiveness II	3 s.h.
06M:100 Introduction to Marketing Strategy	3 s.h.
06T:133 Entrepreneurial Finance	3 s.h.
06T:134 Entrepreneurial Marketing	3 s.h.
06T:145 Legal Aspects of Entrepreneurship	3 s.h.
06T:146 Strategic Management of Technology and Innovation	3 s.h.
06T:147 Social Entrepreneurship	3 s.h.
06T:148 E-Commerce Strategies for Entrepreneurs	3 s.h.

06T:150 Managing the Growth Business	3 s.h.
06T:190 Seminar in Entrepreneurship	2-3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.
06T:194 Entrepreneurship: Advanced Business Planning	3 s.h.
06B:140 Business Writing	3 s.h.
or	
08N:113 Writing for Business and Industry	3 s.h.
or	
145:101 Creative Writing for Business	3 s.h.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major.)

Note: The Four-Year Graduation Plan is available only to ISP students in the individualized plan of study track.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** an approved plan of study, at least six courses in the plan of study, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** a total of at least nine courses in the plan of study

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

Interdepartmental studies students qualify for membership in the University of Iowa Honors Program by maintaining a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Graduating with honors usually includes the successful completion of the honors requirements in a particular department or program.

Students should initiate inquiries about graduating with honors by contacting the ISP coordinator. Students are encouraged to inquire early in their junior year to allow time for foundation course work. The director of the University of Iowa Honors Program can offer suggestions for contacting a supervising faculty member or committee from one or several appropriate departments. ISP students must submit an honors project approval form to the ISP coordinator and the honors program director.

## Career Considerations

Since the major in interdepartmental studies affords opportunities outside the traditional degree pattern, students must create or choose study programs that meet their individual educational and career objectives. Those who plan to seek employment immediately after graduation should familiarize themselves with the educational background and qualifications required by employers and should include appropriate courses in their study programs.

Students preparing for advanced study should become familiar with the admissions requirements of graduate or professional schools that interest them. The earlier students decide to pursue graduate or professional study, the easier it is to complete necessary prerequisites.

## Interdepartmental Studies Courses

**145:101 Creative Writing for Business** 3 s.h.  
 Opportunity to broaden understanding of literature, improve writing, and enhance ability to approach business problems in a creative and inspired manner; close reading and creative writing exercises used to develop appreciation of the written word, improve ability to express thoughts and ideas, and become more conscious of the quality of students' own written work. Requirements: rhetoric. Same as 08C:101.

**145:107 Creative Writing for the Health Professions** 3 s.h.  
 Same as 08C:107.

- 145:108 Creative Writing for New Media** 3 s.h.  
Prepares creative writers for evolving marketplace of electronic text, media; experience writing in varied media such as the Internet, e-books, video games, mobile devices, emergent social narratives. Same as 08C:108.
- 145:109 Introduction to Arts Management** 3 s.h.  
Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as 049:109, 188:109.
- 145:110 Creative Writing for the Ecologically Aware: Stories in the Land** 3 s.h.  
How humans tether to their environment through stories; students write stories and through writing explore if there is a new tie to sustainable history. Same as 08C:110.
- 145:111 New Ventures in the Arts** 3 s.h.  
Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates 06J:125 and 06T:120. Corequisites: 06T:050, or 06A:001 and 06M:100. Same as 049:111, 06T:125, 188:111.
- 145:115 Creative Writing and Popular Culture** 3 s.h.  
Creative writing through the lens of popular culture; topics include television, film writing, adaptations, commercials, advertising, magazines, newspapers, comic books, song lyrics, billboards, and backs of cereal boxes. Same as 08C:115.
- 145:120 Equity Issues in the Health Science Workplace** 3 s.h.  
Examination of equity issues in the health sciences, including a review of the historical challenges that led to Human Subjects Review Boards, FDA oversight of drug development and clinical trials, inclusion of women in research; effect of situational ethics in the workplace; potential danger of making assumptions about clients/patients; importance of developing an inclusive communication style; assessing the effectiveness of family-friendly employment policies in providing equitable opportunities for career advancement for both women and men. Same as 027:120.
- 145:125 Contemporary Nutrition** 3 s.h.  
Introduction to nutrition; importance of understanding food choices and diet to fit individual needs. Same as 027:125.
- 145:127 Nutrition in Health and Performance** 3 s.h.  
Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as 027:127.
- 145:130 Coaching for Health and Wellness** 3 s.h.  
Opportunities to expand knowledge and develop skills to help individuals change behavior and meet health-related goals; general health and wellness principles; principles and techniques for change; experience providing health-coaching services to clients. Same as 027:131.
- 145:195 Arts Leadership Seminar** 3 s.h.  
Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Requirements: (for 049:195) 049:109 or 049:111 or graduate standing in an arts discipline. Same as 049:195, 06T:155, 188:195.
- 145:198 Independent Study** arr.  
Individual study of issues or topics related to a specific interdepartmental focus chosen by the student.
- 145:199 Interdepartmental Studies Practicum** arr.  
Opportunity to relate a student's chosen area of study to practical application. Requirements: interdepartmental studies student.

# International Business

**Coordinators:** Patricia Mason-Browne (Liberal Arts and Sciences), Andy Tinkham (Tippie College of Business)

**Undergraduate nondegree program:** Certificate in International Business

**Web site:** <http://tippie.uiowa.edu/undergraduate/programs/IBC.cfm>

The Tippie College of Business and the College of Liberal Arts and Sciences offer the undergraduate Certificate in International Business. The program is open to all University of Iowa undergraduate students and individuals who hold a bachelor's degree from The University of Iowa or another institution and are not enrolled in a graduate or professional program. See "Admission" at the end of this Catalog section.

## Certificate in International Business

The Certificate in International Business requires 29 s.h. and satisfaction of the certificate's foreign language requirement (required credit varies according to the language studied). The program is designed for undergraduate students who intend to pursue careers in international business as well as those interested in gaining a better understanding of the global economy and a broader awareness of the political, historical, and social environment in which international business operates.

The certificate program includes study of international business and economics, international relations and institutions, a foreign language, and the contemporary art, literature, culture, and/or politics of the related geographical area. The range of courses permits students to tailor areas of specialization suited to their individual interests and to complement majors in business and in liberal arts and sciences.

Students must maintain a g.p.a. of at least 2.00 on all certificate course work. Certificate courses may not be taken pass/nonpass. A course may not be used to satisfy more than one certificate requirement.

A minimum of 20 s.h. of certificate course work (other than language courses) must be completed at The University of Iowa or in approved study abroad programs. Students who want to use credit earned while studying abroad should consult an international business certificate advisor before leaving campus. University of Iowa Guided Independent Study (correspondence study) is accepted toward the certificate.

When students complete the certificate requirements and graduate, the Certificate in International Business is noted on their transcript. Contact the Tippie College of Business Undergraduate Program Office or the CLAS Academic Programs & Services office for more information.

The certificate requires course work in international business, international relations and institutions, foreign language, and area studies, as follows.

### INTERNATIONAL BUSINESS

These courses provide students with an essential understanding of economics, which is central to all business operation. They also help students develop knowledge of the functional areas of international business.

Both of these:

06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.

Three of these (total of 9 s.h.):

06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:173 International Economics	3 s.h.
06F:130 International Finance	3 s.h.
06J:146 International Business Environment	3 s.h.
06M:151 International Marketing	3 s.h.
091:282 International Business Transactions	3 s.h.
091:287 International Trade Law: Basic Norms and Regulations	3 s.h.

### INTERNATIONAL RELATIONS AND INSTITUTIONS

These courses familiarize students with comparative politics, social geography, foreign policy, and issues related to world population and the environment--topics relevant to decision making in the international business world.

Two of these (total of 6 s.h.):

16A:148 Race, Gender, U.S. International History	3 s.h.
16A:152 United States in World Affairs	3 s.h.
16W:138/152:138 History of Global Health	3 s.h.
16W:155 Europe and the U.S. in the Twentieth Century	3 s.h.
019:156 Comparative Communication Systems	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:060 Introduction to International Relations	3 s.h.
030:061 Introduction to American Foreign Policy	3 s.h.
030:130 Consequences of War	3 s.h.
030:137 Introduction to Political Economy	3 s.h.
030:142 European Integration	3 s.h.
030:149 Problems in Comparative Politics	3 s.h.
030:150 Public Policy Around the World	3 s.h.
030:151 Political Leadership	3 s.h.
030:155 International Courts: The Intersection of Law and Politics	3 s.h.
030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
030:160 Women and Politics in Global Perspective	3 s.h.
030:161 International Organization and World Order	3 s.h.
030:162 American Foreign Policies	3 s.h.
030:163 Chinese Foreign Policy	3 s.h.
030:165 International Conflict	3 s.h.
030:166 Global Communication and Politics	3 s.h.
030:167 Politics and the Multinational Enterprise	3 s.h.
030:168 Politics of Terrorism	3 s.h.
030:169 Problems of International Politics	3 s.h.
030:170 The Politics of International Economics	3 s.h.
030:173 State Failure in the Developing World	3 s.h.
030:177 Globalization	3 s.h.
030:178 Causes, Consequences, and Management of Civil War	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
034:159 Families in Comparative Perspective	3 s.h.
036:042/042:042/187:042 Intercultural Communication	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:015 Introduction to Political Geography	3 s.h.
044:030 The Global Economy	3 s.h.
044:035 World Cities	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.
091:193 Human Rights in the World Community	3 s.h.
091:195 Introduction to Public International Law	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
113:104 Cultural Politics	3 s.h.
113:106 The Anthropology of War and Peace	3 s.h.
113:114 Environmentalisms	3 s.h.
113:116 Urban Anthropology	3 s.h.
113:134 Gender and Indian Diaspora	3 s.h.
113:143 Environment and Culture	3 s.h.
113:144 Culture and Consumption	3 s.h.

#### FOREIGN LANGUAGE

This component enables students to develop an intermediate level of competence in a second language. Through language study, students not only gain insight into the culture of another region of the world, they also develop a deeper understanding of their own language and culture.

Students must complete an approved foreign language sequence. For questions about languages not listed below or about study abroad course work, see an international business certificate advisor.

**Arabic**

All of these:

195:101 Elementary Modern Standard Arabic I	5 s.h.
195:102 Elementary Modern Standard Arabic II	5 s.h.
195:111 Intermediate Modern Standard Arabic I	5 s.h.
195:112 Intermediate Modern Standard Arabic II	5 s.h.

**Chinese**

All of these:

039:008-039:009 First-Year Chinese: First Semester - First-Year Chinese: Second Semester	10 s.h.
039:105-039:106 Second-Year Chinese: First Semester - Second-Year Chinese: Second Semester	10 s.h.

**French**

One of these sequences:

009:001-009:002 Elementary French I-II	10 s.h.
009:010 First-Year French Review	5 s.h.

All of these:

009:011-009:012 Intermediate French I-II	8 s.h.
One course for which 009:012 is prerequisite (may include Iowa Regents Program credit)	

**German**

One of these:

013:011-013:012 Elementary German I-II (both courses)	8 s.h.
013:014 First-Year German Review	5 s.h.

All of these:

013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.
One course for which 013:022 is prerequisite	

**Hindi**

039:123 First-Year Hindi: First Semester	5 s.h.
039:124 First-Year Hindi: Second Semester	5 s.h.
039:126 Second-Year Hindi: First Semester	4 s.h.
039:127 Second-Year Hindi: Second Semester	4 s.h.

**Italian**

One of these:

018:001-018:002 Elementary Italian-II (both courses)	10 s.h.
018:103 Intensive Elementary Italian	6 s.h.



All of these:

018:011-018:012 Intermediate Italian-II 8 s.h.  
One course for which 018:012 is prerequisite

### Japanese

One of these sequences:

39J:010-39J:012 First-Year Japanese: First Semester - First-Year Japanese: Second Semester 10 s.h.  
39J:011-39J:012 Elementary Japanese: Review - First-Year Japanese: Second Semester 8 s.h.

Both of these:

39J:101-39J:102 Second-Year Japanese: First Semester - Second-Year Japanese: Second Semester 10 s.h.

### Portuguese

One of these:

038:100-038:101 Accelerated Elementary Portuguese - Accelerated Intermediate Portuguese (both courses) 12 s.h.  
038:102 Portuguese for Spanish Speakers 3 s.h.

One course for which 038:101 or 038:102 is prerequisite

### Russian

All of these:

041:001-041:002 First-Year Russian I-II 8 s.h.  
041:003-041:004 Second-Year Russian I-II 8 s.h.

One course for which 041:004 is prerequisite

### Spanish

035:001-035:002 Elementary Spanish I-II (both courses) 10 s.h.

One of these:

035:011-035:012 Intermediate Spanish I-II (both courses) 10 s.h.  
035:013 Accelerated Intermediate Spanish 6 s.h.

One course for which 035:012 is prerequisite

### Swahili

All of these:

211:125-211:126 Elementary Swahili I-II 6-8 s.h.  
211:127-211:128 Intermediate Swahili I-II 6-8 s.h.

**AREA STUDIES**

These courses help students learn about the culture, contemporary history, art, literature, and politics of the geographic region in which their second language is spoken. They cover topics critical to understanding sociocultural influences on individuals with whom students share the world, and with whom they may conduct business.

Students complete 6 s.h. from one geographic area. The area should be appropriate to the language the student chooses for the language requirement.

**Asia**

Appropriate for these languages: Chinese, Hindi, or Japanese

01H:016/039:016 Asian Art and Culture	3 s.h.
01H:031/039:028 Introduction to the Art of China	3 s.h.
01H:033/39J:033 Introduction to the Art of Japan	3 s.h.
01H:119/039:159 Chinese Art and Culture	3 s.h.
01H:120/039:120 Chinese Painting I	3 s.h.
01H:123/39J:123 Japanese Painting	3 s.h.
008:132 Literature of the Indian Subcontinent	3 s.h.
016:005/039:055 Civilizations of Asia: China	3 s.h.
016:006/039:056 Civilizations of Asia: Japan	3 s.h.
16W:140 Disease, Politics, and Health in South Asia	3 s.h.
16W:172/39J:172 Japan--Age of the Samurai	3 s.h.
16W:173/39J:173 Modern Japan	3 s.h.
16W:175/39J:175 Japan--U.S. Relations	3 s.h.
16W:183 Vietnam War on Film	3-4 s.h.
16W:198/039:196 China Since 1927	3 s.h.
026:145/032:175 Buddhist Philosophy	3 s.h.
030:143/039:178 Government and Politics of the Far East	3 s.h.
030:148 Government and Politics of China	3 s.h.
030:163 Chinese Foreign Policy	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
032:004/039:064 Living Religions of the East	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.
032:008/039:018 Asian Humanities: India	3 s.h.
032:010/039:007 Chinese Religions	3 s.h.
032:014 Introduction to Indian Religions	3 s.h.
032:017/39J:017 Japanese Religions	3 s.h.
032:075/039:075 Asian Religious Classics	3 s.h.
032:081 Hindu Religion and Art	3 s.h.
032:116/39J:109 Japanese Religion and Thought	3 s.h.
032:163/039:162 Turning East	3 s.h.
032:171/039:163 Indian Religious Texts	3 s.h.
032:188/039:170 Zen Buddhism	3 s.h.
039:015 Introduction to Chinese Culture	3 s.h.
039:019/032:009 Asian Humanities: China	3 s.h.
039:020 Asian Humanities: Japan	3 s.h.
039:032 Chinese Popular Culture	3 s.h.
039:034 The Languages of Asia in Cultural and Historical Perspective	3 s.h.
039:036 Understanding Korean Culture Wave	3 s.h.
039:057/016:007 Civilizations of Asia: South Asia	3 s.h.
039:122/113:129 Language/Politics of Culture in South Asia	3 s.h.
039:136/032:177 Indian Literature	3 s.h.
039:140/032:186 The Literature of Daoism	3 s.h.
039:141 Chinese Literature: Poetry	3 s.h.
039:142 Chinese Literature: Prose	3 s.h.
039:145 Topics in Asian Cinema	3 s.h.

039:158/048:158 East-West Literary Relations	3 s.h.
039:180 Modern Chinese Writers	3 s.h.
039:192/048:192 East Meets West: A Cross-Cultural Course	3 s.h.
039:199 Asian Studies	arr.
39J:103 Language in Japanese Society	3 s.h.
39J:125/113:125 Japanese Society and Culture	3 s.h.
39J:141/048:143 Traditional Japanese Literature in Translation	3 s.h.
39J:142/048:142 Modern Japanese Fiction in Translation	3 s.h.
39J:144 Major Authors in Modern Japanese Literature	3 s.h.
39J:155 Contemporary Japanese Culture	3 s.h.
113:107/131:107 Gendering India	4 s.h.
113:120 Popular Culture in South Asia	3 s.h.

## Europe

Appropriate for these languages: French, German, Italian, Portuguese, or Spanish

01H:157/009:130/033:130 Paris and the Art of Urban Life	3 s.h.
008:110 Literature and Culture of 20th- and 21st-Century Britain	3 s.h.
009:030 Cultural Misunderstandings: France and U.S.A.	3 s.h.
009:114 French Civilization	3 s.h.
009:120 French-Speaking Cultures	3 s.h.
009:147/048:105 French Cinema	3 s.h.
009:148 Gender and Sexuality in French Cinema	3 s.h.
009:157 Twentieth-Century Europe in Literature and Film	3 s.h.
009:168/048:168 Post-Colonial Literature in France	3 s.h.
013:101 Introduction to German Literature	3 s.h.
013:105 German Cultural History	3 s.h.
013:108 The German Media	3 s.h.
013:115 Contemporary German Civilization	3 s.h.
13E:075 Scandinavian Crime Fiction	3 s.h.
13E:119 German Film	3 s.h.
13E:120 Germany in the World	3 s.h.
13E:151 New Literature and Film from Switzerland: Beyond Heidi and Lucerne	arr.
013:140 Literature in Film	3 s.h.
013:142 Twentieth-Century Children's Literature	3 s.h.
013:145 Twentieth-Century Literary History in Scenes/Stories	3 s.h.
16E:130 Modern European Imperialism	3 s.h.
16E:135 Twentieth-Century Europe: The Nazi Era	3 s.h.
16E:136 Twentieth-Century Europe: The Cold War and After	3 s.h.
16E:144 Modern France 1870-Present	3 s.h.
16E:146 France from 1815-Present	3 s.h.
16E:152 Modern Britain: The Twentieth Century	3 s.h.
16E:156 Germany Since 1914: Weimar, Hitler, and After	3 s.h.
16W:155 Europe and the U.S. in the Twentieth Century	3 s.h.
018:105 Modern Italian Fiction	3 s.h.
018:106 Modern Italian Poetry and Drama	3 s.h.
018:132 Images of Modern Italy	3 s.h.
030:140 Government and Politics of Europe	3 s.h.
030:142 European Integration	3 s.h.
030:147 Parties and Elections Around the World	3 s.h.
030:172 France in the 21st Century	3 s.h.
035:110 Readings in Spanish Literature	3 s.h.
035:150 Cultures of Spain	3 s.h.
035:161 Modern and Contemporary Spanish Literature	3 s.h.
038:107 Introduction to Portuguese Literature	3 s.h.
048:021 Introduction to European Film	3 s.h.
048:104 Topics in European Film	3 s.h.

048:157 Twentieth-Century Europe in Literature and Film	3 s.h.
048:163 Studies in 20th-Century European Literature	arr.
048:167 Gender and Sexuality in French Cinema	3 s.h.

#### Latin America

Appropriate for these languages: Portuguese or Spanish

008:082 Latina/o Studies	3 s.h.
008:114 Caribbean Literature and Culture	3 s.h.
008:133 Inter-American Studies	3 s.h.
16A:112 Mexican American History	3 s.h.
16A:113 Latina/o Immigration	3 s.h.
16W:106 Society and Revolution in Cuba	3 s.h.
16W:107 History of Mexico	3 s.h.
16W:110 Topics in Latin American History	3 s.h.
16W:112 Introduction to Modern Latin America	3 s.h.
16W:114 Latin America and the U.S.: The Historical Perspective	3 s.h.
16W:115 Latin American Revolution	3 s.h.
030:144 Latin American Politics	3 s.h.
030:145 Latin American Political Parties	3 s.h.
035:020 Contemporary Spanish American Narrative	3 s.h.
035:111 Readings in Spanish American Literature	3 s.h.
035:130 Cultures of Spanish America	3 s.h.
035:131 Contemporary Spanish American Fiction	3 s.h.
035:132 Spanish American Poetry	3 s.h.
035:134 Spanish American Short Story	3 s.h.
035:135 Latinos in the United States	3 s.h.
035:144/131:162 Latin American Women Writers	3 s.h.
035:145/048:145 Latin America Cinema	3 s.h.
035:171 Pan-Caribbean Literary Currents	3 s.h.
035:175 Cultural Identity in Caribbean Literature	3 s.h.
035:191/048:178 Topics in Latin American Cinema	3 s.h.
038:020 Contemporary Brazilian Narrative	3 s.h.
038:077 Brazil: The Erotic/Exotic Lure	3 s.h.
038:106 Brazilian Literature After 1900	3 s.h.
038:112 Topics in Luso-Brazilian Literature	3 s.h.
038:115 Writing Brazil in the U.S.	3 s.h.
113:131 Latin American Economy and Society	3 s.h.
113:166 The Aztecs, Their Predecessors, and Their Contemporaries	3 s.h.
130:070 Introduction to Latin American Studies	3 s.h.
130:176/038:176/048:153/113:132/035:176 Latin American Studies Seminar	3 s.h.

#### Middle East/Africa

Appropriate for these languages: Swahili, or proficiency in another contemporary Middle Eastern or African language

01H:002 Arts of Africa	3 s.h.
01H:021 Introduction to the Art of West Africa	3 s.h.
01H:022 Introduction to the Art of Central Africa	3 s.h.
01H:107 Art of West Africa	3 s.h.
008:119/129:119 African Literature	3 s.h.
008:157 Topics in African Cinema	3 s.h.
08G:014/129:008 Literatures of the African Peoples	3 s.h.
009:120 French-Speaking Cultures	3 s.h.
009:146 Francophone Cinema	3 s.h.
009:163 Francophone Literature of the African Diaspora	3 s.h.

16W:121/129:164 African History Since 1880	3 s.h.
16W:125 Women and Gender in African History	3 s.h.
16W:126 Islam in Sub-Saharan Africa	3 s.h.
16W:152 History of the Modern Middle East	3 s.h.
16W:153 Topics in the Modern Middle East	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
030:176 Governance in the Middle East	3 s.h.
032:030 Introduction to Islam	3 s.h.
032:052 Women in Islam and the Middle East	3 s.h.
032:155 Human Rights and Islam	3 s.h.
032:157 Religion and Politics: The Islamic World	3 s.h.
032:159 Comparative Islamic Law	3 s.h.
032:167 Islamic Ethics and Political Thought	3 s.h.
044:161 African Development	3 s.h.
044:164 The Middle East	3 s.h.
048:159/187:159 African Literature Today	3 s.h.
187:060 The Middle East Today: A Social Inquiry	3 s.h.
187:160 Modern Arab Narrative Identities	3 s.h.

### **Russia/Eastern Europe**

Appropriate for these languages: Russian, or proficiency in a modern Slavic language

16E:178 Soviet Union 1917-1945	3 s.h.
16E:179 Soviet Union 1945-1991	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:141 Russian/Post-Soviet Politics	3 s.h.
030:142 European Integration	3 s.h.
030:146 Russian Foreign Policy	3 s.h.
030:159 Politics Under Authoritarian Rule	3 s.h.
041:082 Youth Subcultures After Socialism	3 s.h.
041:086 Russian Media Today	3 s.h.
041:093 Slavic Folklore	3 s.h.
041:094 Religion and Culture of Slavs	3 s.h.
041:096 Islamic Women in Russia	3 s.h.
041:098 Introduction to Russian Culture	3 s.h.
041:099 Russia Today	3 s.h.
041:104/152:170 Health Care and Health Reforms in Russia	3 s.h.
041:126 Cult Films of the Last Soviet Generation	3 s.h.
041:134 Forbidden Masterpieces: Russian and Czech Authors Who Changed History	3 s.h.
041:155/008:155 Tolstoy and Dostoevsky	3-4 s.h.
041:160 Women in Russian Society	3 s.h.
041:164/048:164 Topics in Russian, East European, and Eurasian Studies	3 s.h.
041:165 West and East: Women in the Slavic World	3 s.h.
041:168/048:154 Twentieth-Century Czech Authors	3 s.h.
187:050 Introduction: East European and Central Asian Cultures	3 s.h.

### **Admission**

Undergraduate students pursuing a degree from The University of Iowa are eligible to work toward the Certificate in International Business. Students who already have earned a baccalaureate degree from The University of Iowa may return to complete or earn a certificate in international business if they are not enrolled in a graduate or professional program. Holders of baccalaureate degrees from other institutions who are not enrolled in a graduate or professional program may enroll at The University of Iowa to complete a Certificate in International Business. Contact the Office of Admissions.

Interested students must declare their intention to pursue the certificate with an international business certificate advisor and must submit a plan of study. Students admitted to the Tippie College of Business or advised at the college's Undergraduate Program Office should consult the advising staff in that office. Students in the College of

Liberal Arts and Sciences should consult an international business certificate advisor in the Academic Advising Center.

# International Studies

**Director:** Downing Thomas (French and Italian)

**Undergraduate degree:** B.A. in International Studies

**Undergraduate nondegree program:** Minor in International Studies

**Graduate degree:** M.A. in international studies

**Web site:** <http://international.uiowa.edu/>

International studies is not simply the study of diplomacy and relations among states. The International Studies Program requires all students to integrate theoretical knowledge about broad global processes and the methods used to study them, with in-depth examination of a particular region of the world or a major theme in international studies. It affords students the opportunity to integrate the study of history, politics, economics, expressive arts, culture, beliefs, and social systems.

## Undergraduate Programs

The program offers a Bachelor of Arts and a minor in international studies. The major is an interdisciplinary program of study offered with either a geographic or a thematic emphasis. It prepares students for careers in business, government, international development agencies, nongovernmental organizations, philanthropic agencies, and the arts. It also is excellent preparation for graduate training in the social sciences, the arts, law, business, journalism, international affairs, and area studies.

The curriculum is designed to help students learn to appreciate world cultures, focus on themes of global significance, and master varied disciplinary approaches used to study international issues. For students interested in pursuing a double major, the international studies major complements a wide range of academic degree programs.

### Bachelor of Arts

The Bachelor of Arts in international studies requires a minimum of 120 s.h., including 39 s.h. of work for the major. The program is flexible, drawing on courses across the humanities and social sciences. Students work closely with an academic advisor to plan their program of study, and they work with a faculty mentor on their required senior research project.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Transfer course work equivalent to University of Iowa course work can be accepted toward the major, but at least 15 s.h. of course work for the major must be earned at The University of Iowa.

Students majoring in international studies must earn at least 12 s.h. of the required 39 s.h. in upper-level course work (courses numbered 100 and above). An orientation course (1 s.h.) prepares students to fully engage in their interdisciplinary program of study, and a foundation course (3 s.h.) and two core courses (6 s.h.) introduce them to the major issues in international studies and the varied methods used to examine them. Foreign language proficiency is vital for participating in diverse societies and cultures, so foreign language study beyond the General Education Program requirement is required.

Students select a geographic or thematic emphasis area (12 s.h.) or develop one in consultation with their academic advisor. Each student must complete a senior research project (3 s.h.) related to his or her emphasis area, preparing for the project during the previous semester with a required research course (2 s.h.). International studies electives (6 s.h.) outside the student's emphasis area provide comparative perspectives.

Students who earn a Certificate in Latin American Studies, Global Health Studies, or International Business, or a minor in global health studies or Latin American studies may not choose the corresponding emphasis area for the international studies major.

The program encourages study abroad. See "Study Abroad" below, for details.

### DISTRIBUTION REQUIREMENTS

International studies students must undertake course work in at least four different departments and/or programs. They must complete at least 12 s.h. of upper-level course work: 6 s.h. in the emphasis area, 3 s.h. in the elective area, and 3 s.h. in the emphasis, elective, or foreign language area.

### ORIENTATION COURSE

Within the first year after declaring a major in international studies, students must complete an orientation course, which introduces them to the interdisciplinary major and familiarizes them with international opportunities in their course of study.

187:010 Orientation to International Studies

1 s.h.

**FOUNDATION COURSE**

Each student chooses at least 3 s.h. from the following course list, ordinarily early in the major. Foundation courses provide an overview of global issues and introduce a disciplinary approach to global topics, laying the groundwork for continuing study.

06E:125 Global Economics and Business	3 s.h.
030:060 Introduction to International Relations	3 s.h.
036:086 Global Media Studies	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
187:005 Making of the Modern Global System	3 s.h.
187:006 Developed and Developing Places	3 s.h.
187:007 The European Union	3 s.h.
187:020 Introduction to International Studies	3 s.h.

**CORE COURSES**

Core courses serve as gateways to further focused study in the emphasis areas. Students choose 6 s.h. of core courses from the following list.

187:005 Making of the Modern Global System	3 s.h.
187:006 Developed and Developing Places	3 s.h.
187:007 The European Union	3 s.h.
187:050 Introduction: East European and Central Asian Cultures	3 s.h.
187:060 The Middle East Today: A Social Inquiry	3 s.h.
187:080 Introduction to Human Rights	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06J:146 International Business Environment	3 s.h.
030:060 Introduction to International Relations	3 s.h.
030:061 Introduction to American Foreign Policy	3 s.h.
036:042/042:042/187:042 Intercultural Communication	3 s.h.
036:086 Global Media Studies	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:030 The Global Economy	3 s.h.
048:022 World Film	3 s.h.
048:040 Major Texts in World Literature I	3 s.h.
048:041 Major Texts of World Literature II	3 s.h.
103:055 Languages of the World	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
130:070 Introduction to Latin American Studies	3 s.h.
195:050 Topics in Middle East/Muslim World Studies I	3 s.h.

**GEOGRAPHIC OR THEMATIC EMPHASIS AREA**

Each student chooses one of the geographic emphasis or thematic emphasis areas listed below. The emphasis area is noted on the student's transcript. Students must complete at least four courses in the emphasis area, for a total of 12 s.h.; at least 6 of the 12 s.h. must be earned in upper-level course work (numbered 100 and above).

Courses approved in each emphasis area are listed below. Students may petition the international studies program for permission to include a course not on a list of approved emphasis area courses; they must petition the program by the semester's specified deadline date.

Geographic emphasis areas include Caribbean studies; African studies; East Asian studies; European studies; Latin American studies; Russian, East European, and Eurasian studies; Middle East and Muslim world studies; and South Asian studies.

Thematic emphasis areas include development; global artistic tradition and change; global resources and the



environment; global health; human rights; international business; international communication and information; international politics and international relations; postcolonial and diasporic studies; and war, peace, and security.

Other thematic emphasis areas for which sufficient courses exist may be developed by a student with the approval of the International Programs Undergraduate Affairs Committee.

#### **African Studies Emphasis**

Choose 12 s.h. from these:

01H:002 Arts of Africa	3 s.h.
01H:021 Introduction to the Art of West Africa	3 s.h.
01H:022 Introduction to the Art of Central Africa	3 s.h.
01H:107 Art of West Africa	3 s.h.
008:119/129:119 African Literature	3 s.h.
008:157 Topics in African Cinema	3 s.h.
009:120 French-Speaking Cultures	3 s.h.
009:163 Francophone Literature of the African Diaspora	3 s.h.
016:008 Civilizations of Africa	3 s.h.
16E:130 Modern European Imperialism	3 s.h.
16W:061 Africa and the Atlantic Slave Trade	3 s.h.
16W:121/129:164 African History Since 1880	3 s.h.
16W:125 Women and Gender in African History	3 s.h.
16W:126 Islam in Sub-Saharan Africa	3 s.h.
044:161 African Development	3 s.h.
129:163/16W:120 Pre-Colonial African History	3 s.h.
187:155 Introduction to Africa for Health Sciences	3 s.h.

#### **Caribbean Studies Emphasis**

Choose 12 s.h. from these:

008:114 Caribbean Literature and Culture	3 s.h.
16W:106 Society and Revolution in Cuba	3 s.h.
16W:112 Introduction to Modern Latin America	3 s.h.
16W:115 Latin American Revolution	3 s.h.
16W:120/129:163 Pre-Colonial African History	3 s.h.
16W:121/129:164 African History Since 1880	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:163 Steel Band	1 s.h.
035:143/048:196 Cuban American Literature and Culture	3 s.h.
035:171/048:162 Pan-Caribbean Literary Currents	3 s.h.
035:175 Cultural Identity in Caribbean Literature	3 s.h.

#### **East Asian Studies Emphasis**

Choose 12 s.h. from these:

01H:016/039:016 Asian Art and Culture	3 s.h.
01H:119/039:159 Chinese Art and Culture	3 s.h.
01H:120/039:120 Chinese Painting I	3 s.h.
01H:122/39J:156 Japanese Art and Culture	3 s.h.
01H:123/39J:123 Japanese Painting	3 s.h.
01H:124/039:131 Themes in Asian Art History	3 s.h.
016:005/039:055 Civilizations of Asia: China	3 s.h.
016:006/039:056 Civilizations of Asia: Japan	3-4 s.h.
16W:172/39J:172 Japan--Age of the Samurai	3 s.h.
16W:173/39J:173 Modern Japan	3 s.h.
16W:175/39J:175 Japan--U.S. Relations	3 s.h.

16W:178/039:175 Topics in Asian History	3 s.h.
16W:183 Vietnam War on Film	3-4 s.h.
16W:198/039:196 China Since 1927	3 s.h.
026:145/032:175 Buddhist Philosophy	3 s.h.
030:143/039:178 Government and Politics of the Far East	3 s.h.
030:148 Government and Politics of China	3 s.h.
030:163 Chinese Foreign Policy	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
032:004/039:064 Living Religions of the East	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.
032:009/039:019 Asian Humanities: China	3 s.h.
032:010/039:007 Chinese Religions	3 s.h.
032:017/39J:017 Japanese Religions	3 s.h.
032:075/039:075 Asian Religious Classics	3 s.h.
032:116/39J:109 Japanese Religion and Thought	3 s.h.
032:156/039:156 The Karma of Words	3 s.h.
032:163/039:162 Turning East	3 s.h.
032:170/039:168 Topics in Asian Religions	3 s.h.
032:178/039:188 East Meets West: The Western Reception of Eastern Religion	3 s.h.
032:186/039:140 The Literature of Daoism	3 s.h.
039:015 Introduction to Chinese Culture	3 s.h.
039:020 Asian Humanities: Japan	3 s.h.
039:032 Chinese Popular Culture	3 s.h.
039:034 The Languages of Asia in Cultural and Historical Perspective	3 s.h.
039:036 Understanding Korean Culture Wave	3 s.h.
039:141/048:141 Chinese Literature: Poetry	3 s.h.
039:142 Chinese Literature: Prose	3 s.h.
039:144/103:144 Introduction to Chinese Linguistics	3 s.h.
039:145/008:127/048:106 Topics in Asian Cinema	3 s.h.
039:171 Readings in Chinese Literature	3 s.h.
039:173 Transnational Chinese Cinemas	3 s.h.
039:180 Modern Chinese Writers	3 s.h.
039:192/048:192 East Meets West: A Cross-Cultural Course	3 s.h.
039:198 Topics in Asian Studies	arr.
39J:103 Language in Japanese Society	3 s.h.
39J:125/113:125 Japanese Society and Culture	3 s.h.
39J:129 Japan: Culture and Communication	3 s.h.
39J:130 Workshop in Japanese Literary Translation	3 s.h.
39J:135 Postmodern Aesthetics and Japanese Culture	3 s.h.
39J:141/048:143 Traditional Japanese Literature in Translation	3 s.h.
39J:142/048:142 Modern Japanese Fiction in Translation	3 s.h.
39J:143 Topics in Japanese Literature in Translation	3 s.h.
39J:144 Major Authors in Modern Japanese Literature	3 s.h.
39J:145/048:144 The Tale of Genji	3 s.h.
39J:146/048:147 Warriors Dreams	3 s.h.
39J:155 Contemporary Japanese Culture	3 s.h.
091:651 Law in Asia	arr.
113:118 North Korea and Totalitarianism	3 s.h.

#### European Studies Emphasis

Choose 12 s.h. from these:

01H:005 Western Art and Culture Before 1400	3 s.h.
01H:006 Western Art and Culture After 1400	3 s.h.
01H:026/20E:026 Introduction to Ancient Art	3 s.h.
01H:040 Introduction to Medieval Art	3 s.h.
01H:047 Introduction to Italian Renaissance Art	3 s.h.
01H:053 Introduction to Baroque Visual Culture	3 s.h.

01H:062 Introduction to Nineteenth-Century Art	3 s.h.
01H:073 Introduction to Modern/Contemporary Art	3 s.h.
01H:084 Introduction to Western Architecture	3 s.h.
01H:127/20E:124 Classical Greek Art	3 s.h.
01H:132/20E:128 Art of Early Rome: Patrons and Politics	3 s.h.
01H:134/20E:129 Art and Culture in Ancient Pompeii	3 s.h.
01H:142 Leonardo, Raphael, and Their Contemporaries	3 s.h.
01H:150 Seventeenth-Century Dutch and Flemish Painting	3 s.h.
01H:155 The Romantic Revolution	3 s.h.
01H:158 Realism, Impressionism, Post-Impressionism	3 s.h.
01H:171 Modern Art	3 s.h.
01H:172 Late Modern Art	3 s.h.
01H:183 History of Prints	3 s.h.
01H:184 History of Photography	3 s.h.
01H:185 Modern Architecture	3 s.h.
008:008 Classical and Biblical Literature	3 s.h.
008:060 Selected Works of the Middle Ages	3 s.h.
008:062 Eighteenth-Century British Literature	3 s.h.
008:063 British Romanticism	3 s.h.
008:064 Victorian Literature	3 s.h.
008:065 Twentieth-Century British Literature	3 s.h.
008:090 Topics in Modern British Literature Before 1900	3 s.h.
008:091 Topics in Modern British Literature After 1900	3 s.h.
008:100 Literature and Culture of Seventeenth-Century England	3 s.h.
008:101/162:101 Literature and Culture of the Middle Ages	3 s.h.
008:102 Literature and the Culture of the Renaissance	3 s.h.
008:103 Literature and Culture of Eighteenth-Century Britain	3 s.h.
008:104 Literature and Culture of Nineteenth-Century Britain	3 s.h.
008:107 Literature and Culture of Nineteenth-Century Scotland	3 s.h.
008:110 Literature and Culture of 20th- and 21st-Century Britain	3 s.h.
008:121 British Poetry	3 s.h.
008:131/048:109 European Literature of the Nineteenth Century	3 s.h.
008:138 Topics in Postcolonial Studies	3 s.h.
008:145/048:184 English Renaissance Drama	3 s.h.
008:146 Chaucer	3 s.h.
008:147/049:072 Shakespeare	3 s.h.
008:148 Milton	3 s.h.
008:150 Topics in Medieval and Renaissance Literature	3 s.h.
008:178 Modern British Drama	3 s.h.
009:005 Texts and Contexts: French-Speaking World	3 s.h.
009:007 Nature/Ecology French Philosophy and Fiction	3 s.h.
009:055/033:055 Revolutions in 19th-Century France	3 s.h.
009:113 French Civilization	3 s.h.
009:114 French Civilization	3 s.h.
009:118 Topics in French Studies I	3 s.h.
009:130/01H:157/033:130 Paris and the Art of Urban Life	3 s.h.
009:147/048:105 French Cinema	3-4 s.h.
009:148/048:167/131:167 Gender and Sexuality in French Cinema	3 s.h.
009:168/048:168 Post-Colonial Literature in France	3 s.h.
009:170 Early Modern French Literature and Culture	3-4 s.h.
009:178 Topics in French Studies II	3 s.h.
009:180/131:168 French Women Writers	3-4 s.h.
009:192 French Classical Literature	3 s.h.
010:131/036:143 Classical Rhetoric and Greek Culture	3 s.h.
013:101 Introduction to German Literature	3 s.h.
013:105 German Cultural History	3 s.h.
013:108 The German Media	3 s.h.
013:115 Contemporary German Civilization	3 s.h.
013:142 Twentieth-Century Children's Literature	3 s.h.
013:143 Witch Trials: Fact and Fiction	3 s.h.

013:151 New Literature and Film from Switzerland	3 s.h.
13E:075 Scandinavian Crime Fiction	3 s.h.
13E:080 King Arthur Through the Ages	3 s.h.
13E:085 From the Brothers Grimm to Kafka: The Fantastic and Supernatural in German Literature	3 s.h.
13E:118 The Third Reich and Literature	3 s.h.
13E:119 German Film	3 s.h.
13E:151 New Literature and Film from Switzerland: Beyond Heidi and Lucerne	arr.
016:035/032:025 Medieval Religion and Culture	3 s.h.
016:036/032:026 Modern Religion and Culture	3 s.h.
16E:065 Europe Since 1945	3 s.h.
16E:101/20E:101 Ancient Egypt and the Ancient Near East	3 s.h.
16E:102/20E:136 Food in Ancient Mediterranean Society	3 s.h.
16E:104 The World of Ancient Greece	3 s.h.
16E:106/20E:106 Warfare in Ancient Mediterranean Society	3 s.h.
16E:107 The Hellenistic World and Rome	3 s.h.
16E:108 The Twelfth-Century Renaissance	3 s.h.
16E:110/162:110 Medieval Civilization II	3 s.h.
16E:111 Medieval Intellectual History 300-1150	3 s.h.
16E:113 Economic and Social History of Medieval Europe	3 s.h.
16E:116 Ireland in the Early Middle Ages	3 s.h.
16E:117 History of the Medieval Church	3 s.h.
16E:119 Women, Power, and Society in Medieval Europe	3 s.h.
16E:126 The French Revolutions and Human Rights	3 s.h.
16E:130 Modern European Imperialism	3 s.h.
16E:134 Nineteenth-Century Europe	3 s.h.
16E:135 Twentieth-Century Europe: The Nazi Era	3 s.h.
16E:136 Twentieth-Century Europe: The Cold War and After	3 s.h.
16E:141 Special Topics in European History	arr.
16E:143 Modern France 1789-1871	3 s.h.
16E:144 Modern France 1870-Present	3 s.h.
16E:146 France from 1815-Present	3 s.h.
16E:151 Modern Britain: The Nineteenth Century	3-4 s.h.
16E:152 Modern Britain: The Twentieth Century	3 s.h.
16E:156 Germany Since 1914: Weimar, Hitler, and After	3-4 s.h.
16E:185 First World War	3-4 s.h.
16W:155 Europe and the U.S. in the Twentieth Century	3 s.h.
018:040 Topics in Italian	2 s.h.
018:105 Modern Italian Fiction	3 s.h.
018:106 Modern Italian Poetry and Drama	3 s.h.
018:119 Medieval Italian Literature	3 s.h.
018:120 Medieval and Renaissance Italian Literature	3 s.h.
018:132 Images of Modern Italy	3-4 s.h.
019:132 Photojournalism Workshop	4 s.h.
20E:014 Hero, God, Mortal: Literature of Greece	3 s.h.
20E:015 Love and Glory: Literature of Rome	3 s.h.
20E:030 Greek Civilization	3 s.h.
20E:031 Roman Civilization	3 s.h.
20E:075 Ancient Sports and Leisure	3 s.h.
20E:112 Classical Mythology	3 s.h.
20E:133 Advanced Topics in Mythology	3 s.h.
20E:140 Magic in the Ancient World	3 s.h.
20G:120 Archaic and Classical Periods I	3 s.h.
20L:120 Latin Literature of the Republic I	3 s.h.
026:111 Ancient Philosophy	3 s.h.
026:112/16E:114 Medieval Philosophy	3 s.h.
026:114 Seventeenth-Century Philosophy	3 s.h.
026:118 Twentieth-Century Philosophy	3 s.h.
026:132 Introduction to Political Philosophy	3 s.h.
026:135 Philosophy of Law	3 s.h.
026:141 Existentialist Philosophy	3 s.h.

026:160 Spinoza and Leibniz	3 s.h.
026:174 Sartre	3 s.h.
026:177 Wittgenstein	3 s.h.
026:182 History of Ethics	3 s.h.
030:132 Modern Political Theory	3 s.h.
030:140 Government and Politics of Europe	3 s.h.
030:142 European Integration	3 s.h.
030:147 Parties and Elections Around the World	3 s.h.
030:172 France in the 21st Century	3 s.h.
032:051 Religious Thinkers of the West	3 s.h.
032:154/16E:123 Religious Conflict/Early-Modern Period	3 s.h.
032:164/20E:115 Greek Religion and Society	3 s.h.
032:179/035:179 Islamic Cultural Presence in Spain	3 s.h.
033:125/13E:120 Germany in the World	3 s.h.
035:110 Readings in Spanish Literature	3 s.h.
035:150 Cultures of Spain	3 s.h.
035:151 Literature in the Time of Cervantes	3 s.h.
035:160 The Cid in History and Legend	3 s.h.
035:161 Modern and Contemporary Spanish Literature	3 s.h.
035:180 Spanish Golden Age Fiction	3 s.h.
035:181 Topics in Spanish Literature	3 s.h.
035:183 Don Quijote	3 s.h.
038:107 Introduction to Portuguese Literature	3 s.h.
048:021 Introduction to European Film	3 s.h.
048:104 Topics in European Film	3 s.h.
048:163 Studies in 20th-Century European Literature	arr.
049:194 Dramaturgy	3 s.h.
102:128 Design Europe: Spatial Planning and Identity	3 s.h.
108:182/16E:120 The Book in the Middle Ages	3 s.h.
113:150 Tribes and Chiefdoms of Ancient Europe	3 s.h.
131:181/16E:125 Society and Gender in Europe 1200-1789	3 s.h.
187:007 The European Union	3 s.h.

#### Latin American Studies Emphasis

Choose 12 s.h. from these:

01H:105 Art of Pre-Columbian America	3 s.h.
008:133 Inter-American Studies	3 s.h.
16A:112 Mexican American History	3 s.h.
16W:107 History of Mexico	3 s.h.
16W:110 Topics in Latin American History	3 s.h.
16W:111 Colonial Latin America	3 s.h.
16W:112 Introduction to Modern Latin America	3 s.h.
16W:114 Latin America and the U.S.: The Historical Perspective	3 s.h.
16W:115 Latin American Revolution	3 s.h.
16W:116 Dictatorships of Latin America	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
030:144 Latin American Politics	3 s.h.
030:145 Latin American Political Parties	3 s.h.
035:020 Contemporary Spanish American Narrative	3 s.h.
035:070/038:070/130:070/187:070/16W:109 Introduction to Latin American Studies	3 s.h.
035:111 Readings in Spanish American Literature	3 s.h.
035:113 Screening Latin America	3 s.h.
035:130 Cultures of Spanish America	3 s.h.
035:131 Contemporary Spanish American Fiction	3 s.h.
035:132 Spanish American Poetry	3 s.h.
035:134 Spanish American Short Story	3 s.h.
035:140 Spanish American Literature of Fantasy	3 s.h.

035:144/113:162 Latin American Women Writers	3 s.h.
035:145/048:145 Latin America Cinema	3 s.h.
035:149 Visual Culture: Colonial Spanish America	3 s.h.
035:173 Colonial Spanish American Literature	3 s.h.
035:176/038:176/048:153/113:132/130:176 Latin American Studies Seminar	3 s.h.
035:178 Topics in Spanish American Literature	3 s.h.
035:191/048:178 Topics in Latin American Cinema	3 s.h.
036:152 Latin American Media	3 s.h.
038:020 Contemporary Brazilian Narrative	3 s.h.
038:105 Brazilian Literature Before 1900	3 s.h.
038:106 Brazilian Literature After 1900	3 s.h.
038:112 Topics in Luso-Brazilian Literature	3 s.h.
038:115 Writing Brazil in the U.S.	3 s.h.
038:120 Topics in Luso-Brazilian Culture	3 s.h.
048:024 Introduction to Latin American Film	3 s.h.
113:117 The Maya: Archaeology and Ethnohistory	3 s.h.
113:131 Latin American Economy and Society	3 s.h.
113:163 Archaeology of Mesoamerica	3 s.h.
113:166 The Aztecs, Their Predecessors, and Their Contemporaries	3 s.h.
137:157 Brazilian Carnival	3 s.h.

#### **Middle East and Muslim World Studies Emphasis**

Choose 12 s.h. from these:

008:132 Literature of the Indian Subcontinent	3 s.h.
16W:126 Islam in Sub-Saharan Africa	3 s.h.
16W:152 History of the Modern Middle East	3 s.h.
16W:153 Topics in the Modern Middle East	3 s.h.
20E:071/016:045/032:061 Middle East and Mediterranean: Alexander to Suleiman	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
032:030 Introduction to Islam	3 s.h.
032:052/131:060 Women in Islam and the Middle East	3 s.h.
032:063/129:063 African American Islam	3 s.h.
032:155 Human Rights and Islam	3 s.h.
032:157 Religion and Politics: The Islamic World	3 s.h.
032:159/091:223 Comparative Islamic Law	3 s.h.
032:167 Islamic Ethics and Political Thought	3 s.h.
032:179/035:179 Islamic Cultural Presence in Spain	3 s.h.
041:096 Islamic Women in Russia	3 s.h.
044:164 The Middle East	3 s.h.
091:307 Law in the Muslim World	2-3 s.h.
187:060 The Middle East Today: A Social Inquiry	3 s.h.
187:160 Modern Arab Narrative Identities	3 s.h.
187:165 Cities of the Global South	3 s.h.
195:050 Topics in Middle East/Muslim World Studies I	3 s.h.
195:125 Topics in Middle East/Muslim World Studies II	3 s.h.
195:126 Study Abroad: Culture and Society	3 s.h.

#### **Russian, East European, and Eurasian Studies Emphasis**

Choose 12 s.h. from these:

16E:178 Soviet Union 1917-1945	3-4 s.h.
16E:179 Soviet Union 1945-1991	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:141 Russian/Post-Soviet Politics	3 s.h.
030:146 Russian Foreign Policy	3 s.h.

030:159 Politics Under Authoritarian Rule	3 s.h.
041:094 Religion and Culture of Slavs	3 s.h.
041:095 Istria in Istria, Past and Present	3 s.h.
041:096 Islamic Women in Russia	3 s.h.
041:097 Istria	3 s.h.
041:098 Introduction to Russian Culture	3 s.h.
041:099 Russia Today	3 s.h.
041:102/048:107 Russian Literature in Translation 1860-1917	3 s.h.
041:104/152:170 Health Care and Health Reforms in Russia	3 s.h.
041:126/048:126 Cult Films of the Last Soviet Generation	3 s.h.
041:155/008:155 Tolstoy and Dostoevsky	3-4 s.h.
041:156/008:156/048:156 Invitation to Nabokov	3 s.h.
041:160 Women in Russian Society	3 s.h.
041:168/048:154 Twentieth-Century Czech Authors	3 s.h.
041:190 Readings in Russian Literature	3 s.h.
048:050/187:050 Introduction: East European and Central Asian Cultures	3 s.h.
048:184/187:185 Topics in REEES	3 s.h.
091:236 Contemporary Russian Law in Historical Context	3 s.h.

#### South Asian Studies Emphasis

Choose 12 s.h. from these:

008:127/039:145/048:106 Topics in Asian Cinema	3 s.h.
008:132 Literature of the Indian Subcontinent	3 s.h.
016:007/039:057 Civilizations of Asia: South Asia	3-4 s.h.
16W:140 Disease, Politics, and Health in South Asia	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
032:004/039:064 Living Religions of the East	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.
032:008/039:018 Asian Humanities: India	3 s.h.
032:170/039:168 Topics in Asian Religions	3 s.h.
032:171/039:163 Indian Religious Texts	3 s.h.
032:177/039:136 Indian Literature	3 s.h.
032:178/039:188 East Meets West: The Western Reception of Eastern Religion	3 s.h.
039:119/113:120 Popular Culture in South Asia	3 s.h.
039:122/113:129 Language/Politics of Culture in South Asia	3 s.h.
091:651 Law in Asia	arr.
113:107/131:107 Gendering India	4 s.h.
113:118 North Korea and Totalitarianism	3 s.h.
113:127/131:127 South Asian Sexual Cultures	3 s.h.

#### Development Emphasis

Choose 12 s.h. from these:

06E:129 Economic Growth and Development	3 s.h.
06E:173 International Economics	3 s.h.
07B:104 Education in the Third World	2-3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:170 The Politics of International Economics	3 s.h.
030:177 Globalization	3 s.h.
044:030 The Global Economy	3 s.h.
044:035 World Cities	3 s.h.
044:104 Environment and Development	3 s.h.
044:161 African Development	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.
046:126 International Perspectives: Xicotepec	2 s.h.
053:141 Design for the Developing World	3 s.h.

102:128 Design Europe: Spatial Planning and Identity	3 s.h.
102:140 Planning for Sustainability	3 s.h.
102:297 Community Development Finance	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
113:113 Human Impacts on the Environment	3 s.h.
113:131 Latin American Economy and Society	3 s.h.
187:180 Human Rights Advocacy	3 s.h.

#### Global Artistic Tradition and Change Emphasis

Choose 12 s.h. from these:

01H:001 Art and Visual Culture	3 s.h.
01H:002 Arts of Africa	3 s.h.
01H:004 Masterpieces: Art and Cultural Paradigms	3 s.h.
01H:016/039:016 Asian Art and Culture	3 s.h.
01H:084 Introduction to Western Architecture	3 s.h.
01H:107 Art of West Africa	3 s.h.
01H:119 Chinese Art and Culture	3 s.h.
01H:120/039:120 Chinese Painting I	3 s.h.
01H:122/39J:156 Japanese Art and Culture	3 s.h.
01H:123 Japanese Painting	3 s.h.
01H:132 Art of Early Rome: Patrons and Politics	3 s.h.
008:064 Victorian Literature	3 s.h.
008:075 Selected Transnational Authors	3 s.h.
008:084 Topics in Culture and Identity	3 s.h.
008:090 Topics in Modern British Literature Before 1900	3 s.h.
008:091 Topics in Modern British Literature After 1900	3 s.h.
008:114 Caribbean Literature and Culture	3 s.h.
008:119/129:119 African Literature	3 s.h.
008:150 Topics in Medieval and Renaissance Literature	3 s.h.
008:157 Topics in African Cinema	3 s.h.
008:191/181:191 International Literature Today	1, 3 s.h.
008:193 Transcultural Modernism	3 s.h.
009:118 Topics in French Studies I	3 s.h.
009:130 Paris and the Art of Urban Life	3 s.h.
009:146 Francophone Cinema	3-4 s.h.
009:147/048:105 French Cinema	3-4 s.h.
009:180 French Women Writers	3-4 s.h.
013:101 Introduction to German Literature	3 s.h.
013:151 New Literature and Film from Switzerland	3 s.h.
018:040 Topics in Italian	2 s.h.
018:106 Modern Italian Poetry and Drama	3 s.h.
20E:014 Hero, God, Mortal: Literature of Greece	3 s.h.
20E:075 Ancient Sports and Leisure	3 s.h.
20G:120 Archaic and Classical Periods I	3 s.h.
20L:120 Latin Literature of the Republic I	3 s.h.
20L:121 Latin Literature of the Republic II	3 s.h.
20L:122 Latin Literature of the Empire I	3 s.h.
20L:123 Latin Literature of the Empire II	3 s.h.
025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:178 Music, Culture, and Identity	3 s.h.
032:156/039:156 The Karma of Words	3 s.h.
035:111 Readings in Spanish American Literature	3 s.h.
035:132 Spanish American Poetry	3 s.h.
035:147 Topics in National Literatures and Cultures	3 s.h.
035:161 Modern and Contemporary Spanish Literature	3 s.h.
035:178 Topics in Spanish American Literature	3 s.h.



035:181 Topics in Spanish Literature	3 s.h.
035:182 Society and Poetry: Spanish Lyric	3 s.h.
035:183 Don Quijote	3 s.h.
035:191/048:178 Topics in Latin American Cinema	3 s.h.
035:192 Topics in Film Studies	3 s.h.
038:115 Writing Brazil in the U.S.	3 s.h.
039:136/032:177 Indian Literature	3 s.h.
039:145/048:106/008:127 Topics in Asian Cinema	3 s.h.
039:173/048:174 Transnational Chinese Cinemas	3 s.h.
39J:141/048:143 Traditional Japanese Literature in Translation	3 s.h.
39J:143 Topics in Japanese Literature in Translation	3 s.h.
39J:144 Major Authors in Modern Japanese Literature	3 s.h.
041:102/048:107 Russian Literature in Translation 1860-1917	3 s.h.
041:126/048:126 Cult Films of the Last Soviet Generation	3 s.h.
041:156/008:156/048:156 Invitation to Nabokov	3 s.h.
048:012 Film and Society	3 s.h.
048:021 Introduction to European Film	3 s.h.
048:022 World Film	3 s.h.
048:024 Introduction to Latin American Film	3 s.h.
048:040 Major Texts in World Literature I	3 s.h.
048:041 Major Texts of World Literature II	3 s.h.
048:104 Topics in European Film	3 s.h.
048:118 Topics in World Cinemas	3 s.h.
048:145/035:145 Latin America Cinema	3 s.h.
048:152 America in Other Words	1-3 s.h.
048:163 Studies in 20th-Century European Literature	arr.
048:185 Global Women's Cinema	3 s.h.
049:002 Theatre and Society: Ancients and Moderns	3 s.h.
049:003 Theatre and Society: Romantics and Rebels	3 s.h.
049:112 History of Theatre and Drama I	3 s.h.
049:113 History of Theatre and Drama II	3 s.h.
129:008/08G:014 Literatures of the African Peoples	3 s.h.
131:052/008:052 Literature, Culture, and Women	3 s.h.
131:162/035:144 Latin American Women Writers	3 s.h.
137:157 Brazilian Carnival	3 s.h.

#### Global Resources and the Environment Emphasis

Choose 12 s.h. from these:

06E:133 Environmental and Natural Resource Economics	3 s.h.
032:076/149:076 American Indian Environmentalism	3 s.h.
044:003 Introduction to Earth Systems Science	4 s.h.
044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
044:104 Environment and Development	3 s.h.
044:177 Environmental Justice	3 s.h.
044:178 Consequences of Global Environmental Change	3 s.h.
053:141 Design for the Developing World	3 s.h.
102:140 Planning for Sustainability	3 s.h.
113:113 Human Impacts on the Environment	3 s.h.
113:114 Environmentalisms	3 s.h.
113:143 Environment and Culture	3 s.h.
152:135/027:135 Global Health and Global Food	3 s.h.
187:005 Making of the Modern Global System	3 s.h.

**Global Health Studies Emphasis**

Choose 12 s.h. from these:

06E:113 Health Economics	3 s.h.
16W:138/152:138 History of Global Health	3 s.h.
16W:140 Disease, Politics, and Health in South Asia	3 s.h.
027:176/152:158 Promoting Health Globally	3 s.h.
044:131/152:131 Geography of Health	1-3 s.h.
053:141 Design for the Developing World	3 s.h.
096:175/152:175 Issues in International Nursing and Health Care	3 s.h.
113:133/131:133/172:133 The Anthropology of Women's Health	3 s.h.
113:184/172:131/152:184 Anthropology and International Health	3 s.h.
113:185/152:185/172:173 Medical Anthropology	3 s.h.
152:120 Global Health and Human Rights	2-3 s.h.
152:121/113:121/149:121 Health of Indigenous Peoples	3 s.h.
152:125 Topics in Global Health	1-3 s.h.
152:135/027:135 Global Health and Global Food	3 s.h.
152:137/16W:137 History of Public Health	3 s.h.
152:150 Research Design in Global Health	2-3 s.h.
152:151 Proseminar in Global Health	1 s.h.
152:152 Global Health Conference	1 s.h.
152:160 Global Health Seminar	3 s.h.
152:170/041:104 Health Care and Health Reforms in Russia	3 s.h.
152:182 Health Experience of Immigrants, Migrants, and Refugees	3 s.h.
175:111/152:111/173:111 International Health	3 s.h.
187:155 Introduction to Africa for Health Sciences	3 s.h.
187:180 Human Rights Advocacy	3 s.h.

**Human Rights Emphasis**

Choose 12 s.h. from these:

16W:116 Dictatorships of Latin America	3 s.h.
16W:157/131:157/154:157 Gender, Sexuality, and Human Rights	3 s.h.
026:034 Philosophy and the Just Society	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
032:016 Religion and Liberation	3 s.h.
032:155 Human Rights and Islam	3 s.h.
032:231 Seminar: Religion and Society	3 s.h.
044:164 The Middle East	3 s.h.
044:170 Geography of Justice	3 s.h.
044:177 Environmental Justice	3 s.h.
091:193 Human Rights in the World Community	1-3 s.h.
091:307 Law in the Muslim World	2-3 s.h.
091:640 Human Trafficking	arr.
091:651 Law in Asia	arr.
103:045 Language Rights	3 s.h.
152:120 Global Health and Human Rights	2-3 s.h.
187:080 Introduction to Human Rights	3 s.h.
187:175 Child Labor and International Human Rights	3 s.h.
187:176 Topics in Human Rights	1-3 s.h.
187:180 Human Rights Advocacy	3 s.h.

**International Business Emphasis**

Choose 12 s.h. from these:

06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:173 International Economics	3 s.h.
06F:130 International Finance	3 s.h.
06J:146 International Business Environment	3 s.h.
06M:151 International Marketing	3 s.h.
009:115 Business French	3 s.h.
013:114 Business German	3 s.h.
030:167 Politics and the Multinational Enterprise	3 s.h.
030:170 The Politics of International Economics	3 s.h.
035:118 Business Spanish	3 s.h.
102:297 Community Development Finance	3 s.h.

#### **International Communication and Information Emphasis**

Choose 12 s.h. from these:

009:030 Cultural Misunderstandings: France and U.S.A.	3 s.h.
019:164 Images and Society	3 s.h.
030:166 Global Communication and Politics	3 s.h.
036:042/042:042 Intercultural Communication	3 s.h.
036:071 Communication and Critical/Cultural Studies	3 s.h.
036:074 Media and Society	3 s.h.
036:086 Global Media Studies	3 s.h.
036:142 Advanced Intercultural Communication	3 s.h.
39J:129 Japan: Culture and Communication	3 s.h.
048:152/181:152 America in Other Words	1-3 s.h.
103:011 Language and Society	3 s.h.
103:020 Introduction to the Study of Language	3 s.h.
103:055 Languages of the World	3 s.h.
103:150 Language and Gender	3 s.h.
113:014 Language, Culture, and Communication	3 s.h.
113:123 Language and Nationalism	3 s.h.

#### **International Politics and International Relations Emphasis**

Choose 12 s.h. from these:

16A:152 United States in World Affairs	3 s.h.
16A:155 Political Culture of U.S. Foreign Policy	3 s.h.
16A:156 Major Topics in U.S. Foreign Policy	3 s.h.
16W:155 Europe and the U.S. in the Twentieth Century	3 s.h.
16W:175/39J:175 Japan--U.S. Relations	3 s.h.
026:132 Introduction to Political Philosophy	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:045 Introduction to Comparative Politics	3 s.h.
030:060 Introduction to International Relations	3 s.h.
030:061 Introduction to American Foreign Policy	3 s.h.
030:130 Consequences of War	3 s.h.
030:146 Russian Foreign Policy	3 s.h.
030:148 Government and Politics of China	3 s.h.
030:155 International Courts: The Intersection of Law and Politics	3 s.h.
030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
030:159 Politics Under Authoritarian Rule	3 s.h.
030:160 Women and Politics in Global Perspective	3 s.h.
030:161 International Organization and World Order	3 s.h.
030:162 American Foreign Policies	3 s.h.
030:164 Race in World Politics	3 s.h.
030:165 International Conflict	3 s.h.

030:166 Global Communication and Politics	3 s.h.
030:168 Politics of Terrorism	3 s.h.
030:169 Problems of International Politics	3 s.h.
030:170 The Politics of International Economics	3 s.h.
030:172 France in the 21st Century	3 s.h.
030:173 State Failure in the Developing World	3 s.h.
030:177 Globalization	3 s.h.
030:183 Honors Seminar on Comparative Politics	3 s.h.
030:184 Honors Seminar on International Politics	3 s.h.
032:160 Religious Identity in the Modern Secular State	3 s.h.
036:042/042:042 Intercultural Communication	3 s.h.
036:142 Advanced Intercultural Communication	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:164 The Middle East	3 s.h.
091:193 Human Rights in the World Community	1-3 s.h.
091:195 Introduction to Public International Law	1-3 s.h.
091:260 Foreign Relations Law	arr.
113:104 Cultural Politics	3 s.h.
187:005 Making of the Modern Global System	3 s.h.
187:180 Human Rights Advocacy	3 s.h.

#### **Postcolonial and Diasporic Studies Emphasis**

Choose 12 s.h. from these:

008:031 Introduction to Postcolonial Studies	3 s.h.
008:132 Literature of the Indian Subcontinent	3 s.h.
008:138 Topics in Postcolonial Studies	3 s.h.
008:161/048:161 Transnational and Postcolonial Writing by Women	3 s.h.
009:120 French-Speaking Cultures	3 s.h.
009:146 Francophone Cinema	3-4 s.h.
009:163 Francophone Literature of the African Diaspora	3 s.h.
16A:112 Mexican American History	3 s.h.
16E:130 Modern European Imperialism	3 s.h.
16W:114 Latin America and the U.S.: The Historical Perspective	3 s.h.
16W:153 Topics in the Modern Middle East	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
030:164 Race in World Politics	3 s.h.
049:153 Costume Crafts II	3 s.h.
091:640 Human Trafficking	arr.
131:134/113:134 Gender and Indian Diaspora	3 s.h.
131:149 Transnational Feminism	3 s.h.

#### **War, Peace, and Security Emphasis**

Choose 12 s.h. from these:

016:144 War and Peace in the Twentieth Century	3 s.h.
016:186 Modern Warfare, 1500-Present	3 s.h.
16A:153 U.S.A. in a World at War 1931-1945	3 s.h.
16A:156 Major Topics in U.S. Foreign Policy	3 s.h.
16A:159 Warfare in American History 1492-1924	3 s.h.
16E:106/20E:106 Warfare in Ancient Mediterranean Society	3 s.h.
16E:126 The French Revolutions and Human Rights	3 s.h.
16E:136 Twentieth-Century Europe: The Cold War and After	3 s.h.
16E:185 First World War	3-4 s.h.
16W:183 Vietnam War on Film	3-4 s.h.
030:130 Consequences of War	3 s.h.
030:155 International Courts: The Intersection of Law and Politics	3 s.h.

030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
030:165 International Conflict	3 s.h.
030:168 Politics of Terrorism	3 s.h.
030:178 Causes, Consequences, and Management of Civil War	3 s.h.
032:020 War and Peace in Western Religious Thought	3 s.h.
036:040 Communication and Conflict	3 s.h.
044:164 The Middle East	3 s.h.
091:640 Human Trafficking	arr.
187:180 Human Rights Advocacy	3 s.h.

## INTERNATIONAL STUDIES ELECTIVES

Students must complete 6 s.h. of international studies elective course work. Electives must be chosen from courses approved for the international studies major, excluding any courses approved in the student's chosen emphasis area. At least 3 s.h. must be earned in upper-level course work (numbered 100 and above).

## LANGUAGE REQUIREMENT

All students must complete a minimum of two semesters of advanced foreign language study (work beyond the minimum required to fulfill the foreign language requirement of the General Education Program). This requirement may be satisfied either by completing two semesters of upper-level study in the same language used to complete the General Education Program or by completing two semesters, or the equivalent, of a second foreign language at any level.

In fulfilling the language requirement, most students are eligible to receive an additional 4 s.h. of ungraded credit under the Foreign Language Incentive Program (FLIP). This credit may be applied to the minimum 120 s.h. required for graduation, but it does not count toward requirements for the international studies major.

## RESEARCH AND PROJECT PREPARATION

All students prepare for the required senior project by completing 187:095 Research and Final Project Preparation (2 s.h.), in which they learn research methodologies and prepare a detailed project proposal.

## INTERNATIONAL STUDIES SENIOR PROJECT

All students enroll in 187:199 International Studies Senior Project during their last year of study. They engage in a semester-long research project that culminates in a substantial written or creative work focusing on a topic in their geographic or thematic emphasis area. The course is completed under the supervision of a faculty mentor.

## Study Abroad

Students are strongly encouraged to incorporate an approved study abroad experience into their international studies major. Credit earned while studying abroad may be applied toward the requirements for the major, as appropriate. International studies majors who study abroad in an approved program may apply for a \$1,000 scholarship from International Programs in addition to other financial aid and scholarships for which they are eligible. For scholarship requirements, deadlines, and application materials, see Study Abroad Guidelines and Scholarships on the International Studies web site.

It is important to plan ahead for study abroad. Once students choose their geographic or thematic emphasis, they should visit the Office for Study Abroad for help in selecting an appropriate study abroad program.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

Note: Students who intend to study abroad in their junior year should schedule an appointment during their fourth semester to meet with an advisor from the Office for Study Abroad. Those who intend to study abroad in their senior year should schedule an appointment during their sixth semester to meet with an advisor from the Office for Study Abroad.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least three courses in the major (7 s.h., a foundation course, one core course, and the orientation course) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least seven courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least 11 courses in the major, including the required research preparation course

**During the eighth semester:** enrollment in all remaining course work in the major (three courses), all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

Students may earn a B.A. with honors in international studies. The option is available to students with a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all course work applied to the international studies major and all course work that may be applied to the major. To graduate with honors, students are required to complete a minimum of 42 s.h., including three courses (9 s.h.) in a second emphasis area (this takes the place of the 6 s.h. international studies elective requirement). In place of 187:199 International Studies Senior Project, honors students must complete 187:198 Honors Thesis in International Studies and present their research in a poster session sponsored by International Programs.

Honors students must complete at least 15 s.h. in upper-level course work (numbered 100 and above). At least 6 s.h. of the 42 s.h. required for the honors major must be earned in courses designated as honors courses. Students may enroll in honors courses offered by individual departments, or with the instructor's approval, they may designate any course approved for their international studies major as an honors course.

Contact the University of Iowa Honors Program for more information about honors study at Iowa.

## Minor

The minor in international studies requires a minimum of 15 s.h. in courses approved for the international studies major, including 12 s.h. in upper-level courses (courses numbered 100 and above) and 3 s.h. chosen from courses approved for the international studies core or foundation requirements; of the 15 s.h. required for the minor, 12 s.h. must be taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. To preserve the interdisciplinary nature of the international studies minor, students may count a maximum of 6 s.h. from a single department or program or from another major, minor, or certificate toward the minor.

## Graduate Program

The International Studies Program offers a Master of Arts in international studies.

### Master of Arts

The Master of Arts in international studies requires a minimum of 36 s.h. of graduate credit; a thesis or final project is required. The program is designed for students who seek an interdisciplinary approach to graduate study, especially those who have identified an area of international interest and who wish to pursue a tailor-made program on international issues.

The 36 s.h. required for the M.A. includes 33 s.h. of graded course work (thesis credit is not graded); 24 s.h. must be earned after admission to the M.A. program, with at least 8 s.h. earned in residence on the University of Iowa campus. Students must earn a minimum of 21 s.h. in formal classroom work (excluding independent study, research, thesis work, and special projects); no more than 9 s.h. of independent study, research, and thesis credit may be counted toward the degree. A maximum of 12 s.h. earned at another institution or in another University of Iowa graduate program may be counted toward the degree.

Students must maintain a g.p.a. of at least 3.00 in all University of Iowa and transfer course work applied toward the degree.

Basic requirements for the M.A. are as follows.

Graduate-level seminars	9 s.h.
Foreign language study	6 s.h.
International research	0-6 s.h.
Additional course work	12-21 s.h.
Thesis or final project	0-3 s.h.

All M.A. students must submit a plan of study when they apply for admission to the program. The study plan must identify a focus area for the student's course work and research. During their first semester in the program, students review and revise the study plan in consultation with their advisory committee; changes must be approved in writing by the committee.

The advisory committee must include at least three tenured or tenure-track faculty members, who may be drawn from any college at the University. One of the committee members serves as the student's primary advisor and chairs the committee. Students should meet with their advisors at least once each semester, before registration for the next term. Additional meetings and consultations with the advisor and committee members should take place as needed.

International Programs provides a list of faculty mentors, searchable by focus area; see International Studies Mentor Directory on the International Program web site.

### **Admission**

Applicants to the M.A. in international studies must meet the application requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Prospective students are urged to consult with the program about their academic objectives.

Admission is for fall entry only; application deadline is February 15 for the following fall.

For detailed application information, see Application & Admission on the International Studies M.A. web page.

## **International Studies Courses**

<b>187:001 International Studies Colloquium</b>	1 s.h.
Modules focusing on varied topics, taught by international studies faculty members.	
<b>187:002 Issues in International Studies</b>	1 s.h.
Modules focusing on varied topics, taught by international studies faculty members.	
<b>187:003 Issues in International Studies</b>	1 s.h.
Modules focusing on varied topics, taught by international studies faculty members.	
<b>187:004 Issues in International Studies</b>	1 s.h.
Modules focusing on varied topics, taught by international studies faculty members.	
<b>187:005 Making of the Modern Global System</b>	3 s.h.
Formation of the modern global system; capitalism, science and technology, representative government and nationalism, colonialism and decolonization; rise of these institutions in the West, response and adaptation by a nonwestern society.	
<b>187:006 Developed and Developing Places</b>	3 s.h.
Geography and the world distribution of key cultural factors--population, religion, and per capita income; economic and demographic differences between developed and developing countries.	
<b>187:007 The European Union</b>	3 s.h.
Brief history and rationale for the European Union; environmental, economic, social, and political aspects of this potential superpower.	
<b>187:010 Orientation to International Studies</b>	1 s.h.
Introduction to concept of international competency; academic options in the international studies major, use of required e-folio, intentional planning model for approach to interdisciplinary study. Requirements: international studies major.	
<b>187:012 Germany and the Amanas</b>	1 s.h.
Contemporary issues of Germany, patterns of immigration to Amana, Iowa.	
<b>187:013 Poland and the Czech Republic</b>	1 s.h.

Contemporary issues of Poland, the Czech Republic, and Slovakia; immigration paths to the United States, and Iowa settlements.

- 187:014 The Netherlands and Pella** 1 s.h.  
History and culture of the Netherlands; immigration pattern of the Dutch who came to Pella, Iowa.
- 187:020 Introduction to International Studies** 3 s.h.  
Introduction to the interdisciplinary field of international studies.
- 187:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; international topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- 187:042 Intercultural Communication** 3 s.h.  
Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 036:042, 042:042.
- 187:050 Introduction: East European and Central Asian Cultures** 3 s.h.  
Introduction to study of major East European, Russian, and Eurasian cultures. Same as 048:050.
- 187:060 The Middle East Today: A Social Inquiry** 3 s.h.  
Introduction to history, society, and culture in the modern Middle East.
- 187:070 Introduction to Latin American Studies** 3 s.h.  
Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as 035:070, 038:070, 130:070.
- 187:080 Introduction to Human Rights** 3 s.h.  
Analysis and evaluation of the international human rights program; relationship between human rights and international law.
- 187:081 Autonomous Language Learning** 1-3 s.h.  
The art and science of self-directed language study in conjunction with work on a less-commonly-taught language; independent study; for experienced language learners. Same as 164:081.
- 187:095 Research and Final Project Preparation** 2 s.h.  
Preparation for senior project, development of course proposal. Requirements: junior or higher standing.
- 187:096 Focused Academic Research for International Studies Majors** 1 s.h.  
Same as 417:096.
- 187:101 Intensive Less-Commonly-Taught Languages** 4-6 s.h.  
Intensive study in varied less-commonly-taught languages; emphasis on speaking, listening, and reading in preparation for academic study or research abroad. Requirements: completion of GE foreign language component. Same as 164:101.
- 187:105 Independent Study in International Studies** arr.  
Research on a topic of international significance.
- 187:111 Conversation in Less Commonly Taught Languages** arr.  
Foreign languages not commonly taught on campus; beyond elementary level; content adapted to enrolled students. Requirements: previous study of the language indicated for the section. Same as 164:111.
- 187:120 Elementary Indonesian I** 4 s.h.



Bahasa Indonesian language for those with no prior study of the language; emphasis on functional communication skills (listening, speaking, reading, writing). Same as 164:120.

**187:121 Elementary Indonesian II** 4 s.h.  
Continuation of 164:120; emphasis on functional communication skills (listening, speaking, reading, writing). Same as 164:121.

**187:125 Conversational Indonesian** 1 s.h.  
Open conversation in Indonesian language; active participation. Prerequisites: 164:121. Same as 164:125.

**187:130 Elementary Turkish I** 4 s.h.  
Turkish language for those with no prior study of the language; emphasis on functional communication skills (listening, speaking, reading, writing). Same as 164:130.

**187:131 Elementary Turkish II** 4 s.h.  
Continuation of 164:130; emphasis on functional communication skills (listening, speaking, reading, writing). Prerequisites: 164:130 or 187:130. Same as 164:131.

**187:135 Conversational Turkish** 1 s.h.  
Open conversation in Turkish language; active participation. Prerequisites: 164:131. Same as 164:135.

**187:140 International Studies Internship** 1-3 s.h.  
Professional work experience in internationally-focused positions; faculty supervised. Requirements: junior or senior standing in international studies.

**187:155 Introduction to Africa for Health Sciences** 3 s.h.  
Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing.

**187:159 African Literature Today** 3 s.h.  
Contemporary written and oral African literary texts, literary theories relevant to study of African literatures. Same as 008:159, 048:159.

**187:160 Modern Arab Narrative Identities** 3 s.h.  
Twentieth-century Arab identities and experiences explored through Arabic literature.

**187:165 Cities of the Global South** 3 s.h.  
Twenty-first-century cities of the global south; interdisciplinary approach.

**187:175 Child Labor and International Human Rights** 3 s.h.  
Complexity of child labor in global, regional, national, and local contexts; international human rights system, current programs and strategies for reducing or eliminating abusive child labor.

**187:176 Topics in Human Rights** 1-3 s.h.  
Examination of emerging human rights issues from an interdisciplinary and international perspective.

**187:177 Summer Institute for Teachers and Lifelong Learners** 3 s.h.  
Interdisciplinary global issues; intensive course for teachers and students. Same as 07S:177.

**187:180 Human Rights Advocacy** 3 s.h.  
Theoretical foundations and critical issues for international human rights advocacy and international humanitarian movements; honors proseminar. Requirements: junior or higher standing.

**187:185 Topics in REEES** 3 s.h.  
Varied topics; interdisciplinary focus on Russian, East European, and Eurasian studies. Same as 048:184.

**187:189 Provost's Forum on International Affairs** 1 s.h.  
Opportunity to debate, discuss, and reflect upon urgent and significant international issues; symposium.

**187:198 Honors Thesis in International Studies** 3 s.h.

- 187:199 International Studies Senior Project** 3 s.h.
- 187:205 International Graduate Research** 1-6 s.h.  
Independent study directed by a faculty member.
- 187:210 International Programs Summer Institute for Teachers** 3 s.h.  
What lowans need to know about the rest of the world; professional development workshop for teachers. One week.  
Same as 07S:210.
- 187:299 International Studies M.A. Thesis** 1-3 s.h.  
Thesis for interdisciplinary M.A. with international studies emphasis. Repeatable.

# Journalism and Mass Communication

**Director:** David D. Perlmutter

**Professors:** Julie Andsager, Daniel A. Berkowitz, Stephen G. Bloom, Pamela J. Creedon, John Kimmich, Judy Polunbaum

**Professors emeriti:** Joseph Ascroft, Gilbert Cranberg, Carolyn Stewart Dyer, Hanno Hardt, Kenneth Starck, Al Talbott

**Associate professors:** Stephen Berry, Venise Berry, Frank Durham, Meenakshi Gigi Durham, Lyombe Eko, Donald McLeese, Jane Singer, Sujatha Sosale

**Associate professors emeriti:** John Erickson, John Kottman, Sue Lafky, William Zima

**Undergraduate degrees:** B.A., B.S. in Journalism and Mass Communication

**Undergraduate nondegree program:** Minor in Mass Communication

**Graduate degrees:** M.A. in Journalism; Ph.D. in Mass Communications

**Web site:** <http://www.uiowa.edu/jmc>

## Undergraduate Programs

The School of Journalism and Mass Communication offers a Bachelor of Arts and a Bachelor of Science in journalism and mass communication. Both degrees prepare students for careers in the field. The school also offers a minor in mass communication.

Journalistic writing is the core of the undergraduate programs. Students are required to take both professional and conceptual courses offered by the school; they develop professional skills while studying the historical, legal, cultural, and institutional roles of media in society. The programs also build upon the University's commitment to the liberal arts and sciences, requiring majors to complete extensive academic work outside the school.

Graduates find employment in a variety of areas such as newspapers, magazines, radio, television, online communications, public relations, publication design, photojournalism, and media research.

The school is accredited by the Accrediting Council on Education in Journalism and Mass Communications.

### Selective Admission

To preserve the quality of its undergraduate program, the School of Journalism and Mass Communication has a selective admission policy. Undergraduate students with a declared interest in journalism are admitted to the major in one of two ways. First-year students who enter the University with honors standing in the College of Liberal Arts and Sciences or as Presidential Scholars, Old Gold Scholars, or Daily Iowan Scholars are guaranteed admission to the major as long as they have satisfied the necessary prerequisites. Most students are classified as having a "journalism and mass communication interest" and must apply for admission to the major, typically during the semester in which they will complete the following: 019:090 Media Uses and Effects and 019:091 Media History and Culture; all required rhetoric courses; and a total of at least 45 s.h. of course work (or 30 s.h. for students in the University of Iowa Honors Program).

The primary criterion for admission to major status is overall academic performance. Statement of interest, demonstrated writing ability, prior journalistic experience, participation in journalism student organizations, and performance in journalism courses also are considered for applicants with a demonstrated focus on journalism as a career. The number of students accepted each semester depends on the number of students already in the program and available resources. The school reviews applications with the goal of admitting the most qualified students.

For applications and deadline information, contact the School of Journalism and Mass Communication.

### Transfer Students

Transfer students who wish to major in journalism are classified as having a "journalism and mass communication interest." They may apply to the major during the semester in which they complete at least 45 s.h. of course work at The University of Iowa and other institutions, including the rhetoric requirement and the foundation courses 019:090 Media Uses and Effects and 019:091 Media History and Culture. Courses taken at other institutions cannot be substituted for 019:090 Media Uses and Effects or 019:091 Media History and Culture.

The school may accept up to 7 s.h. of transfer credit in journalism toward the major in journalism and mass communication, or up to 3 s.h. toward the minor in mass communication; transfer courses must have been completed at a school accredited by the Association for Education in Journalism and Mass Communication. Course work taken at another school sometimes may be used to satisfy the second major or concentration area requirements. Transfer credit intended to meet School of Journalism and Mass Communication requirements must be approved by the head of undergraduate studies.

### Bachelor of Arts, Bachelor of Science

The Bachelor of Arts and Bachelor of Science in journalism and mass communication require a minimum of 120 s.h., including 33 s.h. of work for the major. Students also must complete a second major or 24 s.h. in a second concentration area. They may count a maximum of 40 s.h. in journalism and mass communication credit toward graduation. A g.p.a. of at least 2.00 in the major is required.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Each journalism student develops a study plan in consultation with an assigned faculty advisor.

The journalism major requires the following course work. Students must complete a minimum of 33 s.h., but no more than 40 s.h., in journalism and mass communication.

#### **PREMAJOR FOUNDATION**

019:090 Media Uses and Effects	3 s.h.
019:091 Media History and Culture	3 s.h.

#### **JOURNALISM PROFESSIONAL SKILLS COURSES**

019:078 Journalism Issues	1 s.h.
019:088 Multimedia Introduction	1 s.h.
019:098 Journalistic Reporting and Writing	3 s.h.
One intermediate reporting/writing course (019:120-019:129)	4 s.h.
A second reporting/writing course (019:120 - 019:129, 019:171)	4 s.h.
One workshop (019:130 - 019:139, 019:172 - 019:178)	4 s.h.
A third reporting/writing course or one workshop (019:120 - 019:129, 019:130 - 019:139, 019:171 - 019:178)	4 s.h.

#### **CONCEPTUAL COURSES**

019:140 Media Law and Communication	3 s.h.
One advanced conceptual course (019:141 - 019:169)	3 s.h.

#### **ELECTIVES (OPTIONAL)**

Students may earn up to 7 s.h. in additional journalism and mass communication course work, but they may not count more than 40 s.h. of credit in the discipline toward graduation.

#### **GRADUATION PORTFOLIO**

Seniors must complete an approved graduation portfolio. Guidelines for portfolios are available at the school's Resource Center.

#### **SECOND MAJOR OR CONCENTRATION AREA**

Every student with a major in journalism must complete a second major or a concentration area outside the School of Journalism and Mass Communication. Study in the second major or concentration area enables students to acquire a substantial body of knowledge or expertise in a relevant area, learn how another discipline views the world, and/or develop a companion set of skills to those in journalism and mass communication.

Students who satisfy the requirement by completing a concentration area must choose 24 s.h. of related course work in one or more departments; at least 15 of the 24 s.h. must be earned in advanced courses (in most departments, advanced courses are numbered 100 or above). B.A. students who complete a minor in business administration are credited with completing a second concentration area. Course work in the concentration area must be arranged in consultation with the student's advisor; each student must have the advisor's written endorsement of the second major or concentration area before graduation.

#### **Second Major or Concentration Area for the B.A.**

Bachelor of Arts students must complete the requirements for the journalism and mass communication major (33 s.h.) and must satisfy the school's second major or concentration area requirement in one of two ways.

**Option 1:** complete a B.A. major in another department

**Option 2:** complete a 24 s.h. concentration of related courses in one or more departments that offer B.A. degrees, or complete a minor in business administration

## Second Major or Concentration Area for the B.S.

Bachelor of Science students must complete the requirements for the journalism and mass communication major (33 s.h.) and must satisfy the school's second major or concentration area requirement in one of two ways.

**Option 1:** complete a B.S. major in a natural, mathematical, or social science

**Option 2:** complete a 24 s.h. concentration of related courses in the social sciences (economics, geography, political science, psychology, or sociology) and/or the natural and mathematical sciences; and complete all the special math, research methods, statistics, computer science, and/or cognate science requirements required for the B.S. in the department in which the majority of concentration area courses are taken

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Note: With the exception of students admitted to the major directly upon their first enrollment in the University, students are admitted to the School of Journalism and Mass Communication on a competitive, selective basis. The Four-Year Graduation Plan agreement applies only to students who are admitted to major status by the first semester of their sophomore year. Also, each student must complete a second major or a concentration area consisting of at least 24 s.h., of which 15 s.h. must be earned in advanced courses. These checkpoints show only the minimum requirements for a second concentration area, not the requirements for a second major.

**Before the third semester begins:** either 019:090 Media Uses and Effects or 019:091 Media History and Culture or both, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 019:098 Journalistic Reporting and Writing, an additional course in the major, at least one second-area course, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** two required professional skills courses; one advanced, conceptual, or elective course in the major; three additional second-area courses; and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two additional required professional skills courses; one advanced, conceptual, or elective course in the major; and two more second-area courses

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, all remaining courses in the second area, and a sufficient number of semester hours to graduate

## Honors

The University of Iowa Honors Program gives students with outstanding academic records the opportunity to do honors course work under faculty guidance.

To graduate with honors in journalism and mass communication, a student must have a g.p.a. of at least 3.50 in the major and must be a member of the University of Iowa Honors Program, which requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

Honors students must complete 019:191 Honors Project (3 s.h.) under the supervision of a faculty member. The project may be a thesis or a professional project, typically completed during the last semester of the senior year. Students are encouraged but not required to take 019:190 Honors Readings (1-3 s.h.) to prepare for the project.

All majors with an overall g.p.a. of at least 3.33 are encouraged to take any journalism and mass communication course for honors credit and to make use of other honors opportunities in the school. Visit the Journalism Honors Program on the school's web site or contact the school's honors advisor for details.

## Minor

The minor in mass communication requires a minimum of 15 s.h. in mass communication courses, including 12 s.h. in advanced courses; conceptual courses numbered 019:140 Media Law and Communication through 019:169 Introductory Topics in Mass Communication are considered advanced for the minor. Students must maintain a g.p.a. of at least 2.00 in the minor. Courses for the minor may not be taken pass/nonpass. Students are encouraged to take one of the following: 019:090 Media Uses and Effects (3 s.h.), 019:091 Media History and Culture (3 s.h.), and 019:095 Media and Consumers (3 s.h.).

The minor introduces students to the field of mass communication; it does not prepare them for careers in journalism.

## National Honor Society

The School's chapter of Kappa Tau Alpha, the national society honoring scholarship in journalism and mass communication, was founded in 1936 and is named for former director Leslie G. Moeller. Students are considered for membership if their grade-point average places them in the top 10 percent of their class and they have completed at least five semesters of University work, including a minimum of 9 s.h. in journalism and mass communications skills courses. Contact the School's Kappa Tau Alpha advisor for details.

## Graduate Programs

The school offers a Master of Arts in journalism, with two emphases: professional journalism, and mass communication. It also offers a Doctor of Philosophy in mass communications.

### Master of Arts

The Master of Arts in journalism with professional journalism emphasis requires 30-35 s.h. of graduate credit, including successful completion of a master's project. The Master of Arts in journalism with mass communication emphasis requires 32 s.h. of graduate credit, including completion of a thesis. Each emphasis is described below. For more detailed descriptions, see the Graduate Studies Handbook or contact the School of Journalism and Mass Communication.

The M.A. program admits students for fall entry.

#### M.A. with Professional Journalism Emphasis

The Master of Arts with professional journalism emphasis is designed for students who have an academic or professional background in media communication and who wish to enhance their careers through specialized study in a specific area. It is a terminal degree, not preparation for doctoral study. Exceptional applicants without the required background may be accepted if they complete one noncredit preparatory course.

In consultation with an academic advisor, each student creates an individual program of courses chosen from inside and outside the school. Examples of areas inside the school are narrative writing, investigative reporting, publication design, and broadcast news. Some areas outside the school are the arts, law, political science, business, medicine, science, the environment, book arts, and race, gender, and sexuality studies.

Students who have a journalism background might develop a focus in an outside area for some of their electives. Those new to journalism and media communication may wish to focus their study on areas inside the school.

Building on conceptual and advanced skills courses, students complete the program with a master's project in a professional area, such as an in-depth reporting series; a design, multimedia, video, or documentary photography project; or applied research in mass communication.

All courses are chosen in consultation with the student's academic advisor.

The following courses are required.

019:225 Contemporary Problems in Journalism	3 s.h.
019:226 Master's Advanced Reporting and Writing	3 s.h.
One conceptual course from 019:140-019:169, or 019:250 and above	3 s.h.
Three advanced writing or workshop courses from the 019:120, 019:130, 019:170, 019:220 series	12 s.h.
Three electives in journalism and mass communication or an outside focus area	9-12 s.h.
019:299 Masters Research (professional project)	3 s.h.

Students who have not taken a recent U.S. media law class must enroll in 019:140 Media Law and Communication or an alternative media law course, with the instructor's consent and the advisor's approval.

#### M.A. with Media Communication Emphasis

The Master of Arts with media communication emphasis offers specialization in mass communication phenomena and emphasizes communication research, theory, and methodology. It prepares students for doctoral studies.

Students in the media communication emphasis take foundation courses in common with beginning Ph.D. students. Because of the program's interdisciplinary nature, students are expected to take courses outside the school, as determined in consultation with their advisors. The course work should provide students with sufficient theoretical and methodological preparation to complete the thesis.

The following courses are required.

019:231 Media Communication Theory I	3 s.h.
019:232 Media Communication Theory II	3 s.h.
019:235 Media Communication Research Methods I	3 s.h.
019:236 Media Communication Research Methods II	3 s.h.
019:220 Masters Seminar (taken twice for 1 s.h.)	2 s.h.
Advanced methods courses	3 s.h.
Electives (at least 6 s.h. in journalism and mass communication)	12 s.h.
019:299 Masters Research (thesis)	3 s.h.

## Doctor of Philosophy

The Doctor of Philosophy in mass communications requires 80 s.h. of graduate credit. It is designed for students who have completed an M.A. thesis.

The program emphasizes interdisciplinary inquiry into media communication phenomena from cultural, historical, and social perspectives. It is defined by the scholarly interests of its faculty, which include historical, legal, critical, cultural, social, feminist, and international aspects of media communication, both verbal and visual; comparative communication; convergence; new media; health communication; popular culture; and globalization. Faculty members use qualitative or quantitative methods in their research and teaching.

The program is highly individualized. In consultation with his or her advisor, each student draws on courses offered by the School of Journalism and Mass Communication as well as other academic units to develop a course of study that reflects his or her academic background, experience, professional goals, and intellectual interests.

Students may count up to 30 s.h. of master's degree credit toward the 80 s.h. required for the Ph.D., with the graduate committee's approval, as long as the credit was earned in courses relevant to the Ph.D. study plan. The Graduate College does not accept transfer credit for professional skills courses. Students who have earned professional master's degrees must take additional Ph.D. course work.

The Ph.D. program admits students for fall entry.

The following courses are required.

019:231 Media Communication Theory I	3 s.h.
019:232 Media Communication Theory II	3 s.h.
019:235 Media Communication Research Methods I	3 s.h.
019:236 Media Communication Research Methods II	3 s.h.
019:265 Approaches to Teaching	3 s.h.
019:320 Ph.D. Seminar (taken four times for 1 s.h.)	4 s.h.
Advanced research methods courses	3 s.h.
Advanced theory courses	3 s.h.
Journalism and mass communication electives	6 s.h.
Outside concentration courses	9 s.h.
Credit from master's degree and/or additional Ph.D. courses	30 s.h.
019:399 Dissertation	10 s.h.

For a more detailed description of the Ph.D. program, see the Graduate Studies Handbook or contact the School of Journalism and Mass Communication.

## Joint J.D./M.A. and J.D./Ph.D.

The School of Journalism and Mass Communication and the College of Law offer a joint Juris Doctor/Master of Arts and a joint Juris Doctor/Doctor of Philosophy. The joint degree programs allow students to count a limited amount of credit toward both degrees. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. Admission for journalism and mass communication graduate programs is for fall entry.

For information about the J.D., see Juris Doctor (College of Law) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Facilities and Resources

### Adler Journalism and Mass Communication Building

The School of Journalism and Mass Communication moved into the Philip D. Adler Journalism and Mass Communication Building in January 2005. The 65,000-square-foot building has computer laboratories for audio, video, design, writing and web publishing, and a resource center. A photography laboratory is located nearby. The building also is home to offices of the Iowa High School Press Association; the Quill and Scroll Society, an international honor society for high school journalists; the University's award-winning student newspaper, The Daily Iowan, and Daily Iowan TV, a student-run newscast.

### Iowa Center for Communication Study

The Iowa Center for Communication Study encourages and facilitates student and faculty research in communication. It also sponsors publications and provides editorial oversight for the Journal of Communication Inquiry.

## Financial Support

More than \$130,000 in scholarships and awards is disbursed to journalism and mass communication students each year. Scholarship information and applications are available each fall. Visit Journalism & Mass Communication Scholarships or contact the School of Journalism and Mass Communication.

The school offers research and teaching assistantships for graduate students; preference is given to Ph.D. students. Journalism and mass communication students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

The school has a program of modest financial support for undergraduate and graduate student research projects.

## Professional Enrichment

### Internships

The school encourages undergraduate majors and Master of Science professional journalism emphasis students to complete at least one internship. The school's internship and assessment coordinator helps students find appropriate positions.

Undergraduate students may earn up to 3 s.h. of internship credit, registering with appropriate faculty sponsorship for 019:099 Journalism Internship (1-3 s.h.). Internships do not fulfill requirements for the major, but internship credit counts toward the maximum 40 s.h. of journalism and mass communication credit that may be applied toward the bachelor's degree. Students may take internships for no credit through 409:019 Internship in Journalism.

Students also are encouraged to pursue opportunities for journalism experience on campus through student-operated media, including The Daily Iowan, Daily Iowan TV, and KRUI-FM radio.

### Job Placement

The school's internship and assessment coordinator helps students seeking career guidance and employment opportunities. The school compiles and publicizes notices of professional jobs open to journalism students and graduates. It also cooperates with the University's Pomerantz Career Center in providing career guidance and placement services as well as workshops and programs on seeking jobs.

### Activities

The school engages in a variety of activities for the enrichment of students, faculty, and the entire campus. Speakers visit campus each year under lectureships funded by the John F. Murray and Leslie G. Moeller Fund. In addition, guest speakers are funded through the Hearst Visiting Professionals Program and the Hageboeck Daily Iowan Visiting Professionals Program. Campus organizations for students include Kappa Tau Alpha (KTA, a national society honoring scholarship in journalism), the National Association of Black Journalists (NABJ), the Public Relations Student Society of America (PRSSA), the Society of Professional Journalists (SPJ), the Radio and Television News Directors' Association (RTNDA), and Ed on Campus (EOC).

## Journalism and Mass Communication Courses



**Primarily for Undergraduates**

- 019:029 First-Year Seminar** 1-2 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- 019:078 Journalism Issues** 1 s.h.  
Key issues and current challenges and controversies in news media and journalism, explored in conjunction with introduction to journalistic reporting and writing. Requirements: journalism major. Corequisites: 019:088 and 019:098.
- 019:088 Multimedia Introduction** 1 s.h.  
Introduction to essential tools and techniques of the multimedia news environment. Requirements: journalism major. Corequisites: 019:078 and 019:098.
- 019:090 Media Uses and Effects** 3 s.h.  
Introduction to mass communication theory as it relates to practical applications in the media industry and American society. GE: Social Sciences.
- 019:091 Media History and Culture** 3 s.h.  
Historical development of journalism in the United States; cultural, historical content. GE: Historical Perspectives.
- 019:095 Media and Consumers** 3 s.h.  
Communications media in historical, political, economic contexts and their relationships with audiences; criteria for evaluating media content in relation to nature and consequences of news, entertainment, advertising. GE: Social Sciences.
- 019:096 Communication and Public Relations** 3 s.h.  
Theory and practice of public relations; cultural, social, organizational roles of public relations, opportunities, problems, and solutions. Requirements: journalism major.
- 019:098 Journalistic Reporting and Writing** 3 s.h.  
Fundamentals of journalistic reporting and writing; beats and enterprise, multimedia, journalism skills. Requirements: journalism major. Corequisites: 019:078 and 019:088.
- 019:099 Journalism Internship** 1-3 s.h.  
Faculty-supervised professional work experience in journalism and mass communication. Prerequisites: 019:098. Requirements: journalism major.
- 019:101 Methods: Secondary School Journalism** 3 s.h.  
Methods and materials for teaching high school journalism; publication policies, staff organization, production schedules, technology, the Internet, and techniques for advising student publications; experience in simulated teaching situations. Offered fall semesters. Same as 07S:113.
- 019:102 Workshop for Secondary School Journalism/Communication Teachers** 1-3 s.h.  
Workshops on journalism/mass media curriculum, audio/video production, photojournalism, publication design, journalistic writing techniques, advising student publications. Same as 07S:130.
- 019:120 Specialized Reporting and Writing** 4 s.h.  
Topics may include public affairs, law, science, business, medicine, intercultural affairs, education, computer-assisted reporting. Prerequisites: 019:098. Requirements: journalism major.
- 019:121 Depth Reporting and Writing** 4 s.h.  
Enterprise reporting; emphasis on reporter as researcher, organizer, writer of complex stories in a variety of contexts. Prerequisites: 019:098. Requirements: journalism major.
- 019:122 Magazine Reporting and Writing** 4 s.h.  
Finding ideas, researching, interviewing; problems of organization and style; identification of audiences and markets; development of writing skills. Prerequisites: 019:098. Requirements: journalism major.
- 019:123 Broadcast Journalism Reporting and Writing** 4 s.h.

Principles; gathering, writing, editing, reporting the news; techniques and concepts as a foundation for understanding, successfully writing, and delivering broadcast news. Prerequisites: 019:098. Requirements: journalism major.

**019:124 Persuasive Writing** 4 s.h.

Principles and practices of persuasive writing; focus on public relations; may include editorials, op-ed pieces, magazine essays, reviews. Prerequisites: 019:096 and 019:098. Requirements: journalism major.

**019:125 Freelance Reporting and Writing** 4 s.h.

Approaches to writing and marketing articles to magazines, newspapers, other publications; developing ideas, researching periodical markets, writing queries, writing and rewriting articles for publication. Prerequisites: 019:098. Requirements: journalism major. Same as 08N:125.

**019:126 Arts and Culture Reporting and Writing** 4 s.h.

Writing about arts and culture in a range of formats (e.g., news, profiles, features, criticism, essays); emphasis on original reporting that draws on resources, issues, people, and events on campus and in the community, especially in visual and performing arts. Prerequisites: 019:098. Requirements: journalism major.

**019:127 Narrative Journalism** 4 s.h.

Process of writing the true story; development of skills in researching, interviewing, information gathering, organization, story-telling techniques, writing final story; story publication in magazines, newspapers, journals, online. Prerequisites: 019:098. Requirements: journalism major.

**019:128 Writing Across Cultures** 4 s.h.

Forms of travel writing and other types of crosscultural reporting; skills, knowledge, understandings vital to writing well about an increasingly multicultural and diverse world. Prerequisites: 019:098. Requirements: journalism major.

**019:129 Feature Reporting and Writing** 4 s.h.

Storytelling techniques for magazine, newspaper, web site features; stylistic flair; human elements in stories; research, interviewing, and reporting. Prerequisites: 019:098. Requirements: journalism major.

**019:130 Media Workshop** 4 s.h.

Analysis and solution of problems with communication strategies and/or media products; public relations, newsletter production, radio, media research, web basics, global media, interviewing, PR fund-raising. Repeatable. Prerequisites: 019:098. Requirements: journalism major.

**019:131 Publication Design Workshop** 4 s.h.

Problems of design, layout and production; practical and aesthetic considerations; digital techniques; creative projects. Prerequisites: 019:098. Requirements: journalism major.

**019:132 Photojournalism Workshop** 4 s.h.

Techniques; basic craft, location shooting, editing photographs; group critiques of assignments.

**019:134 Television News** 4 s.h.

Electronic news gathering (ENG); conceptualization, shooting, editing basic news packages. Prerequisites: 019:098. Requirements: journalism major.

**019:135 Public Relations Practice Workshop** 4 s.h.

Development and presentation of public relations campaigns for client organizations; communication theory and research techniques applied to analyzing and solving public relations problems through objective-based strategic planning. Prerequisites: 019:096 and 019:098. Requirements: journalism major.

**019:136 Editing** 4 s.h.

Principles and process of editing content for publication; micro- and macroediting, headline writing, other aspects of editing. Prerequisites: 019:098. Requirements: journalism major.

**019:138 Online Journalism** 4 s.h.

Creation of original journalistic web sites incorporating writing, design, and structure; contemporary online media issues. Prerequisites: 019:098. Requirements: journalism major.

**019:140 Media Law and Communication** 3 s.h.

Issues affecting the media: freedom of expression, libel, privacy, access to information, protection of news sources, free press/fair trial, copyright, government regulation of broadcasting. Requirements: junior standing.

**019:141 Classic and Contemporary Sports Writing** 3 s.h.

Critical reading of sports reportage, including historical and current examples; social and cultural preoccupations and problems viewed through the prism of sports journalism.

**019:150 Visual Communication** 3 s.h.

History of modern visual communication from a cultural perspective; visual form, composition, spatial representation, color and other topics; in-depth study of selected artists, designers, photographers.

**019:151 Communication Research Methods** 3 s.h.

Fundamentals of scientific inquiry in the study of communication and mass communication behavior; language, concepts, procedures, application of behavioral research methods; field and experimental approaches.

**019:152 History of Mass Communication in the U.S.** 3 s.h.

Historical analysis of professional practices. Prerequisites: 019:091.

**019:156 Comparative Communication Systems** 3 s.h.

Culture and communication as central to examining media in different social and political settings; emphasis on contemporary problems.

**019:158 News-Editorial Problems** 3 s.h.

Current issues in journalism, editing strategies; emphasis on press performance and practical problems journalists confront in their work.

**019:159 Elections and the Media** 3 s.h.

Relationship between political campaigns and mass media; critical evaluation of nature, role, function of media political coverage.

**019:160 Media and Health** 3 s.h.

Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as 172:140.

**019:161 Law, Media, and Current Issues** 3 s.h.

Current topics in communication law. Prerequisites: 019:140.

**019:164 Images and Society** 3 s.h.

Development and uses of photography, film, and television as technologies of reproduction in contemporary culture.

**019:165 African Americans and the Media** 3 s.h.

GE: Cultural Diversity. Same as 129:122.

**019:166 Communication Technology and Society** 3 s.h.

Implications and effects of computer-based forms of communication, especially the Internet, for journalists, the media audience, and society at large.

**019:167 Gender and Mass Media** 3 s.h.

Media images and representations of the body in terms of gender; impact on people, society; media and body image, sexuality, gender roles, gender and power, race, ethnicity, class, age; critical analysis of mediated images.

**019:168 Journalism Ethics** 3 s.h.

Application of ethical principles in journalistic decision making; consideration of potentially conflicting values, loyalties, and goals that force professional journalists to make difficult choices.

**019:169 Introductory Topics in Mass Communication** 3 s.h.

Focus on particular area, issue, approach, or body of knowledge; may include international media, media criticism, new technologies, history of documentary photography, literary journalism, media management. Repeatable.

**019:171 Advanced Reporting and Writing**

4 s.h.

Project journalism; extended magazine pieces, explanatory/investigative journalism, series for newspapers, or task-force projects by entire class on a major issue, with goal of publication. Repeatable. Prerequisites: 019:098. Requirements: journalism major and one course from 019:120 - 019:129.

**019:172 Advanced Photojournalism**

4 s.h.

Photojournalism skills; may include documentary photography, advanced photojournalism methods and techniques. Repeatable. Prerequisites: 019:132.

**019:173 Advanced Media Workshop**

4 s.h.

Journalism and mass communication skills; may include editing, broadcasting, design, multimedia. Repeatable. Prerequisites: 019:098. Requirements: journalism major and one course from 019:120 - 019:138.

**019:174 Advanced Television News**

4 s.h.

Advanced training and experience in producing, writing, and reporting television news packages and newscasts; emphasis on meeting professional standards. Repeatable. Prerequisites: 019:098, 019:123, and 019:134. Requirements: journalism major.

**019:175 Advanced Public Relations Writing**

4 s.h.

Case-based study of corporate public relations practice; globalization issues, branding and integrated communication, crisis management. Prerequisites: 019:096, 019:098, and 019:124. Requirements: journalism major.

**019:176 Visual Storytelling**

4 s.h.

Experience with journalistic storytelling techniques, generating story ideas, researching, writing, producing, editing, and critiquing documentary features and other visual narratives; use of digital video and archival material to produce visual narrative pieces for broadcast and other media platforms. Prerequisites: 019:098, 019:123, and 019:134. Requirements: journalism major.

**019:177 Convergence Journalism**

4 s.h.

Use of multiple technologies for journalistic storytelling across media platforms, such as print, television, and Internet. Prerequisites: 019:098 and 019:138. Requirements: journalism major.

**019:178 Iowa Journalist**

4 s.h.

Experience in photojournalism and desktop publishing software consistent with real-world media and public relations objectives; students write, edit, design, and produce *Iowa Journalist* magazine. Prerequisites: 019:098. Requirements: journalism major and one course from 019:120 - 019:139.

**019:180 Special Projects in Mass Communication**

arr.

Research and readings to fit needs, interests of students.

**019:181 Readings in Communication and Mass Communication**

1-3 s.h.

Focus on a problem or issue.

**019:182 Topics in Mass Communication**

3 s.h.

**019:190 Honors Readings**

1-3 s.h.

Topic in journalism or mass communication, chosen by student. Repeatable. Requirements: honors standing.

**019:191 Honors Project**

3 s.h.

Independent research or project for honors students. Requirements: honors standing.

**019:192 Advanced Topics in Mass Communication**

3 s.h.

An area, issue, approach, or body of knowledge (globalization and news, critical issues in mass media, literary journalism, and so forth).

**Primarily for Graduate Students**

<b>019:220 Masters Seminar</b>	1 s.h.
Theoretical or methodological problems in mass communication. Repeatable.	
<b>019:225 Contemporary Problems in Journalism</b>	3 s.h.
Current issues in journalism and mass communication in the United States and the world.	
<b>019:226 Master's Advanced Reporting and Writing</b>	3 s.h.
Writing workshop for new M.A. professional journalism emphasis students.	
<b>019:229 Master's Media Project</b>	3 s.h.
Group project on topic chosen by students and instructor; research, investigation, and dissemination of findings in several media formats; advanced writing, visual, broadcast, or multimedia interest area.	
<b>019:231 Media Communication Theory I</b>	3 s.h.
Introduction to theory used by communication scholars.	
<b>019:232 Media Communication Theory II</b>	3 s.h.
Continuation of 019:231; social scientific theories.	
<b>019:235 Media Communication Research Methods I</b>	3 s.h.
Interpretive media studies research methods that involve field observation, interviews, textual analysis; use of contemporary, historical, legal resources.	
<b>019:236 Media Communication Research Methods II</b>	3 s.h.
Journalism and media communication research methods that involve collection of quantifiable data, including surveys, content analyses, experiments.	
<b>019:252 Social Meanings of News</b>	3 s.h.
How concept of news and news work has been studied in occupational, organizational, social, cultural contexts.	
<b>019:254 Communication and Change</b>	3 s.h.
Diverse perspectives on changing communication forms and their implications for media and society; theoretical and methodological approaches to research involving innovation.	
<b>019:255 Problems in International Communication</b>	3 s.h.
Representative topics: communication systems in national development and globalization; international and cross-cultural communication structure and theory; human rights; images, values; mass persuasion; laws, agreements; information channels, content, flow, effects; censorship, language, literacy.	
<b>019:256 Gender and Mass Communication</b>	3 s.h.
Approaches to the study of gender and communication; topics vary.	
<b>019:259 Theory of Popular Culture</b>	3 s.h.
Major theoretical notions about popular culture and its intersection with the mass media.	
<b>019:265 Approaches to Teaching</b>	3 s.h.
Institutional and disciplinary issues that influence the journalism/mass communication classroom, philosophies of teaching, and use of teaching strategies, techniques, and classroom technologies; for students planning to work in academia.	
<b>019:279 Mass Communication Seminar</b>	3 s.h.
Readings, research.	
<b>019:280 Masters Tutorial</b>	arr.
Topics in communication and mass communication inquiry.	
<b>019:281 Masters Practicum</b>	arr.
Research, readings, projects to fit needs, interests of students.	
<b>019:299 Masters Research</b>	arr.

Independent research for projects, theses. Repeatable.

**019:320 Ph.D. Seminar**

1 s.h.

Forum on theoretical or methodological problems in mass communication. Repeatable.

**019:332 Advanced Research Methods**

3 s.h.

Topics vary. Repeatable. Prerequisites: 019:235 and 019:236.

**019:333 Seminar in Media Communication**

3 s.h.

Topics vary. Repeatable.

**019:380 Ph.D. Tutorial**

arr.

Communication and mass communication inquiry.

**019:381 Ph.D. Research Practicum**

arr.

Conceptualization and execution of research projects.

**019:399 Dissertation**

arr.

Repeatable.

# Latin American Studies

**Director:** Downing Thomas (French and Italian)

**Undergraduate nondegree programs:** Certificate, Minor in Latin American Studies

**Web site:** <http://international.uiowa.edu/centers/lasp/>

The Latin American Studies Program (LASP) is interdisciplinary, focusing on the history, politics, social organization, economy, geography, music, religion, art, and literature of Central and South America, Mexico, and the Caribbean. Faculty members from across the College of Liberal Arts and Sciences participate in the Latin American Studies Program as affiliated faculty members. Other University of Iowa faculty members occasionally offer courses and participate in the program's research, study, and interdisciplinary activities.

The Latin American Studies Program prepares students for graduate study or for Latin America-related careers in business, communications, government, bilingual/bicultural education, secondary teaching, community organizing, and international work.

In addition to its instructional activity, LASP sponsors a wide variety of activities, brings scholars of Latin America to campus, and fosters institutional linkages.

## Undergraduate Programs

The program offers the Certificate in Latin American Studies and a minor in Latin American studies. All students plan their programs in close cooperation with Latin American studies advisors.

### Certificate

The Certificate in Latin American Studies requires a minimum of 24 s.h. in courses chosen from the list of LASP-approved courses (see "Courses Approved for LASP" below). At least 12 s.h. of credit for the certificate must be earned in University of Iowa courses. Students must maintain a g.p.a. of at least 2.00 in the certificate. Courses must include the following.

130:070 Introduction to Latin American Studies	3 s.h.
130:176 Latin American Studies Seminar	3 s.h.
Spanish and Portuguese courses	6 s.h.
Additional courses	12 s.h.

Spanish and Portuguese courses (6 s.h.) must be numbered 035:130 and above or 038:130 and above.

Additional courses (12 s.h.) must be chosen from the list under "Courses Approved for LASP" below; they must include courses from at least two different departments; and they may include a maximum of one (3 s.h.) additional course in Spanish or Portuguese, which must be numbered 035:130 or above, or 038:130 or above.

Courses applied toward the Certificate in Latin American Studies may be used to complete the College of Liberal Arts and Sciences General Education Program. A maximum of 12 s.h. of credit earned for a major, a minor (except the minor in Latin American Studies), or another certificate may be applied toward the Certificate in Latin American Studies.

The certificate is awarded upon completion of a bachelor's degree. Holders of University of Iowa bachelor's degrees may return to the University to complete the requirement for the certificate.

A student may not be awarded both the Certificate in Latin American Studies and the minor in Latin American studies. Students earning a major in international studies with an emphasis in Latin American studies may not earn the Certificate in Latin American Studies or the minor in Latin American studies.

### STUDY ABROAD

The program highly recommends study abroad in Latin America. Students must have prior approval to apply credit from a study abroad program toward the certificate requirements; contact the Latin American Studies Program.

### Minor

The minor in Latin American studies requires a minimum of 15 s.h. in LASP-approved courses (see "Courses Approved for LASP" below), including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, 100-level courses are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

The Latin American studies minor is interdisciplinary, so students may count a maximum of 6 s.h. of credit earned for a

major, another minor, or a certificate (except the Certificate in Latin American Studies) toward the minor. Students are strongly encouraged to take either or both of the following.

130:070 Introduction to Latin American Studies	3 s.h.
130:176 Latin American Studies Seminar	3 s.h.

### **Courses Approved for LASP**

The following courses are approved for the Certificate in Latin American Studies and for the minor. Students may petition to include in their study plan courses that are not listed here but that have significant Latin American content; consult the Latin American Studies Program.

#### **ANTHROPOLOGY**

113:131 Latin American Economy and Society	3 s.h.
113:132/16W:109/035:176/038:176/048:153/130:176 Latin American Studies Seminar	3 s.h.
113:163 Archaeology of Mesoamerica	3 s.h.
113:166 The Aztecs, Their Predecessors, and Their Contemporaries	3 s.h.

#### **ART**

01H:105 Art of Pre-Columbian America	3 s.h.
--------------------------------------	--------

#### **CINEMA AND COMPARATIVE LITERATURE**

048:024 Introduction to Latin American Film	3 s.h.
048:153/16W:109/130:176/035:176/038:176/113:132 Latin American Studies Seminar	3 s.h.
048:178/035:191 Topics in Latin American Cinema	3 s.h.

#### **COMMUNICATION STUDIES**

036:152 Latin American Media	3 s.h.
------------------------------	--------

#### **ENGLISH**

008:133 Inter-American Studies (when content is Latin American)	3 s.h.
---	--------

#### **HISTORY**

16W:106 Society and Revolution in Cuba	3 s.h.
16W:107 History of Mexico	3 s.h.
16W:109/035:176/038:176/048:153/113:132/130:176 Latin American Studies Seminar	3 s.h.
16W:110 Topics in Latin American History	3 s.h.
16W:111 Colonial Latin America	3 s.h.
16W:112 Introduction to Modern Latin America	3 s.h.
16W:114 Latin America and the U.S.: The Historical Perspective	3 s.h.
16W:115 Latin American Revolution	3 s.h.

#### **INTERNATIONAL STUDIES**

187:070/035:070/038:070/130:070 Introduction to Latin American Studies	3 s.h.
--	--------

#### **LATIN AMERICAN STUDIES**

130:070 Introduction to Latin American Studies (required for certificate students, recommended for minors)	3 s.h.
--	--------



130:105 Independent Study	arr.
130:176 Latin American Studies Seminar (required for certificate students, recommended for minors)	3 s.h.

**MUSIC**

025:104 Music of Latin America and the Caribbean	3 s.h.
025:163 Steel Band	1 s.h.

**POLITICAL SCIENCE**

030:144 Latin American Politics	3 s.h.
030:145 Latin American Political Parties	3 s.h.

**PORTUGUESE**

038:020 Contemporary Brazilian Narrative	3 s.h.
038:070/130:070/035:070/187:070 Introduction to Latin American Studies	3 s.h.
038:077 Brazil: The Erotic/Exotic Lure	3 s.h.
038:105 Brazilian Literature Before 1900	3 s.h.
038:106 Brazilian Literature After 1900	3 s.h.
038:112 Topics in Luso-Brazilian Literature (when topic is Latin American)	3 s.h.
038:115 Writing Brazil in the U.S.	3 s.h.
038:120 Topics in Luso-Brazilian Culture (when topic is Latin American)	3 s.h.
038:176/16W:109/035:176/048:153/113:132/130:176 Latin American Studies Seminar	3 s.h.

**SPANISH**

035:020 Contemporary Spanish American Narrative	3 s.h.
035:070/187:070/130:070/038:070 Introduction to Latin American Studies	3 s.h.
035:111 Readings in Spanish American Literature	3 s.h.
035:113 Screening Latin America	3 s.h.
035:130 Cultures of Spanish America	3 s.h.
035:131 Contemporary Spanish American Fiction	3 s.h.
035:132 Spanish American Poetry	3 s.h.
035:134 Spanish American Short Story	3 s.h.
035:140 Spanish American Literature of Fantasy	3 s.h.
035:144/131:162 Latin American Women Writers	3 s.h.
035:145 Latin America Cinema	3 s.h.
035:149 Visual Culture: Colonial Spanish America	3 s.h.
035:171 Pan-Caribbean Literary Currents	3 s.h.
035:173 Colonial Spanish American Literature	3 s.h.
035:175 Cultural Identity in Caribbean Literature	3 s.h.
035:176/16W:109/048:153/130:176/038:176/113:132 Latin American Studies Seminar	3 s.h.
035:177 Literature and Mass Culture in Latin America	3 s.h.
035:178 Topics in Spanish American Literature	3 s.h.
035:191/048:178 Topics in Latin American Cinema	3 s.h.

**Rotating Topics**

With prior approval, students may use these courses to satisfy requirements for the Certificate in Latin American Studies or for the minor when the course topic or focus is Latin America.

008:098 Honors Proseminar	3 s.h.
16W:051 Colloquium for History Majors (World)	3 s.h.

048:112 Proseminar in Cinema and Culture	1-2 s.h.
035:148 Topics in Cinema, Literature, and Society	3 s.h.
035:192 Topics in Film Studies	3 s.h.
035:195 Senior Seminar	3 s.h.
113:109 Literature and Anthropology	3 s.h.

## Study Abroad

It is highly recommended, though not required, that students have an in-depth Latin American cultural experience, usually through study abroad, before completing their undergraduate requirements.

In cooperation with the Office for Study Abroad, LASP faculty members facilitate student participation in programs in many different Latin American countries. Programs range from intensive language study to group programs with a special focus. University of Iowa-sponsored study abroad programs include summer programs with Universidad de Guanajuato in Mexico, Universidad de los Andes in Venezuela, and a health and nutrition program in Pontificia Universidad Católica Madre y Maestra in the Dominican Republic.

University of Iowa students may enroll in programs in Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Honduras, Mexico, and Uruguay. The University of Iowa cosponsors these programs through various consortiums.

Study abroad courses may be counted toward requirements for the certificate and the minor, subject to prior approval by the LASP director.

## Financial Support

Students are encouraged to apply for a Stanley Undergraduate Scholarship for International Research/Fieldwork through University of Iowa International Programs. The scholarships are awarded to outstanding University of Iowa undergraduates who, in close consultation with a faculty member, propose well-conceived, small-scale research or fieldwork projects that require travel abroad. Students may conduct projects while participating in a study abroad program and may combine the scholarship with other awards and financial assistance. For information regarding other scholarships, contact LASP advisors, International Programs staff, and the LASP director.

## Activities

In addition to its instructional activity, LASP organizes a range of public programming activities each semester, including film series, photography and art exhibits, conferences, roundtable discussions, and lectures. Recent events have included an international conference on contemporary Cuba and speakers on cinema, indigenous movements, human rights, and art.

## Latin American Studies Courses

<b>130:070 Introduction to Latin American Studies</b>	3 s.h.
Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as 035:070, 038:070, 187:070.	
<b>130:105 Independent Study</b>	arr.
<b>130:176 Latin American Studies Seminar</b>	3 s.h.
Interdisciplinary approach. Taught in English. Recommendations: Spanish or Portuguese sufficient for background readings. Same as 035:176, 038:176, 048:153, 113:132, 16W:109.	

# Leisure Studies

**Chair:** Kevin C. Kregel

**Coordinator:** Kenneth E. Mobily

**Professors:** Benjamin K. Hunnicutt (Leisure Studies), Richard D. MacNeil (Leisure Studies/Aging Studies), Kenneth E. Mobily (Leisure Studies/Health and Human Physiology), Michael L. Teague (Leisure Studies/Community and Behavioral Health)

**Professor emeritus:** John A. Nesbitt

**Associate professor:** Michael E. Lomax (Leisure Studies/African American Studies)

**Adjunct instructors:** Angela L. Charsha, Thomas K. Dean, David L. Gould, Erin L. Litton, Michael E. Moran, Eric W. Randall, Michael D. Widen

**Lecturers:** John E. Farland, Emily N.R. Mozena, Kathy B. Walter

**Undergraduate degree:** B.S. in Leisure Studies

**Undergraduate nondegree program:** Minor in Leisure Studies

**Graduate degree:** M.A. in Leisure Studies

**Web site:** <http://www.uiowa.edu/~leisure/>

Leisure plays an important role in our lives. The Leisure Studies Program contributes to the education of students in the College of Liberal Arts and Sciences by providing opportunities to study the phenomenon of leisure.

The program offers courses that help students learn how to use leisure to enhance the quality of their lives. Several leisure studies courses may be used by students in all liberal arts and sciences majors to fulfill requirements of the General Education Program.

Leisure studies also offers undergraduate and graduate degree programs that prepare students for professional careers in the expanding fields of child life, therapeutic recreation, and recreational sport management. These degree programs prepare professionals to work in community, commercial, campus, and health care environments. The populations served by recreation professionals include the general public; students, colleges, and universities; children; and persons with disabilities or chronic conditions.

## Undergraduate Programs

The program offers a Bachelor of Science in leisure studies with two tracks: child life and therapeutic recreation. It also offers a minor in leisure studies.

### Selective Admission

Students may indicate their interest in the leisure studies major when they are admitted to The University of Iowa or once they are on campus. Admission to the major is selective; students must apply for admission to the child life track or the therapeutic recreation track.

### Bachelor of Science

The Bachelor of Science in leisure studies requires a minimum of 120 s.h., including work for the major, which varies by track. Each track requires an internship.

The child life track requires 60-61 s.h. of work for the major (15-16 s.h. in admission prerequisites; 33 s.h. in leisure studies courses, including an internship; and 12 s.h. in supporting course work from other departments). Students must complete the admission prerequisites before they may enter the child life track.

The therapeutic recreation track requires 67-69 s.h. of work for the major (12-14 s.h. in admission prerequisites; 37 s.h. in leisure studies courses, including an internship; and 18 s.h. in supporting course work from other departments). Students must complete the admission prerequisites before they may enter the therapeutic recreation track.

All students must complete the College of Liberal Arts and Sciences General Education Program.

### Child Life Track

Child life specialists are professionals with expertise in child development who advance effective coping through play activities, preparation for medical procedures and operations, patient and family education, and self-expression activities. Child life specialists provide services to support families and to promote children's mastery of varied experiences, particularly children's health care events. They may provide care to children's families by assisting in accurate information processing and helping family members and other caregivers. Child life specialists also help educate other medical staff and community members regarding issues and needs of children involved in health care events or other stressful experiences. For more information about the profession, visit Child Life Council.

Students must apply for admission to the child life track. Before they may be admitted, they must complete 24 s.h. at The University of Iowa (or 12 s.h. for transfer students), including the courses listed under "Child Life: Admission Prerequisites" below. Applicants must have a g.p.a. of at least 2.50 for all University of Iowa course work and a cumulative g.p.a. of at least 2.50; students with a University of Iowa or cumulative g.p.a. lower than 2.50 may apply for exceptional admission.

Application forms for admission to the child life track are available on the Leisure Studies Program web site. Completed applications must be submitted by March 15 for admission the following fall semester (students may enter

the child life track only in fall).

The child life track requires the following course work.

#### **CHILD LIFE: ADMISSION PREREQUISITES**

Students must complete the following prerequisite course work (15-16 s.h.) before they may enter the child life track.

One of these:

027:053 Human Anatomy 3 s.h.

060:110 Principles of Human Anatomy 3 s.h.

All of these:

031:001 Elementary Psychology 3 s.h.

096:030 Human Development and Behavior 3 s.h.

169:070 Perspectives on Leisure and Play 3 s.h.

One of these:

034:001 Introduction to Sociology Principles 3-4 s.h.

034:020 Principles of Social Psychology 3-4 s.h.

031:015 Introduction to Social Psychology 3 s.h.

#### **CHILD LIFE: FOUNDATION**

Students complete all of the following foundation courses (21 s.h.).

169:061 Recreation Leadership and Programming 3 s.h.

169:077 Introduction to Child Life 3 s.h.

169:160 Introduction to Therapeutic Recreation 3 s.h.

169:162 Therapeutic Recreation: Clientele 3 s.h.

169:165 Child Life: Methods and Materials 3 s.h.

169:166 Child Life: Seminar 3 s.h.

169:167 Child Life Practicum (taken twice, once for 1 s.h. and once for 2 s.h.) 3 s.h.

#### **CHILD LIFE: SUPPORTING COURSE WORK**

Students must complete 12 s.h. in supporting course work, as follows. Other supporting courses may be added with consent of the student's advisor.

07C:145 Marriage and Family Interaction 3 s.h.

07C:176 Child Abuse: Assessment, Intervention, and Advocacy 3 s.h.

07C:199 Counseling for Related Professions 3 s.h.

07E:114 Parent-Child Relationships 3 s.h.

07U:140 Characteristics of Disabilities 3 s.h.

07U:190 Interdisciplinary Issues in Disabilities 1-3 s.h.

20E:103 Medical and Technical Terminology 2 s.h.

027:035 Stress Management 3 s.h.

031:013 Introduction to Clinical Psychology 3 s.h.

031:014 Introduction to Developmental Science 3 s.h.

031:063 Abnormal Psychology: Health Professions 3 s.h.

034:022 Introduction to Social Work 4 s.h.

034:061 The American Family 3 s.h.

042:186 Death/Dying: Issues Across the Life Span 3 s.h.

042:238 Introduction to Play Therapy 2 s.h.

042:281 Social Work Practice: Selected Aspects arr.

169:150 Recreation Administration 3 s.h.

#### **CHILD LIFE: INTERNSHIP**

Child life students must complete an internship; they register in the following course.

169:192 Child Life Internship 12 s.h.

## Therapeutic Recreation Track

Therapeutic recreation is a health-oriented field that involves providing recreation programs designed to improve or maintain the physical, emotional, mental, and social functioning of patients and consumers. Therapeutic recreation services involve a continuum of care that includes treatment using recreation activities to improve functional abilities; leisure education that helps individuals acquire skills, knowledge, and attitudes that facilitate an independent lifestyle; and recreation that uses activities to enhance health, growth, development, and independence through intrinsically rewarding leisure behavior.

Therapeutic recreation professionals are commonly employed in settings such as skilled nursing facilities, community recreation departments, state and community mental health institutions, general hospitals, physical rehabilitation centers, special recreation districts, correctional facilities, senior centers, facilities for persons with mental retardation or mental illness, and substance-abuse programs.

Students must apply for admission to the therapeutic recreation track. Before they may be admitted, they must complete 24 s.h. at The University of Iowa (or 12 s.h. for transfer students), including the courses listed under "Therapeutic Recreation: Admission Prerequisites" below. Applicants must have a g.p.a. of at least 2.50 for all University of Iowa course work and a cumulative g.p.a. of at least 2.50; students with a University of Iowa or cumulative g.p.a. lower than 2.50 may apply for exceptional admission.

Application forms for admission to the therapeutic recreation track are available on the Leisure Studies Program web site. Completed applications for the major with therapeutic recreation track must be submitted by October 15 for admission the following spring semester or by March 15 for admission the following fall semester.

The therapeutic recreation track requires the following course work.

### THERAPEUTIC RECREATION: ADMISSION PREREQUISITES

Students must complete the following prerequisite course work (12-14 s.h.) before they may enter the therapeutic recreation track.

Both of these:

027:053 Human Anatomy	3 s.h.
031:001 Elementary Psychology	3 s.h.

One of these:

07P:025 Elementary Statistics and Inference	3 s.h.
07P:143 Introduction to Statistical Methods	3 s.h.
22M:015 Mathematics for the Biological Sciences	4 s.h.
22M:016 Calculus for the Biological Sciences	4 s.h.
22S:002 Statistics and Society	3 s.h.
22S:008 Statistics for Business	4 s.h.
22S:025 Elementary Statistics and Inference	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.

One of these:

034:001 Introduction to Sociology Principles	3-4 s.h.
034:020 Principles of Social Psychology	3-4 s.h.

### THERAPEUTIC RECREATION: FOUNDATION

Students complete all of the following foundation courses (24 s.h.).

169:060 Leisure in Contemporary Society	3 s.h.
169:061 Recreation Leadership and Programming	3 s.h.
169:150 Recreation Administration	3 s.h.
169:160 Introduction to Therapeutic Recreation	3 s.h.
169:161 Assessment and Evaluation in Therapeutic Recreation	3 s.h.
169:162 Therapeutic Recreation: Clientele	3 s.h.
169:163 Concepts and Issues in Therapeutic Recreation: Advancement of the Profession	3 s.h.
169:164 Therapeutic Recreation: Rehabilitation	3 s.h.

**THERAPEUTIC RECREATION: SUPPORTING COURSE WORK**

Students must complete 18 s.h. in supporting course work, as follows.

One of these:

031:063 Abnormal Psychology: Health Professions	3 s.h.
031:163 Abnormal Psychology	3 s.h.

All of these:

027:053 Human Anatomy	3 s.h.
096:030 Human Development and Behavior	3 s.h.
Courses in human services (e.g., aging studies, psychology, sociology, social work, special education, counselor education)	9 s.h.

**THERAPEUTIC RECREATION: INTERNSHIP**

Therapeutic recreation students must complete an internship and a preinternship seminar; they register in the following courses.

169:190 Preinternship Seminar	1 s.h.
169:191 Internship	12 s.h.

**Four-Year Graduation Plan**

The Four-Year Graduation Plan is not available for the leisure studies major. Students should work with their advisors to develop an individual graduation plan.

**Honors**

The honors program is designed for superior students. It gives participants some research experience and a perspective on some aspects of graduate study. To be eligible for honors, students must maintain a cumulative University of Iowa g.p.a. of at least 3.33. For honors program application forms, contact the Leisure Studies Program.

To qualify for a degree with honors in leisure studies, students must successfully complete 169:194 Honors Readings and 169:195 Honors Problems, for which they must complete a reading or research project under the supervision of a leisure studies faculty member and write a paper summarizing the project's results. Honor students also must maintain a cumulative University of Iowa g.p.a. of at least 3.33 throughout the rest of their degree work.

Contact the University of Iowa Honors Program for more information about honors study at Iowa.

**Minor**

The minor in leisure studies requires a minimum of 15 s.h. in leisure studies courses, including 12 s.h. in 100-level courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students choose courses according to their interests and the recommendations of the leisure studies coordinator.

**Graduate Program**

The program offers a Master of Arts, with and without thesis, in leisure studies. Undergraduate preparation in leisure studies is not required for successful completion of the graduate program; students from diverse backgrounds are encouraged to apply. However, students may need to fulfill prerequisites specific to their specialization areas.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

**Master of Arts**

The Master of Arts in leisure studies requires a minimum of 33 s.h. of graduate credit with thesis, and 36 s.h. of graduate credit without thesis. Students choose one of two specialization areas: therapeutic recreation or recreational sport management. All M.A. students must complete a common group of core courses and work in their specialization area.

## CORE REQUIREMENTS

All M.A. students must take these courses.

07P:143 Introduction to Statistical Methods	3 s.h.
169:200 Historical and Philosophical Perspectives on Leisure	3 s.h.
169:205 Research Methods and Leisure Behavior	3 s.h.
169:273 Work and Leisure in American Culture	3 s.h.

## Therapeutic Recreation Specialization

The therapeutic recreation specialization prepares students to meet the challenges of outpatient- and community-based health care service delivery. The program stresses research and business skills that will enable graduates to find the best jobs in the field.

Therapeutic recreation specialists are increasingly called upon to deliver preventive outpatient services, such as programs designed to prevent secondary impairments in persons with disabilities (e.g., arthritis exercise to manage pain, fall prevention for older adults); education for individuals with negative lifestyle habits (e.g., smoking, substance abuse); programs designed to restore meaning and purpose to life following traumatic events (e.g., following a spinal cord injury); and initiatives to help communities and businesses make services accessible to persons with disabilities.

Iowa's therapeutic recreation program emphasizes business skills and innovation in delivery of services. Economics and Financing (169:252) and classes in entrepreneurship and new business formation prepare students to enter the workforce ready to build therapeutic recreation businesses that are self-supporting or profitable.

Students also acquire research skills that they can apply directly to therapeutic recreation practice, for example, to assess the effectiveness of specific interventions or the demand for varied services in a community.

In addition to the M.A. common core requirements (above), therapeutic recreation specialization students must complete the following.

169:163 Concepts and Issues in Therapeutic Recreation: Advancement of the Profession	3 s.h.
169:252 Economics and Financing	3 s.h.
169:262 Procedures in Therapeutic Recreation	3 s.h.
Cognate area courses (entrepreneurship in therapeutic recreation)	10 s.h.

Nonthesis students take an additional 6 s.h. of electives. Thesis students complete 6 s.h. of 169:398 M.A. Thesis.

Therapeutic recreation students must complete a practicum (169:289 Graduate Practicum in Therapeutic Recreation) to sit for the national certification examination.

## Recreational Sport Management Specialization

The recreational sport management specialization prepares students for positions in public and private recreation and sport management. Students typically find employment in community or municipal recreation programs, campus recreation programs, or commercial recreation and sport operations.

In addition to the M.A. common core requirements (above), recreational sports management specialization students must complete the following.

169:251 Risk Management	3 s.h.
169:252 Economics and Financing	3 s.h.
169:253 Sport Administration	3 s.h.
169:254 Marketing and Sport Promotion	3 s.h.
Cognate area courses (business, communications, or cultural studies)	6-9 s.h.

Nonthesis students take an additional 6 s.h. of electives. Thesis students complete 6 s.h. of 169:398 M.A. Thesis.

## Internships

Internships, available in several areas, are strongly recommended for graduate students.

## Assistantships

The program offers a limited number of teaching assistantships; applications should be made directly to the leisure studies academic coordinator. Teaching assistants support General Education Program courses offered by the Leisure

Studies Program.

## Leisure Studies Courses

- 169:040 The Good Society** 3 s.h.  
Critiques of the existing social order, articulation of models of a good society with associated conceptions of the good life. GE: Humanities. Same as 033:040.
- 169:045 Health for Living** 3 s.h.  
Personal health strategies; focus on disease prevention, wellness. GE: Health and Physical Activity.
- 169:050 Making Choices: Interdisciplinary Perspectives** 3 s.h.  
GE: Humanities. Same as 033:050.
- 169:060 Leisure in Contemporary Society** 3 s.h.  
Basic philosophical, historical, scientific foundations and developments; function, settings of organized recreation.
- 169:061 Recreation Leadership and Programming** 3 s.h.  
Leadership principles, techniques; programming techniques.
- 169:070 Perspectives on Leisure and Play** 3 s.h.  
Relationships between leisure and economics, sociology, other social sciences; effect of leisure on individual and group behavior; antecedents, motives, consequences of leisure behavior. GE: Social Sciences.
- 169:072 Leisure and the Liberal Arts** 3 s.h.  
Integration of the ideal of a liberal education with worthy, meaningful use of free time in contemporary society; classic writings in the humanities. GE: Humanities.
- 169:076 Culture and Community in Human Services** 3 s.h.  
Roles played by culture and community in human services; aspects of culture and community-based perspectives, including race, ethnicity, gender, class, sexuality, religion; disproportionate influence that particular cultures and communities exert on the structures of society.
- 169:077 Introduction to Child Life** 3 s.h.  
Orientation to the field of child life services including services for hospitalized children and their families.
- 169:080 Introduction to Place Studies** 3 s.h.  
Same as 033:080.
- 169:108 Basic Aspects of Aging** 3 s.h.  
Social, psychological, and biological aspects; demographics of aging, health, economic issues, primary relationships, social services. GE: Social Sciences. Same as 042:108, 096:108, 153:108.
- 169:142 Health Promotion in the Workplace Setting** 3 s.h.  
Management and organizational theories; assessment, planning, implementation, and evaluation of clinical and workplace (targeted) health promotion programs.
- 169:146 Health Promotion for Older Adults** 3 s.h.  
Problems, strategic efforts toward long-term goal of health promotion; disease prevention; slowing the decline caused by chronic conditions to extend independent, rewarding lives. Same as 096:146, 153:146.
- 169:148 Introduction to Personal Training** 3 s.h.  
Basics of personal training, including establishing a personal training business, screening, and assessing clients; current issues and certifications.
- 169:150 Recreation Administration** 3 s.h.  
Personnel, finance, budgets, liability, marketing.
- 169:151 Liability in Recreation and Sport** 3 s.h.



Unintentional torts (negligence), civil liability, and criminal liability in recreation and sport settings; focus on community/commercial recreation and campus recreation settings.

**169:152 Park and Recreation Facility Management** 3 s.h.  
Facilities management, personnel assignment and evaluation, fee structures, maintenance, programming, compliance with regulations and standards.

**169:153 Sport Business Practices** 3 s.h.  
Basic management skills for profit-based recreation and sport businesses; operations, business plans, organizational behavior, risk management, inventory, purchasing, marketing.

**169:155 Camp Administration** 3 s.h.  
Basics of camp administration; risk management, programming, general standards set by the American Camping Association.

**169:156 Design of Recreation Facilities** 3 s.h.  
Horticulture, floriculture, landscape design, agronomy, turf management; their relation to planning and design of recreation and park areas and facilities.

**169:157 Managerial Operations in Sport** 3 s.h.  
Introduction to the operation of a private or nonprofit sport-related business. Prerequisites: 06E:001, 031:001, 034:001, and 07P:025.

**169:158 Recreation and Sport Promotion** 3 s.h.  
Foundations and principles of recreation sport promotion and sales operation; application of foundations and principles to sport and recreation industries; historical aspects; current and future trends of sport and recreation management as it relates to sales and promotions; sales management, marketing, financial/economic, legal, and ethical principles related to sport management.

**169:160 Introduction to Therapeutic Recreation** 3 s.h.  
Lifestyles and barriers faced by persons with disabilities; basic aspects of the therapeutic recreation profession; skills used to establish therapeutic relationship; techniques used with patients; theoretical and conceptual bases for practice.

**169:161 Assessment and Evaluation in Therapeutic Recreation** 3 s.h.  
Basic assessment psychometrics (e.g., reliability), standardized instrumentation and data collection (e.g., observation, self-report), construction of instruments, data reduction. Prerequisites: 169:160.

**169:162 Therapeutic Recreation: Clientele** 3 s.h.  
Developmental patterns of special populations; examination of specific interventions and research applied to specific cognitive, emotional, and physical impairments. Prerequisites: 169:160.

**169:163 Concepts and Issues in Therapeutic Recreation: Advancement of the Profession** 3 s.h.  
Ethical, professional, and theoretical issues in delivery of therapeutic recreation services; impact of legislation, standards of practice, health care reform; application of research to practice and marketing services. Prerequisites: 169:160.

**169:164 Therapeutic Recreation: Rehabilitation** 3 s.h.  
In-depth review of therapeutic recreation techniques used in clinical and community rehabilitation; opportunities to use techniques with patients. Prerequisites: 169:160.

**169:165 Child Life: Methods and Materials** 3 s.h.  
Interventions unique to child life practice (e.g., pain management, coping, preoperative play, terminal illness). Prerequisites: 169:077.

**169:166 Child Life: Seminar** 3 s.h.  
Current issues and research in child life, expanding scope of service in child life. Prerequisites: 169:077.

**169:167 Child Life Practicum** 1-2 s.h.  
Experience observing and assisting child life staff members providing services to hospitalized children, under Certified Child Life Specialist supervision.

- 169:168 Aging and Leisure** 3 s.h.  
Status of the well elderly in relation to retirement issues, use of free time, and factors that support leisure activity; leisure services in long-term care. Same as 153:168.
- 169:169 Spring Break Child Life Experience** 1 s.h.  
Practical experience with ill children, including a trip to the "Give Kids the World" village in Florida; documentation and engagement of course materials, experience working with ill children; students are assigned a specific diagnosis and present the diagnosis (appropriate statistics, effects of hospitalization, treatment, etc.) on child and family; coping strategies, appropriate methods of talking to and interacting with children and families, overview of Child Life in hospitals.
- 169:190 Preinternship Seminar** 1 s.h.  
Orientation to the internship process. Prerequisites: 169:160.
- 169:191 Internship** arr.  
Practical field experience; direct leadership, program planning, administrative procedures. Prerequisites: 169:190.
- 169:192 Child Life Internship** 12 s.h.  
Twelve-week, 480-contact-hour, field experience under the supervision of a Certified Child Life Specialist. Prerequisites: 169:061, 169:077, 169:160, 169:162, 169:165, 169:166, and 169:167.
- 169:193 Independent Study** arr.  
Problem in a specific area.
- 169:194 Honors Readings** arr.
- 169:195 Honors Problems** arr.
- 169:196 Recreation Sport Business Internship** 9 s.h.  
Capstone course for the recreation sport business track; 360 contact hours of practical experience with a private or nonprofit recreation or sport-related enterprise; supervision by an agency mentor and a university representative. Requirements: completion of all recreation sport business core courses, foundation courses, and elective concentration courses.
- 169:200 Historical and Philosophical Perspectives on Leisure** 3 s.h.  
Historical and philosophical origins of leisure studies; historical issues related to leisure ideas, such as shorter hours, share-the-work, utopian vision of a better society.
- 169:205 Research Methods and Leisure Behavior** 3 s.h.  
The scientific process: research designs for experiments and surveys, questionnaire construction, sampling theory, basic data analysis.
- 169:250 Seminar in Recreation Management** 3 s.h.  
The sport/leisure industry and product characteristics of nonprofit, private/commercial, and public organizations; participant and spectator consumer behavior; fundamentals of market research in sport/leisure organizations.
- 169:251 Risk Management** 3 s.h.  
Legal knowledge necessary for effective management of sport, recreation, and physical activity programs, avoidance of legal problems; strategies for addressing issues such as right to participate, liability for injuries, risk management; legal statutes that govern sport, health, recreation organizations.
- 169:252 Economics and Financing** 3 s.h.  
Economic issues for sport/leisure services in nonprofit, private/commercial, and public sectors; strategic financial analysis for the nonfinancial manager; principles, issues in financing sport/leisure organizations.
- 169:253 Sport Administration** 3 s.h.

Overview of various segments that constitutes the role and function of a sport administrator (i.e., planning, organizing, leading, controlling); focus on ways in which sport administrators and their subsequent organizations influence and are influenced by the link between sport and globalization; sport administration encompassing services provided within an organizational context; administration viewed as the coordination of production and distribution of those services.

**169:254 Marketing and Sport Promotion** 3 s.h.

Overview of varied segments that constitutes sports business practice, including marketing, data-based marketing, sales, promotion, sponsorship; varied segments that make up the sport industry, including the mass media, infrastructure, stadium building, consumer behavior; readings and discussions consider the development and structure of each segment, interactions between segments, planning, policy implications; focus on the United States, professional team sports, comparisons to other sports.

**169:262 Procedures in Therapeutic Recreation** 3 s.h.

Current issues in the field; application of business and research principles to therapeutic recreation practice and program administration.

**169:273 Work and Leisure in American Culture** 3 s.h.

Methods and insights of American studies and leisure studies applied to work/leisure relationship in American life; patterns and perceptions of work and leisure, leisure's share and potential; changing American values.

**169:289 Graduate Practicum in Therapeutic Recreation** 3-9 s.h.

Field placement with a therapeutic recreation service delivery agency; meets NCTRC certification standards. Prerequisites: 169:160. Corequisites: 169:163 and 169:164.

**169:290 Graduate Internship** 3-9 s.h.

Requirements: recreational sports management emphasis.

**169:291 Problems** arr.

**169:299 Graduate Research Problems** arr.

**169:301 Research Colloquium in Leisure Studies** 3 s.h.

Current faculty research; individual work with faculty members on projects that will be presented in class.

**169:398 M.A. Thesis** 1-6 s.h.

Repeatable.

# Linguistics

**Chair:** Catherine O. Ringen

**Professors:** William D. Davies, Catherine O. Ringen, Jerzy Rubach

**Professor emeritus:** Robert S. Wachal

**Associate professors:** Jill Beckman, Alice L. Davison, Elena Gavrusseva, Roumyana Slabakova

**Adjunct instructor:** Maureen Burke

**Lecturer:** Rosemary K. Plapp

**Undergraduate degree:** B.A. in Linguistics

**Undergraduate nondegree program:** Minor in Linguistics

**Graduate degrees:** M.A., Ph.D. in Linguistics

**Web site:** <http://www.uiowa.edu/~linguist/>

Linguistics is the scientific study of human languages, which are highly complex systems. Areas of study include word structure (morphology), speech sounds (phonetics) and their patterns of combination and contrast (phonology), sentence structure (syntax), and meaning relations (semantics).

Linguists study well-known and familiar languages, such as English, Spanish, Russian, and Chinese. They also study less well-known languages and even those languages about which little has been discovered. While human languages are different from one another in many ways, there are broad similarities among them, supporting the idea that the capacity for language is part of human cognitive functions.

The description of formal patterns of human language has a number of applications. Linguistics is connected to psychology and to speech and hearing, in studying how children learn language, how speakers process and interpret language, and how injuries and disorders affect both production and perception of speech. It is linked with anthropology and other social sciences in studying how language use relates to culture, region, class, and gender. Linguists and computer scientists collaborate to construct computational representations of syntax and semantics for processing natural languages.

Linguistics has important ties with instruction in foreign languages and in English as a second language. Studies of how languages are learned are based in part on analysis of the languages in question. They also are grounded strongly in theories of second language acquisition, which in turn are related to theories of how linguistic knowledge is represented in the mind.

People with linguistic training teach English as a second language and help clinicians retrain people with linguistic disabilities. Some help design school programs for minority groups or intelligence and achievement tests. Linguists also work in occupations related to law, the computer industry, and foreign languages.

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in linguistics.

High scores on verbal, analytic, and quantitative aptitude tests are indicators of success in linguistics. Although few aspects of the field deal with numbers, students must be able to reason logically and explicitly and deal with formulas and abstract symbols. Depending on their vocational goals, prospective linguistics students should consider pursuing their studies either through the M.A. in linguistics with a professional focus or through the Ph.D., or they should take a second major. Appropriate companion fields include foreign languages, English, anthropology, sociology, speech pathology, psychology, mathematics, computer science, philosophy, and elementary and secondary education.

### Bachelor of Arts

The Bachelor of Arts in linguistics requires a minimum of 120 s.h., including 24 s.h. of work for the major. The program prepares students to do basic language analysis in syntax-semantics (sentence patterns and their relation to meanings) and phonology (sound patterns). Elective courses in a variety of subspecialties enable students to tailor the program to their own interests.

The major requires the following course work.

103:100 Introduction to Linguistics	3 s.h.
103:110 Articulatory and Acoustic Phonetics	3 s.h.
103:111 Syntactic Analysis	3 s.h.
103:112 Phonological Analysis	3 s.h.

A course in language history (e.g., 103:131 or 103:139)

or

A course in an old language (classical Greek, Latin, Old English, Sanskrit)

Electives chosen in consultation with a faculty advisor 9 s.h.

Students must complete no fewer than 15 s.h. of requirements for the major at The University of Iowa, including 103:110 Articulatory and Acoustic Phonetics, 103:111 Syntactic Analysis, and 103:112 Phonological Analysis.

English Grammar (103:028) does not count toward the linguistics major.

Students must complete the College of Liberal Arts and Sciences General Education Program.

### **TESL Emphasis**

As part of the major in linguistics, students may complete an emphasis in Teaching English as a Second Language (TESL). The TESL emphasis can prepare students to teach English to nonnative speakers abroad. It also is excellent preparation for graduate work in second language acquisition. TESL emphasis students complete the requirements for the linguistics major listed above, using the following course work to satisfy the electives requirement.

Both of these:

103:141 The Structure of English	3 s.h.
103:145 Methods of Teaching English as a Second Language	3 s.h.

One of these:

103:156 Child Language-Linguistic Perspectives	3 s.h.
103:157 Linguistic Theory and Second Language Acquisition	3 s.h.
103:161 Practical Phonetics	3 s.h.

### **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** Introduction to Linguistics (103:100) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** two more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

Members of the University of Iowa Honors Program may graduate with honors in linguistics by completing the major course work plus an honors thesis, which must be prepared in consultation with the student's academic advisor. Membership in the Honors Program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

### **Minor**

The minor in linguistics requires a minimum of 15 s.h. in linguistics courses, including at least 12 s.h. in University of Iowa courses numbered 103:100 Introduction to Linguistics and above. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Courses for the minor must include 103:100 Introduction to Linguistics, 103:110 Articulatory and Acoustic Phonetics, 103:111 Syntactic Analysis, and 103:112 Phonological Analysis.

### **Joint B.A./M.A. with TESL Focus**

The Department of Linguistics offers a joint Bachelor of Arts/Master of Arts for undergraduate majors planning to earn a master's degree in linguistics with a Teaching English as a Second Language (TESL) focus. B.A./M.A. students take selected graduate-level courses while still undergraduates and may count 12 s.h. of advanced course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.A., and they usually complete the M.A. one year later.

As part of the undergraduate major with TESL focus, B.A./M.A. students take 103:141 The Structure of English, a course in language history, 103:100 Introduction to Linguistics, and 103:110 Articulatory and Acoustic Phonetics.

They substitute some graduate-level course work for normal undergraduate requirements. Instead of taking 103:111 Syntactic Analysis to fulfill the B.A. syntax requirement, they take 103:201 Introduction to Syntax, the first course in the mandatory two-course syntax sequence for M.A. students. Instead of taking 103:112 Phonological Analysis to fulfill the B.A. phonology requirement, they take 103:203 Introduction to Phonology, the first in the graduate two-course phonology sequence.

In addition, 103:145 Methods of Teaching English as a Second Language and 103:202 Syntactic Theory count toward both degrees and typically are taken during the senior year.

To be admitted to the program, students must be working toward an undergraduate major in linguistics, must have completed at least 80 s.h. of undergraduate course work (typically by the end of their fifth semester), and must have a g.p.a. of at least 3.50.

## Graduate Programs

The department offers a Master of Arts, with or without thesis, and a Doctor of Philosophy in linguistics.

The graduate programs emphasize theory and research. Students interested in nonuniversity careers also may take courses in applied linguistics and other fields, either in connection with doctoral work or as an option in the M.A. program.

Iowa's Department of Linguistics has particular strengths in second language acquisition (SLA), phonology, and syntax.

The curriculum in second language acquisition includes courses that provide an overview and analysis of current SLA research conducted within the generative framework, with emphasis on explaining the linguistic competence of second language learners in terms of universal grammar (UG), the innate language acquisition device. Work focuses on experimental research investigating the influence of the first language, theories of UG access, and related topics.

The phonology curriculum emphasizes current theoretical perspectives, including optimality theory, and the collection, description, and interpretation of novel phonological and phonetic data. Courses feature extensive work in data analysis and problem solving, focusing on construction and evaluation of phonological theories, particularly in light of new empirical data.

The syntax curriculum includes the dual emphases of empirical and theoretical perspectives. It offers a variety of foundational courses that build analytic and argumentation skills, as well as specialized course work on current issues in syntactic theory. The courses consist of intensive work in problem solving. They combine discovery and description of new linguistic data with exploration of the implications of such facts in testing and constructing syntactic theories.

### Master of Arts

The Master of Arts in linguistics requires a minimum of 30 s.h. of graduate credit with thesis, or 37 s.h. without thesis.

All students take a required set of core courses in phonology, syntax, and language acquisition. Thesis students also complete at least 8 s.h. of electives and earn up to 6 s.h. for the thesis. Nonthesis students also complete 15 s.h. of Department of Linguistics course work, which may include a 9 s.h. focus (e.g., teaching English as a second language). A student's advisor must approve all courses that count toward the degree.

A student with a linguistics background may waive up to 6 s.h. of course work if the department determines that he or she completed comparable work before enrolling in the program.

Comprehensive examinations cover phonology, syntax, and applied linguistics (for students who choose this option).

The required core courses are as follows.

103:110 Articulatory and Acoustic Phonetics	3 s.h.
103:200 Proseminar: Morphosyntax	1 s.h.
103:201 Introduction to Syntax	3 s.h.
103:202 Syntactic Theory	3 s.h.
103:203 Introduction to Phonology	3 s.h.
103:204 Phonological Theory	3 s.h.
103:211 Generative Second Language Acquisition	3 s.h.

One of these:

103:113 Linguistic Field Methods	3 s.h.
----------------------------------	--------

103:210 Linguistic Structures

3 s.h.

103:217 Language Universals Linguistic Typology

3 s.h.

## Doctor of Philosophy

The Doctor of Philosophy in linguistics requires a minimum of 72 s.h. of graduate credit, or 73 s.h. for graduates of the M.A. nonthesis program. The highly selective program provides students with a strong foundation in theoretical linguistics and helps them develop the skills they will need to explore the close relationship between linguistics and related disciplines.

The Ph.D. core includes the following course work (total of 18 s.h.).

Two upper-level syntax courses numbered 103:212 Advanced Syntactic Theory or above

Two upper-level phonology courses numbered 103:214 Advanced Phonological Theory or above

At least two seminars

An approved specialty area of 18 s.h. also is required, and students must achieve proficiency in a foreign language, as specified by department regulations.

To pass the comprehensive examination for the Ph.D., a student must gain approval for two papers of publishable quality. One must be in phonology or syntax. The other should be in an area of the student's choosing and must be distinct from the area of the first paper.

An oral defense of the dissertation and three years in residence at The University of Iowa are required. In addition, all candidates are required to gain supervised experience in teaching and research.

## Admission

Applicants to the graduate program in linguistics must complete an application form, submit GRE General Test scores, and have three letters of recommendation sent to the Department of Linguistics. Students whose first language is not English must submit Test of English as a Foreign Language (TOEFL) scores. Applications for admission should be submitted as early as possible for the following academic year.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

Fellowships, teaching assistantships, and research assistantships are available to qualified graduate students. Applications are due no later than March 1 for the following academic year; earlier submission is strongly encouraged.

Exceptionally well-qualified applicants may be eligible for a Presidential Graduate Fellowship. Individuals interested in being nominated for a presidential fellowship should submit all application materials by January 15 for the following academic year.

Applications for all awards are considered only for students whose application for admission is complete.

## Facilities

The Department of Linguistics has two laboratories. One is equipped with 14 computer workstations for small group instruction, individual work, and student research in speech analysis, second language acquisition, computational linguistics, and other areas. The other has a soundproof booth connected to a computer with software for speech analysis. Remote terminals and personal computers are also available to students.

The departmental reading room, which contains a modest library, provides a common meeting place for faculty and students. Students have considerable influence on departmental affairs and enjoy a high degree of individual instruction.

## Linguistics Courses

### Primarily for Undergraduates

#### 103:011 Language and Society

3 s.h.

Correlations between social and linguistic behavior; methods for discovering and describing socially significant language behavior; educational and political implications of findings. GE: Social Sciences.

- 103:013 Language and Formal Reasoning** 3 s.h.  
Semantics and sentence structure of English; word meanings, meaning connected to truth conditions, reasoning based on logical connectives and quantifiers, evaluation of valid and invalid arguments. GE: Quantitative or Formal Reasoning.
- 103:020 Introduction to the Study of Language** 3 s.h.  
Nontechnical introduction: classification of languages, writing systems, language and the brain, acquisition of first and second languages, bilingualism, animal communication, language and computing.
- 103:028 English Grammar** 3 s.h.  
Recognizing nouns, verbs, adverbs, adjectives, and other parts of speech; sentence analysis; subjects, objects; types of sentences; passives, relative clauses; for students with little or no background in English grammar study. Does not count toward the linguistics major.
- 103:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- 103:035 English Words** 3 s.h.  
English word formation, basic units of English vocabulary; vocabulary skill expansion; word structure.
- 103:045 Language Rights** 3 s.h.  
Language minorities and linguistic human rights in the United States and worldwide; language and identity, culture, power; case studies of language rights deprivation.
- 103:055 Languages of the World** 3 s.h.  
Overview of structural similarities and differences in human language; survey of the world's major language families; emphasis on sentence and word structure, sound systems, and modes of classification. GE: Social Sciences.
- 103:095 Research Practicum** arr.  
Individual participation in faculty research projects.
- 103:099 Special Project** arr.

## For Undergraduate and Graduate Students

- 103:100 Introduction to Linguistics** 3 s.h.  
Introduction to the study of human language: sounds and their contrasts and variation, words and meaningful subunits, sentence structure, historical change. Same as 08L:100.
- 103:107 Practicum in Teaching English as a Second Language** 3 s.h.  
Practical experience in TESL, observation and participation in intensive English classes; design and teaching of ESL classes under supervision. Prerequisites: 103:145. Offered summer sessions.
- 103:110 Articulatory and Acoustic Phonetics** 3 s.h.  
Production and transcription of sounds in human languages; physics of sound, computer analysis of speech sounds. Offered fall semesters. Same as 164:160.
- 103:111 Syntactic Analysis** 3 s.h.  
Introduction to sentence structures and basic abstract relations that characterize them, including word category, word order, hierarchical organization; problem sets from English and other languages as basis for discussion, analysis. Offered spring semesters. Prerequisites: 103:100.
- 103:112 Phonological Analysis** 3 s.h.  
Introduction to analysis of sound systems; generative phonological theory; practice in phonological analysis using data from a variety of languages. Offered spring semesters. Prerequisites: 103:100 and 103:110.



- 103:113 Linguistic Field Methods** 3 s.h.  
Collection and analysis of primary linguistic data from unfamiliar language; methods of elicitation, theory, practical problems; extensive practice in eliciting data from a consultant. Prerequisites: 103:110. Requirements: a course in syntax and a course in phonology.
- 103:115 Topics in Linguistics** 3 s.h.  
Varied topics in linguistics; for undergraduates.
- 103:131 History of the English Language** 3 s.h.  
Development of phonological and grammatical structure of English, from Old to Modern English; dialectal differentiation in English. Prerequisites: 103:100. Same as 08L:131.
- 103:132 Elementary Old English** 3 s.h.  
Reading knowledge of Old English; introduction to Anglo-Saxon literature and culture. English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 008:140.
- 103:137 Language Processes** 3 s.h.  
Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010, grade of C- or higher in 031:016, and psychology major; or nonmajor and 103:100 or 003:015. Same as 031:137.
- 103:139 Chinese Historical Phonology** 3 s.h.  
Phonology of Mandarin, other major Chinese dialect groups; reconstruction of the sound system of Middle and Old Chinese. Same as 039:139.
- 103:140 Introduction to Computational Linguistics** 3 s.h.  
Introduction to computational linguistics; focus on theory and practice of natural language processing and syntactic and semantic analysis. Same as 22C:146.
- 103:141 The Structure of English** 3 s.h.  
Descriptive analysis of English, including word and sentence structure; focus on relevance to teaching English as a second language. Offered fall semesters. Prerequisites: 103:111.
- 103:144 Introduction to Chinese Linguistics** 3 s.h.  
Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as 039:144, 164:181.
- 103:145 Methods of Teaching English as a Second Language** 3 s.h.  
Observations of ESL and intensive English classes at the University; design and presentation of short lessons, text evaluation, demonstrations of innovative approaches of the last decade; materials. Offered spring semesters. Prerequisites: 103:110 and 103:141. Same as 164:163.
- 103:150 Language and Gender** 3 s.h.  
Gender-related language variation; current research on gender-specific linguistic forms and usage in the United States and other language communities; introduction to relevant principles of linguistic theory and analysis. GE: Cultural Diversity.
- 103:155 Morphology** 3 s.h.  
Lexicon and principles of word formation; principal processes of inflection, derivation, and compounding found in the world's languages; relation to phonology, syntax; practice in morphological analysis from a variety of languages. Prerequisites: 103:100.
- 103:156 Child Language-Linguistic Perspectives** 3 s.h.  
Linguistic theory as applied to first-language learning, including acquisition of sounds, syntax and word meaning, acquisition strategies, properties of input, theories of first-language acquisition. Prerequisites: 103:100.
- 103:157 Linguistic Theory and Second Language Acquisition** 3 s.h.

Introduction of research results obtained by generative second language acquisition framework and their implications for classroom teaching methods; current views of language architecture; focus on inflectional morphology and linguistic interfaces, which have been proposed to be severe bottlenecks for acquisition; research findings on acquisition of syntax, phonology, semantics, linguistic pragmatics; pedagogical implications of these findings. Prerequisites: 103:111 and 103:112. Same as 164:157.

**103:161 Practical Phonetics** 3 s.h.

Contemporary articulatory and acoustic research, including second-language acquisition, elicitation and computer analysis of primary linguistic data. Prerequisites: 103:110.

**103:163 Philosophy of Language** 3 s.h.

Contemporary topics. Same as 026:189.

**103:172 Psychology of Language** 3 s.h.

Theoretical, empirical investigations of linguistic behavior; behaviorist, rationalist models in context of formal linguistic structure and context of models of speech perception and production. Offered spring semesters. Prerequisites: 103:100. GE: Social Sciences. Same as 003:117.

**103:175 Introduction to Semantics** 3 s.h.

Overview of meaning in natural language mapped onto lexical and syntactic structures; formal logical and set theory description; discussion of truth conditions, compositionality, presupposition, definiteness, quantification in natural language. Requirements: course in syntax.

**103:176 Language Development** 1-3 s.h.

Models of children's language acquisition; child language/communication development from infancy through school age, in context of current developmental research. Offered spring semesters. Requirements: (for 003:118) 031:001 and 103:100; (for 103:176) 103:100 or 103:172. GE: Social Sciences. Same as 003:118.

**103:177 Basic Neuroscience for Speech and Hearing** 3 s.h.

Basic anatomy, physiology of central nervous system; emphasis on neural systems involved in normal and disordered communication. Offered fall semesters. Requirements: biology, zoology, or physiology course. Same as 003:116.

**103:199 Special Projects** arr.

Theoretical and applied topics.

## Primarily for Graduate Students

**103:200 Proseminar: Morphosyntax** 1 s.h.

Basic morphological analysis of languages other than English; morphological markers of syntactic relations (morphosyntax), such as case/agreement, possession, switch reference and other inflectional marking. Corequisites: 103:201.

**103:201 Introduction to Syntax** 3 s.h.

Methods and argumentation for formal analysis of sentence structure through induction from language data of central concepts and relations; hypothesis testing, empirical bases of theoretical concepts. Corequisites: 103:200. Same as 164:241.

**103:202 Syntactic Theory** 3 s.h.

Current syntactic theory examined through analysis of data sets, readings in recent research; emphasis on argument construction, statement of formal principles. Offered spring semesters. Prerequisites: 103:201. Same as 164:242.

**103:203 Introduction to Phonology** 3 s.h.

Analysis of sound systems, focus on early generative phonological theory; extensive practice in analysis using data from a variety of languages; linguistic argumentation. Prerequisites: 103:110. Same as 164:203.

**103:204 Phonological Theory** 3 s.h.

Post-SPE phonological theory, including autosegmental phonology, feature geometry, the syllable, optimality theory. Prerequisites: 103:203. Same as 164:244.

- 103:205 Topics in Linguistic Theory** 2-3 s.h.  
Varied topics in linguistic theory; for graduate students.
- 103:206 First Language Acquisition** 3 s.h.  
Child language from a crosslinguistic perspective. Prerequisites: 103:110, and 103:141 or 103:201. Same as 164:245.
- 103:210 Linguistic Structures** 3 s.h.  
Grammatical and/or phonological structure of a selected language or language family. Repeatable with different language.
- 103:211 Generative Second Language Acquisition** 3 s.h.  
Overview of current second-language acquisition research in the generative linguistic framework; focus on characterizing second language learners' linguistic competence and how it is constrained by principles of universal grammar. Offered fall semesters. Prerequisites: 103:111 or 103:201, and 103:112 or 103:203. Same as 164:246.
- 103:212 Advanced Syntactic Theory** 2-3 s.h.  
Recent developments in syntax; comparison of theories, argumentation, and uses of data. Repeatable. Same as 164:247.
- 103:214 Advanced Phonological Theory** 2-3 s.h.  
Current issues. Repeatable. Prerequisites: 103:204. Same as 164:248.
- 103:216 Topics in Second Language Acquisition** 3 s.h.  
Recent developments of selected issues in second language acquisition. Repeatable. Prerequisites: 103:211. Same as 164:249.
- 103:217 Language Universals Linguistic Typology** 3 s.h.  
Proposed universal principles of linguistic structure; approaches to classification of languages on the basis of grammatical and phonological structure. Prerequisites: 103:201.
- 103:218 Psycholinguistics** 3 s.h.  
Theoretical, empirical issues in psycholinguistics; models demonstrating relation of formal language structure to psychological operations used in speech perception and production; laboratory emphasis on paradigmatic research in psycholinguistics. Offered fall semesters. Prerequisites: 103:100. Same as 003:218.
- 103:230 Advanced Hearing Science and Speech Perception** 3 s.h.  
Perception of speech and other sounds by human listeners, how these perceptual abilities relate to the physiology of the auditory system; perception of speech by hearing-impaired listeners through hearing aids or cochlear implants. Offered spring semesters. Requirements: (for 003:230) 003:113; (for 103:230) background in phonetics, speech science, and hearing science. Same as 003:230.
- 103:231 History of the German Language** 3 s.h.  
Same as 013:241.
- 103:232 Special Topics in German Linguistics** 3 s.h.  
Repeatable. Same as 013:299, 164:299.
- 103:262 Topics in Comparative Romance Linguistics** 3 s.h.  
Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Repeatable. Prerequisites: 035:204. Recommendations: additional graduate course work in linguistics. Same as 035:207, 164:262, 20E:201.
- 103:300 Seminar: Spanish Linguistics** 3 s.h.  
Repeatable with different topics. Same as 035:300.
- 103:312 Seminar: Problems in Linguistics** 2-3 s.h.  
Intensive study of theoretical and practical problems. Same as 164:342.
- 103:390 Special Projects** arr.

**103:400 Master's Thesis**

arr.

**103:450 Ph.D. Thesis**

arr.

# Mathematics

**Chair:** Yi Li

**Professors:** Daniel D. Anderson, Frauke Bleher, Victor P. Camillo, Raúl Curto, Charles D. Frohman, Juan Gatica, Weimin Han, Laurent Jay, Norman L. Johnson, Palle Jorgensen, Surjit S. Khurana, William A. Kirk, William H. Klink, Philip C. Kutzko, Tong Li, Yi Li, Bor-Luh Lin, Paul S. Muhly (Mathematics/Statistics and Actuarial Science), Richard Randell, Dennis M. Roseman, Jonathan K. Simon, David E. Stewart, Gerhard O. Strohmer, Keith D. Stroyan, Tuong Ton-That, Lihe Wang, Ying-Qing Wu, Yangbo Ye

**Professors emeriti:** Kendall E. Atkinson, Nguyen P. Cac, Kent R. Fuller, Fred Goodman, Herbert W. Hethcote, Eugene W. Johnson, Erwin Kleinfeld, Margaret Kleinfeld, Eugene W. Madison, George C. Nelson, Harold L. Schoen, Marilyn Zweng

**Associate professors:** Richard Baker, Isabel Darcy, Oguz Durumeric, Walter Seaman

**Associate professors emeriti:** Michael A. Geraghty, John P. Lediaev

**Assistant professors:** Bruce Ayati, Rodica Curtu, Hao Fang, Keiko Kawamuro, Muthukrishnan Krishnamurthy, Dong Li, Colleen Mitchell, Madlena Tomova, Julianna Tymoczko, Xianoyi Zhang

**Assistant professor emerita:** Matilde Macagno

**Undergraduate degrees:** B.A., B.S. in Mathematics

**Undergraduate nondegree program:** Minor in Mathematics

**Graduate degrees:** M.S., Ph.D. in Mathematics

**Web site:** <http://www.math.uiowa.edu>

Mathematics is a basic tool for understanding modern society as well as a crucial requirement for many careers in science, engineering, business, and the professions. Research in this living, dynamic subject is at the highest level in history.

An undergraduate degree in mathematics prepares students for a variety of careers in government and business, for secondary teaching, for graduate study, and with proper planning, for a variety of professional programs. Graduate study is advisable for some business and governmental positions and for college and university teaching and research.

## Undergraduate Programs

The department offers a Bachelor of Science, a Bachelor of Arts, and a minor in mathematics. Students seeking either the B.A. or B.S. enroll in one of three programs: Program A is for students who plan to work in business or government or pursue graduate study in mathematics; program B is for students who seek secondary school teaching licensure; and program C is for those seeking specialization in a math-related area, such as actuarial science, biomathematics, business, computer science, economics, physics, statistics, and so forth. Program C may be especially appropriate for students who plan to seek a math-related job after earning a B.A. or B.S. in mathematics, rather than going on to graduate study.

### B.A. or B.S. with Double Major

Students may choose to combine a major in mathematics with a major or second degree in computer science, statistics, actuarial science, or other disciplines. They must satisfy all requirements of program A, program B, or program C in mathematics as well as all requirements for the additional major or degree. For more information, consult an advisor and see Earning a Degree (Earning Two or More Majors, and Earning Multiple Undergraduate Degrees) in the College of Liberal Arts and Sciences Student Academic Handbook.

### Transfer from Engineering to Mathematics

Certain engineering students who have completed 22M:031 Engineering Mathematics I: Single Variable Calculus, 22M:032 Engineering Mathematics II: Multivariable Calculus, 22M:033 Engineering Mathematics III: Matrix Algebra, 22M:034 Engineering Mathematics IV: Differential Equations, or 22M:037 Engineering Mathematics V: Vector Calculus may count these courses toward a bachelor's degree in mathematics. See the department's Handbook for Undergraduate Majors.

### Bachelor of Arts, Bachelor of Science

The Bachelor of Arts in mathematics requires a minimum of 120 s.h., including at least 37-39 s.h. (11 courses) of work for the major. The Bachelor of Science in mathematics requires a minimum of 120 s.h., including at least 43-45 s.h. (13 courses) of work for the major. The semester hour requirement for each degree varies, depending on the student's choice of program A, B, or C.

At least 15 s.h. of post-calculus course work applied toward the major must be taken at The University of Iowa. Post-calculus courses are those numbered 22M:027 and above that have a calculus prerequisite. Students must maintain a g.p.a. of at least 2.00 in all course work for the major.

Students also must complete the College of Liberal Arts and Sciences General Education Program.

For policies concerning transfer credit, correspondence credit, credit by examination, cumulative grade-point average, rules relating to regression and duplication, and so forth, see the College of Liberal Arts and Sciences Student Academic Handbook. For information about duplication, regression, and use of the second-grade-only option for mathematics courses, contact the Department of Mathematics.

The Handbook for Undergraduate Majors is available from the Department of Mathematics and on its web site. The handbook provides details about schedule planning and career options. For more information on admission, financial support, employment opportunities, the faculty, facilities, and other topics, visit The University of Iowa and Department of Mathematics web sites.

### Program A

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

Students must complete seven core courses. In addition, B.A. students must complete at least four electives, and B.S. students must complete at least six.

### CORE COURSES

A two-semester sequence of calculus I-II (8 s.h.) is required. Advanced placement credit, CLEP credit, and credit obtained through the Mathematics Incentive Program is accepted for all or part of the calculus requirement.

All of these:

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:050 Introduction to Abstract Algebra I	3 s.h.
22M:055-22M:056 Fundamental Properties of Spaces and Functions I-II	7 s.h.
22M:100 Introduction to Ordinary Differential Equations	3 s.h.

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

### ELECTIVES

B.A. students complete four electives (each 3-4 s.h.) chosen from the following list, including at least one upper-level mathematics course.

B.S. students complete six electives chosen from the following list, including at least three upper-level mathematics courses.

### Mathematics

All courses numbered 22M:070 and above, except 22M:081 Geometry for Elementary Teachers, 22M:095 Introduction to Research Opportunities, 22M:104 Introduction to Matrix Theory, 22M:105 Basic Analysis, 22M:109 Classical Analysis, and 22M:195 Current Issues in Mathematics Education. Upper-level mathematics courses are those numbered 22M:096 Introduction to Mathematics Research, 22M:115 Introduction to Analysis I, and above (except 22M:195 Current Issues in Mathematics Education through 22M:199 Readings in Mathematics).

### Computer Science

22C:016 Computer Science I: Fundamentals	4 s.h.
Any course numbered above 22C:020 that counts toward an undergraduate major in computer science, except 22C:197 and 22C:198	

### Statistics and Actuarial Science

Students can count only one of these: 22S:039 Probability and Statistics for the Engineering and Physical Sciences, 22S:120 Probability and Statistics, or 22S:130 Introduction to Mathematical Statistics I. None of them can be counted if taken after 22S:153 Mathematical Statistics I.

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
22S:120 Probability and Statistics	4 s.h.
22S:130 Introduction to Mathematical Statistics I	3 s.h.
22S:131 Introduction to Mathematical Statistics II	3 s.h.
22S:138 Bayesian Statistics	3 s.h.

22S:150 Regression, Time Series, and Forecasting	3 s.h.
22S:153 Mathematical Statistics I	3 s.h.
22S:154 Mathematical Statistics II	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:158 Experimental Design and Analysis	3 s.h.
22S:174 Quantitative Methods for Actuaries	3 s.h.
22S:175 Actuarial Models	3 s.h.
22S:176 Credibility and Survival Analysis	3 s.h.
22S:180 Mathematics of Finance I	4 s.h.
22S:181 Life Contingencies I	3 s.h.
22S:182 Life Contingencies II	3 s.h.
22S:193 Statistical Inference I	3 s.h.
22S:194 Statistical Inference II	3 s.h.
22S:195 Probability and Stochastic Processes I	3 s.h.
22S:196 Probability and Stochastic Processes II	3 s.h.

## Program B

Program B is intended for students seeking secondary school teaching licensure. See the department's Handbook for Undergraduate Majors, and see Teaching and Learning (College of Education) in the Catalog.

### CORE COURSES

A two-semester sequence of calculus I-II (8 s.h.) is required. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program is accepted for part or all of the calculus requirement.

All of these:

22C:016 Computer Science I: Fundamentals	4 s.h.
22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:028 Calculus III	4 s.h.
22M:050 Introduction to Abstract Algebra I	3 s.h.
22M:055 Fundamental Properties of Spaces and Functions I	3 s.h.
22M:070 Foundations of Geometry	3 s.h.
22S:120 Probability and Statistics	4 s.h.

Students who wish to take 22M:055 Fundamental Properties of Spaces and Functions I and 22M:056 Fundamental Properties of Spaces and Functions II instead of 22M:028 Calculus III and 22M:055 Fundamental Properties of Spaces and Functions I should consult their advisor.

One of these:

22M:150 Introduction to Discrete Mathematics	3 s.h.
22M:151 Discrete Mathematical Models	3 s.h.

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

### ELECTIVES

B.A. students in Program B must take at least one additional course (3-4 s.h.) beyond calculus. B.S. students in Program B must take at least three additional courses (9-16 s.h.) beyond calculus, of which two must be numbered 22M:107 or above. With their advisor's approval, capable students are encouraged to substitute more advanced courses in the same subject area for any of the electives. The Handbook for Undergraduate Majors offers advice on course selection.

## Program C

Program C provides a degree with specialization in a math-related subtrack, such as the mathematics of making optimal business decisions, risk management and insurance, economics, physics, chemistry, biostatistics, biomathematics, computer science, and statistics and actuarial science. In consultation with the faculty advisor, each student prepares a program of studies tailor-made to his or her interests and academic or career goals. Building on a core of mathematics courses, students have considerable freedom to design their curriculum. The proposed program of

studies must be approved by the mathematics department undergraduate committee. Students should submit their study plans on a Program C Plan of Study form, available at the mathematics department office. The Handbook for Undergraduate Majors has plans for choosing electives in several areas; students may use these or propose other plans.

Program C requires a total of 11 core and elective courses for the B.A., and a total of 13 core and elective courses for the B.S., as follows.

#### CORE COURSES

A two-semester sequence of calculus I-II (8 s.h.) is required. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program is accepted for part or all of the calculus requirement.

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.

One of these:

22M:028 Calculus III	4 s.h.
22M:056 Fundamental Properties of Spaces and Functions II	4 s.h.

One additional proof course (e.g., 22M:050 or 22M:055)	3-4 s.h.
--	----------

Some subtracks require additional core courses; consult the Handbook for Undergraduate Majors. Additional core courses count as required electives (see "Electives" below).

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

#### ELECTIVES

Students choose six electives for the B.A. and eight for the B.S. At least three electives must be mathematical sciences courses (prefixes 22C, 22M, and 22S).

Students choose electives according to their subtrack. Some subtracks require additional core courses (see "Core Courses" above); the additional core courses count as required electives.

For a list of suggested subtracks and restrictions on electives in each subtrack, consult the Handbook for Undergraduate Majors.

#### B.A. or B.S. with Teacher Licensure

Mathematics majors seeking licensure to teach in elementary and/or secondary schools should choose program B (Bachelor of Arts or Bachelor of Science); see "Program B" above. For information about teacher licensure and the Teacher Education Program, see Teaching and Learning (College of Education) in the Catalog.

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Note: Much of the work in mathematics must be taken in sequence, so students must begin major requirements as early as possible, and individual plans of study must be worked out carefully. The B.A. in mathematics typically requires 11 courses, and the B.S. requires 13. Students must choose program A, B, or C by the end of the third semester and must remain in their chosen program until they graduate in order to stay on track for the four-year graduation plan.

**Before the third semester begins:** course work through second-semester calculus and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** two or three more courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** three or four more major courses and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two or three more major courses



**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

In order to graduate with honors in mathematics, a student must be a member of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Honors students in mathematics also must complete the regular requirements for an undergraduate major in mathematics with a g.p.a. of at least 3.40, and must complete either an honors project or the courses 22M:115 Introduction to Analysis I and 22M:116 Introduction to Analysis II, and 22M:120 Abstract Algebra I and 22M:121 Abstract Algebra II with a g.p.a. of 3.00 or higher. Other sequences, such as 22M:170 Numerical Analysis: Nonlinear Equations and Approximation Theory and 22M:171 Numerical Analysis: Differential Equations and Linear Algebra, or 22M:132 General Topology and 22M:133 Introduction to Smooth Manifolds, may be substituted with the approval of the honors advisor.

Students planning an honors project are responsible for finding a faculty member willing to supervise the project. For help finding a project supervisor, contact the department. Students typically register for 22M:197 Individual Study and Honors in Mathematics for at least 3 s.h. For more information, contact the mathematics department honors advisor.

## Minor

The minor in mathematics requires a minimum of 15 s.h. in mathematics courses, including 12 s.h. in advanced courses taken in the Department of Mathematics at The University of Iowa. Transfer credit and credit by examination do not count toward the 12 s.h. of advanced work. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

Courses 22M:027 Introduction to Linear Algebra and 22M:028 Calculus III are considered advanced for the minor, as are all courses numbered 22M:033 Engineering Mathematics III: Matrix Algebra and above, except 22M:081 Geometry for Elementary Teachers, 22M:104 Introduction to Matrix Theory, 22M:109 Classical Analysis, and 22M:195 Current Issues in Mathematics Education. Students who have taken 22M:031 Engineering Mathematics I: Single Variable Calculus, 22M:032 Engineering Mathematics II: Multivariable Calculus, 22M:033 Engineering Mathematics III: Matrix Algebra, 22M:034 Engineering Mathematics IV: Differential Equations, and 22M:037 Engineering Mathematics V: Vector Calculus at Iowa may satisfy the advanced course requirement by taking one additional advanced course numbered 22M:050 or above, except 22M:056 Fundamental Properties of Spaces and Functions II and 22M:100 Introduction to Ordinary Differential Equations. See the department's Handbook for Undergraduate Majors.

Students seeking a mathematics minor must maintain a g.p.a. of at least 2.00 in all work attempted in the department.

## Graduate Programs

The department offers the Master of Science and the Doctor of Philosophy in mathematics.

### Master of Science

The Master of Science in mathematics requires a minimum of 30 s.h. of graduate credit. Students earn the degree through courses and comprehensive examinations. There is no M.S. thesis. Requirements (courses and comprehensive examination areas) may be modified with the department's consent.

Four different programs (I, II, III, and IV) lead to the M.S. in mathematics. Program II is designed for secondary school teachers.

#### Program I

Program I prepares students for further study of pure and applied mathematics and for employment in government and business. M.S. students in program I take several courses and pass two comprehensive examinations. Students must earn a grade of B-minus or higher in six of the courses and maintain a g.p.a. of at least 2.75 in all mathematics courses taken for the degree.

The following courses are required.

22M:115-22M:116 Introduction to Analysis I-II	6 s.h.
22M:120-22M:121 Abstract Algebra I-II	6 s.h.
22M:132 General Topology	3 s.h.
22M:133 Introduction to Smooth Manifolds	3 s.h.
22M:142 Nonlinear Dynamics with Numerical Methods	3 s.h.
22M:144 Partial Differential Equations with Numerical Methods	3 s.h.

Each student must pass two M.S.-level comprehensive exams, chosen from algebra, analysis, differential equations with numerical methods, and topology.

### Program II

Program II is designed for secondary school teachers. Program II requirements are the same as those for programs I and III, except that two mathematics education courses are required. All mathematics courses numbered 22M:100 or above may be used to satisfy the required 24 s.h. of course work. Students are encouraged to consult with the mathematics education faculty when planning their course of study.

### Program III

Program III focuses on applied mathematics. Students in program III take several courses and pass two comprehensive examinations. Students must earn a grade of B-minus or higher in six of the courses and maintain a g.p.a. of at least 2.75 in all mathematics courses taken for the M.S.

The following courses are required.

All of these:

22M:115-22M:116 Introduction to Analysis I-II	6 s.h.
22M:142 Nonlinear Dynamics with Numerical Methods	3 s.h.
22M:144 Partial Differential Equations with Numerical Methods	3 s.h.
22M:170 Numerical Analysis: Nonlinear Equations and Approximation Theory	3 s.h.
22M:171 Numerical Analysis: Differential Equations and Linear Algebra	3 s.h.

Both courses in group A, or both courses in group B:

#### Group A

22M:132 General Topology	3 s.h.
22M:133 Introduction to Smooth Manifolds	3 s.h.

#### Group B

22M:140 Continuous Mathematical Models	3 s.h.
22M:151 Discrete Mathematical Models	3 s.h.

Each student must pass two M.S.-level comprehensive exams, chosen from analysis, differential equations with numerical methods, numerical analysis, and topology.

### Program IV

Program IV is designed for nondepartmental students working toward the Ph.D. in areas that require mathematical knowledge. The program has no specific required courses. Course distribution requirements are the same as those for program I.

Students in program IV are considered to have passed the comprehensive examination for the master's degree in mathematics if they have maintained a g.p.a. of at least 3.00 in all mathematics courses taken for the M.S. in mathematics and have successfully completed the Ph.D. comprehensive examination in their chosen area.

Students in program IV are assigned a mathematics advisor, who works with them and their major advisor to plan an appropriate curriculum for the M.S. in mathematics. A suitable program of study should be approved by a mathematics advisor before the student takes the Ph.D. comprehensive examination, and a member of the mathematics faculty should serve on the Ph.D. comprehensive examination committee.

### Doctor of Philosophy

The Doctor of Philosophy in mathematics requires a minimum of 72 s.h. of graduate credit. The program places strong emphasis on preparation for research and teaching. The department maintains no division between pure and applied mathematics. It cooperates in interdisciplinary doctoral programs with the College of Education (see Teaching and Learning in the Catalog) and the Program in Applied Mathematical and Computational Sciences.

Ph.D. students in mathematics must satisfy the following requirements for course work (credits and breadth), examinations, foreign language, and the Ph.D. thesis.

Students must spend at least three years in residence at a graduate college, including at least one year at The University of Iowa. They also should enroll in specific courses designated as preparatory for the Ph.D. examinations (consult the Department of Mathematics graduate studies director).

To further encourage mathematical breadth, students must earn at least 33 s.h. of graduate credit in regular courses equivalent to or more advanced than Ph.D. comprehensive examination preparatory courses. For a list of accepted 200-level and 300-level courses, and rules to ensure proper distribution, contact the department.

The Ph.D. examinations consist of a qualifying exam and a comprehensive exam. Students choose three areas from the department's list of qualifying examination areas: algebra, analysis, differential equations with numerical methods, and topology. For each qualifying area, there is a two-semester, 100-level course sequence designated as preparatory, although exams may differ from course content. The three parts of the qualifying exam are taken over a two-week period. One grade (pass, fail, conditional pass) is given on the entire three-part qualifying examination by a committee of six faculty members, two from each exam area. If the grade is fail, the committee has the option to consider each part of the exam separately, offering the student the option of pass in one or two of the areas and fail in the other(s).

The Ph.D. comprehensive exam tests students on research-related topics.

Candidates also take an oral final examination on their dissertation material.

Ph.D. students are required to demonstrate reading proficiency in French, German, or Russian by passing a reading test administered by the appropriate language department, earning a grade of B or higher in the second semester of a sequence offered by the appropriate language department, or passing a special examination approved by the Department of Mathematics graduate committee. Courses that do not carry graduate credit can be used to satisfy this requirement, but they do not count toward the required 72 s.h. of graduate credit. Students must demonstrate language competence after enrolling in graduate school.

The most distinctive aspect of a Ph.D. is the thesis. The department expects the thesis to be an original mathematical work comparable in content and writing quality to that found in standard published research journals. The thesis is written under the supervision of a mathematics department faculty member and is approved by a committee.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### **Master of Science**

Admission to M.S. programs I, II, and III is based on a combination of undergraduate course work and grades, letters of recommendation, and test scores. Numerical standards change every year or so; exceptions may be made to the following guidelines.

Applicants must have completed work in an undergraduate program equivalent to the bachelor's degree offered by the mathematics department, with an undergraduate g.p.a. of at least 3.20. Relevance and difficulty of courses are considered when evaluating grades; grades of C or lower in mathematics courses must be balanced by grades of A. Those whose preparation does not meet this requirement may be admitted conditionally and are asked to take specific courses that cover any deficiencies.

They also must score at least 700 on the quantitative section of the GRE General Test. Applicants whose first language is not English are required to demonstrate their competence in English, normally by scoring at least 620 (paper-based), 260 (computer-based), or 105 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Applicants must submit three letters of recommendation.

### **Doctor of Philosophy**

Admission to the Ph.D. program is based on a combination of undergraduate or graduate course work and grades, letters of recommendation, and test scores. Admission requirements are similar to those for the Master of Science, but the department generally seeks stronger grades and scores for doctoral admission: undergraduate or graduate g.p.a. of at least 3.40; GRE General Test quantitative score of at least 700; and for applicants whose first language is not English, scores of at least 620 (paper-based), 260 (computer-based), or 105 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

## **Mathematics Courses**

### **For Lower-Division Undergraduates**

These courses are not open to graduate students except by special arrangement with the department chair. Credit

earned in 22M:001 Basic Algebra I, 22M:008 Intermediate Algebra, and 22M:003 Basic Geometry does not count toward degree requirements.

Although the sequences 22M:025 Calculus I and 22M:026 Calculus II, and 22M:031 Engineering Mathematics I: Single Variable Calculus and 22M:032 Engineering Mathematics II: Multivariable Calculus are similar, they cover the material in a different order and with different emphases. Students must consult with their advisor before taking the second semester of one sequence after taking the first semester of another. Students who consider taking 22M:026 Calculus II after 22M:016 Calculus for the Biological Sciences or 22M:017 Calculus and Matrix Algebra for Business must consult with their advisor.

**22M:001 Basic Algebra I**

3 s.h.

Percents, ratio and proportion, algebraic expressions and operations, simple products, linear and quadratic equations, simultaneous equations, exponents and radicals; emphasis on verbal problems.

**22M:003 Basic Geometry**

3 s.h.

Angles, triangles, polygons, areas, Pythagorean theorem, similar triangles, circles, loci, related topics. Offered spring semesters. Requirements: 22M:001 or satisfactory score on math placement exam or one year of high school algebra.

**22M:005 Trigonometry**

3 s.h.

Trigonometric functions, solutions of right and oblique triangles, complex numbers. Requirements: 22M:008, or satisfactory score on math placement exam, or two years of high school algebra and one year of high school geometry.

**22M:006 Logic of Arithmetic**

3 s.h.

Mathematical and conceptual foundations of the natural numbers used in elementary school arithmetic teaching; multiple algorithmic approaches to arithmetic and its mathematical and contextual relationships, extensions to integers, rational and irrational numbers, multiple representations. Requirements: 22M:001 or satisfactory score on math placement exam. GE: Quantitative or Formal Reasoning.

**22M:008 Intermediate Algebra**

4 s.h.

Algebraic techniques, equations and inequalities, functions and graphs, exponential and logarithmic functions, systems of equations and inequalities. Requirements: satisfactory score on math placement exam.

**22M:009 Elementary Functions**

4 s.h.

Functions, relations, coordinate systems; properties and graphs of algebraic, trigonometric, logarithmic, exponential functions; inverse trigonometric functions; properties of lines, conic sections. Requirements: 22M:008, or satisfactory score on math placement exam, or two years of high school algebra and one year of high school geometry. GE: Quantitative or Formal Reasoning.

**22M:010 Finite Mathematics**

4 s.h.

Introduction to logic, set theory, linear equations and inequalities, linear programming, matrix algebra, combinatorial probability. Requirements: 22M:008 or satisfactory score on math placement exam or two-and-a-half years of high school mathematics. GE: Quantitative or Formal Reasoning.

**22M:012 Theory of Arithmetic**

3 s.h.

Sets, cardinalities, reasoning in proofs, counterexamples, arithmetic with integers, rationals, irrationals, number theory, functions, algebraic expressions. Requirements: 22M:009 or a more advanced course or satisfactory score on math placement exam. GE: Quantitative or Formal Reasoning.

**22M:013 Mathematics for Business**

4 s.h.

Algebraic techniques, functions and functional models, exponential and logarithmic functions and models, linear programming, informal introduction to calculus; examples and applications from management, economic sciences, related areas. Requirements: 22M:008, or satisfactory score on math placement exam, or two years of high school algebra and one year of high school geometry. GE: Quantitative or Formal Reasoning.

**22M:014 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**22M:015 Mathematics for the Biological Sciences**

4 s.h.

Relations, functions, coordinate systems, graphing, polynomials, trigonometric functions, logarithmic and exponential functions; discrete mathematics, probability; examples and applications from biological sciences. Requirements: 22M:008 or satisfactory score on math placement exam or three years of high school mathematics. GE: Quantitative or Formal Reasoning.

**22M:016 Calculus for the Biological Sciences**

4 s.h.

Differential, integral calculus; differential equations, multivariable calculus; applications to life sciences. Requirements: 22M:015, or satisfactory score on math placement exam, or three and one-half years of high school mathematics including trigonometry. GE: Quantitative or Formal Reasoning.

**22M:017 Calculus and Matrix Algebra for Business**

4 s.h.

Quantitative methods for treating problems arising in management, economic sciences, related areas; introduction to differential and integral calculus, systems of linear equations and matrix operations. Requirements: 22M:008 or 22M:013 or satisfactory score on math placement exam. GE: Quantitative or Formal Reasoning.

**22M:025 Calculus I**

4 s.h.

Fundamental concepts, methods, techniques of single-variable differential and integral calculus; differentiation, techniques of integration, series, applications. Requirements: 22M:009, or 22M:005 and 22M:008, or three and one-half years of high school mathematics including analytic geometry and trigonometry. GE: Quantitative or Formal Reasoning.

**22M:026 Calculus II**

4 s.h.

Continuation of 22M:025. Prerequisites: 22M:025.

**22M:027 Introduction to Linear Algebra**

4 s.h.

Vector algebra and geometry of three-dimensional Euclidean space and extensions to  $n$ -space and vector spaces; lines and planes, matrices, linear transformations, systems of linear equations, reduction to row echelon form, dimension, rank, determinants, eigenvalues and eigenvectors. Prerequisites: 22M:025 or 22M:031.

**22M:028 Calculus III**

4 s.h.

Multivariable calculus; vector functions, line integrals, total differentials, gradient, implicit functions, coordinate systems, Taylor's expansion, extrema, multiple integrals, vector fields, surface integrals, Stokes' theorem. Prerequisites: 22M:026.

**22M:031 Engineering Mathematics I: Single Variable Calculus**

4 s.h.

Limits, derivatives, max/min, other applications, mean-value theorem, approximating functions, concavity, curve sketching, exponential models; Riemann sums, fundamental theorem; integration techniques, improper integrals, approximations. Requirements: 22M:005 or 22M:009 or three and one-half years of high school mathematics including introduction to analytic geometry and trigonometry. GE: Quantitative or Formal Reasoning.

**22M:032 Engineering Mathematics II: Multivariable Calculus**

4 s.h.

Vector geometry; functions of several variables; polar coordinates; partial derivatives, gradients, directional derivatives; tangent lines and planes; max/min/parametric curves, curvilinear motion; multiple integrals; vector fields, flows; integration on curves, work; divergence, flux, Green's theorem. Requirements: 22M:031, or score of 4 or higher on AP Calc (AB) exam, or score of 3 or higher on AP Calc (BC) exam.

**22M:033 Engineering Mathematics III: Matrix Algebra**

2 s.h.

Applications, computers for matrix calculations; matrix, vector arithmetic; linear independence, basis, subspace (in  $R^2$ ,  $R^3$ ); systems of equations, matrix reduction; rank, dimension; determinants, applications; eigenvalues, eigenvectors; diagonalization, principal axis theorem. Prerequisites: 22M:031. Requirements: engineering major.

**22M:034 Engineering Mathematics IV: Differential Equations**

3 s.h.

Ordinary differential equations and applications, with integrated use of computing, student projects; first-order equations; higher order linear equations; systems of linear equations, Laplace transforms; introduction to nonlinear equations and systems, phase plane, stability. Prerequisites: 22M:032 and 22M:033. Requirements: engineering major.

**22M:037 Engineering Mathematics V: Vector Calculus**

3 s.h.

Partial derivatives, max-min problems, integrals along curves, surfaces and solids, vector fields and conservation of energy; curl, divergence, Stokes' theorem and the divergence theorem; the classical partial differential equations and qualitative behavior of their solutions. Prerequisites: 22M:034. Requirements: engineering major.

## Elementary Topics of General Interest

These courses are not open to graduate students except by special arrangement with the department chair.

### **22M:050 Introduction to Abstract Algebra I** 3 s.h.

Basic logic, proof methods, sets, functions, relations, mathematical induction; gradual transition from familiar number systems to abstract structures--division algorithm, unique factorization theorems; groups, subgroups, quotient groups, homomorphisms. Prerequisites: 22M:027. Requirements: concurrent enrollment in second-semester calculus.

### **22M:055 Fundamental Properties of Spaces and Functions I** 3 s.h.

Elementary topological and analytic properties of real numbers; emphasis on ability to handle definitions, theorems, proofs. Corequisites: 22M:027. Requirements: second-semester calculus.

### **22M:056 Fundamental Properties of Spaces and Functions II** 4 s.h.

Multivariable analysis; Bolzano-Weierstrass theorem in three-dimensional Euclidean space, differential calculus, inverse and implicit function theorems, multiple integrals, surface and line integrals, differential forms and Stokes' theorem in n-dimensional Euclidean space. Prerequisites: 22M:055. Recommendations: closed to students who have taken 22M:028.

### **22M:070 Foundations of Geometry** 3 s.h.

Axiomatic development of common foundation for Euclidean, non-Euclidean geometry; constructions of non-Euclidean models, independence of parallel postulate. Prerequisites: 22M:026.

### **22M:072 Elementary Numerical Analysis** 3 s.h.

Computer arithmetic, root finding, polynomial approximation, numerical integration, systems of linear equations, ordinary differential equations; use of higher-level computer language such as Matlab, Maple, Mathematica. Requirements: grade of C- or higher in 22M:026 or 22M:032. Same as 22C:072.

### **22M:081 Geometry for Elementary Teachers** 3 s.h.

Points, lines, planes; measurement, two- and three-dimensional coordinate geometry, transformational geometry and vectors; applications of geometry to solve real-world problems. Offered spring semesters. Prerequisites: 22M:001. Requirements: elementary teacher certificate candidacy or certification.

### **22M:095 Introduction to Research Opportunities** 1 s.h.

Modern mathematics research areas and activities; seminar. Prerequisites: 22M:027.

### **22M:096 Introduction to Mathematics Research** 3 s.h.

Research experience; students study an elementary topic of active research, then work in groups under faculty supervision. Prerequisites: 22M:026 and 22M:027.

## For Upper-Division Undergraduates

Graduate students in mathematics may not receive credit for 22M:100 Introduction to Ordinary Differential Equations, 22M:104 Introduction to Matrix Theory, 22M:105 Basic Analysis, or 22M:109 Classical Analysis.

### **22M:100 Introduction to Ordinary Differential Equations** 2-3 s.h.

First-order ordinary differential equations; second-order linear differential equations; series solutions; higher-order linear and matrix differential equations; existence and uniqueness theorems. Prerequisites: 22M:027 and 22M:028, or 22M:056.

### **22M:104 Introduction to Matrix Theory** 3 s.h.

Vector algebra and geometry of three-dimensional Euclidean space and extensions to n-space and vector spaces; lines and planes, matrices, linear transformations, systems of linear equations, reduction to row-echelon form, dimension, rank, determinants, eigenvalues, eigenvectors. Requirements: graduate standing.

**22M:105 Basic Analysis**

3 s.h.

Elementary topological and analytical properties of real numbers; emphasis on ability to handle definitions, theorems, proofs; same material as 22M:055 for non-mathematics graduate students. Requirements: graduate standing, one year of calculus, and one semester of linear algebra.

**22M:107 History of Mathematics**

3 s.h.

May include numerical systems; Babylonian, Egyptian, and Greek mathematics; mathematics of other cultures; calculus; 19th- and 20th-century mathematics. Requirements: two semesters of calculus and one semester of linear algebra.

**22M:109 Classical Analysis**

3 s.h.

Multivariable calculus, vector functions, line integral, total differentials, gradient, implicit functions, coordinate systems, Taylor's expansion, extrema, multiple integrals, vector fields, surface integrals, Stoke's theorem. Requirements: graduate standing and one year of calculus.

**22M:115 Introduction to Analysis I**

3 s.h.

Real numbers, fundamentals of limits and continuity in the context of metric spaces; Lebesgue theory of functions of one real variable. Requirements: 22M:055 or graduate standing.

**22M:116 Introduction to Analysis II**

3 s.h.

Local theory of analytic functions of one complex variable, power series, classical transcendental functions; spaces of functions. Prerequisites: 22M:115.

**22M:118 Complex Variables**

3 s.h.

Geometry of complex plane, analytic functions; Cauchy-Goursat theorem, applications; Laurent series, residues, elementary conformal mapping. Prerequisites: 22M:028 or 22M:056 or 22M:109.

**22M:120 Abstract Algebra I**

3 s.h.

Groups and homomorphisms, Sylow Theorems, rings, finitely generated modules over a PID, Galois theory, vector spaces, linear transformations and matrices, canonical forms. Prerequisites: 22M:050.

**22M:121 Abstract Algebra II**

3 s.h.

Continuation of 22M:120. Prerequisites: 22M:120.

**22M:123 Foundations of Set Theory**

3 s.h.

Set theory as used in abstract mathematics; equivalent forms of axiom of choice, cardinal numbers and their arithmetic, ordinal numbers and transfinite induction. Requirements: 22M:050 or 22M:055 or graduate standing.

**22M:124 Foundations of Logic**

3 s.h.

Propositional calculus, Boolean algebras, introduction to axiomatic theories. Requirements: 22M:050 or 22M:055 or graduate standing.

**22M:125 Qualifying Exam Preparation Seminars**

0 s.h.

Exam preparation in pure and applied mathematics.

**22M:126 Elementary Theory of Numbers**

2-3 s.h.

Factorization, congruence, Diophantine equations, law of quadratic reciprocity. Prerequisites: 22M:050.

**22M:127 Matrix Theory**

3 s.h.

Vector spaces, linear transformations, matrices, equivalence of matrices, eigenvalues and eigenvectors, canonical forms, similarity, orthogonal transformations, bilinear and quadratic forms. Prerequisites: 22M:027 or 22M:104.

**22M:132 General Topology**

3 s.h.

Basic concepts of general topological spaces and continuous functions: countability of sets, topological space, comparing topologies; subspace, order, and product topologies; closed sets and limit points, continuous functions, metric topology, quotient topology (including projective spaces and gluing cells), connectedness in the real line and in general spaces, components and local connectedness, compactness in Euclidean and general spaces, limit point compactness, local compactness, countability axioms, separation axioms, normal spaces and Urysohn's Lemma, complete metric spaces, convergence in function spaces. Prerequisites: 22M:055.

- 22M:133 Introduction to Smooth Manifolds** 3 s.h.  
Calculus on smooth manifolds; smooth functions, mean value theorem, chain rule, smooth manifolds, tangent vectors, tangent spaces, inverse and implicit functions theorems, submersions and immersions, vectorfields, flows, multilinear algebra, differential forms, Stokes theorem. Prerequisites: 22M:027, 22M:028 or 22M:056, and 22M:132.
- 22M:140 Continuous Mathematical Models** 3 s.h.  
Building and analyzing mathematical models involving differential equations for specific problems from engineering and the sciences; modeling project. Prerequisites: 22M:100.
- 22M:142 Nonlinear Dynamics with Numerical Methods** 3 s.h.  
Nonlinear differential equations, one- and two-dimensional flows, stability, phase plane analysis, limit cycles, bifurcations, chaos, fractals; Euler's, multistep, and Runge-Kutta numerical methods. Prerequisites: 22M:055 and 22M:100.
- 22M:144 Partial Differential Equations with Numerical Methods** 3 s.h.  
Conservation laws, weak solutions, diffusion equation, Laplace's equation, finite difference methods, variational methods, finite element method. Prerequisite: 22M:028, 22M:055, and 22M:100.
- 22M:150 Introduction to Discrete Mathematics** 3 s.h.  
Basic methods of enumerative combinatorics, inclusion-exclusion and generating functions, applications of group theory (Polya-Burnside theorem). Offered fall semesters. Prerequisites: 22M:050.
- 22M:151 Discrete Mathematical Models** 3 s.h.  
Case history approach to discrete models from various fields (e.g., genetics, psychology, health care, scheduling); construction, interpretation, analysis, simulation, testing of models; development of discrete mathematics. Prerequisites: 22M:027.
- 22M:152 Theory of Graphs** 3 s.h.  
Connectivity properties, including Euler, Hamilton cycle problems; graph colorings, matchings; characterization of families of graphs such as trees, planar graphs, networks; graph algorithms, their applications. Prerequisites: 22M:050. Same as 22C:137.
- 22M:160 Introduction to Differential Geometry I** 3 s.h.  
Space curves, Frenet frames, intrinsic and extrinsic geometry of surfaces, first and second fundamental forms, isometries, Gauss map, Gaussian curvature, Theorema Egregium, geodesics, covariant differentiation; may include global theory of curves and Gauss-bonnet theorem. Prerequisites: 22M:028 and 22M:055, or 22M:056 or 22M:100.
- 22M:161 Introduction to Differential Geometry II** 3 s.h.  
Continuation of 22M:160; geometry of surfaces in Euclidean space, Gauss-Bonnet theorem and its applications, minimal surfaces, abstract surfaces; may include Riemannian manifolds, connections, elementary Lie groups, applications of differential geometry to other disciplines (physics, engineering). Prerequisites: 22M:160.
- 22M:170 Numerical Analysis: Nonlinear Equations and Approximation Theory** 3 s.h.  
Root finding for nonlinear equations; polynomial interpolation; polynomial approximation of functions; numerical integration. Prerequisites: 22M:027 and 22M:028, or 22M:037 or 22M:056. Requirements: knowledge of computer programming. Same as 22C:170.
- 22M:171 Numerical Analysis: Differential Equations and Linear Algebra** 3 s.h.  
Numerical methods for initial value problems for ordinary differential equations; direct and iterative methods for linear systems of equations; eigenvalue problems for matrices. Prerequisites: 22M:027 and 22M:028, or 22M:037 or 22M:056; and 22M:100. Requirements: knowledge of computer programming. Same as 22C:171.
- 22M:174 Optimization Techniques** 3 s.h.  
Basic theory of optimization, use of numerical algorithms in solution of optimization problems; linear and nonlinear programming, sensitivity analysis, convexity, optimal control theory, dynamic programming, calculus of variations. Prerequisites: 22M:027, 22M:028 or 22M:056, and 22M:072. Same as 22C:174.
- 22M:178 High Performance and Parallel Computing** 3 s.h.



Parallel scientific computing methods such as parallel algorithms for dense and sparse matrices; implementation using libraries such as MPI; current topics such as grid computing. Requirements: linear algebra or numerical analysis course, and a programming language. Same as 22C:177.

**22M:191 Topics in Technology Uses in Mathematics** 2 s.h.

**22M:195 Current Issues in Mathematics Education** 1-3 s.h.

Recent curriculum developments, experimental programs, research relevant to classroom instruction, trends in education that may have a significant impact on mathematics programs. Same as 07S:235.

**22M:196 Topics in Mathematics** arr.

**22M:197 Individual Study and Honors in Mathematics** arr.

**22M:199 Readings in Mathematics** arr.

## Core Graduate Courses

**22M:200 Introduction to Differential Topology** 3 s.h.

Manifolds, functions: tangent bundle, Morse-Sard theorem, transversality, submanifolds, tubular neighborhoods, normal bundles, vector fields, degree and intersection theory, fixed-point theory, Morse theory. Prerequisites: 22M:133.

**22M:201 Introduction to Algebraic Topology** 3 s.h.

Homotopy, fundamental group and covering spaces, CW and simplicial complexes, simplicial homology, Euler characteristic. Prerequisites: 22M:132.

**22M:203 Topology of Manifolds** 3 s.h.

Embedding, knotting, immersions; isotopy, homotopy, regular neighborhoods, engulfing, surgery, cobordism; three-, four-, and higher dimensional manifolds. Prerequisites: 22M:200 and 22M:201.

**22M:205 Introduction to Algebra I** 3 s.h.

Abstract algebra: semigroups, groups, rings, integral domains, polynomial rings, division rings, fields, vector spaces, matrices, modules over rings, lattices, categories. Prerequisites: 22M:120.

**22M:206 Introduction to Algebra II** 3 s.h.

Continuation of 22M:205. Prerequisites: 22M:205.

**22M:210 Analysis I** 3 s.h.

Lebesgue measure and integral, fundamental theorem of calculus, abstract measures and integration, Fubini's theorem, Radon-Nikodym theorem, Riesz representation theorem, L-p spaces. Prerequisites: 22M:116.

**22M:211 Analysis II** 3 s.h.

Hilbert space, Banach space techniques; Hahn-Banach theorem, open mapping theorem, principle of uniform boundedness; reflexivity, H-p spaces, Paley-Wiener theorem, space of functions analytic on the open unit disk. Prerequisites: 22M:118 and 22M:210.

**22M:213 Ordinary Differential Equations I** 3 s.h.

Existence, uniqueness, continuous dependence of solutions to initial value problems, autonomous systems; Poincare-Bendixon theory, linear systems and linearizations, perturbation, stability, periodic solutions, bifurcation, comparison and oscillation theorems, boundary value problems. Prerequisites: 22M:116.

**22M:214 Ordinary Differential Equations II** 3 s.h.

Continuation of 22M:213. Prerequisites: 22M:213.

**22M:216 Partial Differential Equations I** 3 s.h.

Elliptic equations; potential theory, maximum principle, a priori estimate, Dirichlet problem; initial value problem for parabolic equations; hyperbolic equations; Duhamel's principle, Cauchy problem; nonlinear equations, characteristics, canonical form, first-order systems. Prerequisites: 22M:116.

**22M:217 Partial Differential Equations II** 3 s.h.  
Continuation of 22M:216. Prerequisites: 22M:216.

**22M:224 First-Year Graduate Seminar** 1 s.h.  
Introduction to mathematics graduate program. Requirements: first-year graduate standing in mathematics.

## Primarily for Graduate Students

**22M:260 Differential Geometry I** 3 s.h.  
Differentiable manifolds, forms, tensors, Riemannian metrics, isometries, connections, geodesics, curvature, related topics.

**22M:261 Differential Geometry II** 3 s.h.  
Continuation of 22M:260; varied topics, may include study of existence and uniqueness of solutions to differential equations and systems related to geometry, indefinite metrics, Lie groups, attributes of manifolds with particular curvature properties, global Riemannian geometry, Kahler geometry, applications of differential geometry to other disciplines. Prerequisites: 22M:260.

**22M:270 Theoretical Numerical Analysis I** 3 s.h.  
Theoretical foundations of numerical analysis, within framework of functional analysis; application areas including approximation theory, numerical methods for partial differential equations, integral equations; introduction to functional analysis. Prerequisites: 22M:115, 22M:116, 22M:170, and 22M:171.

**22M:271 Theoretical Numerical Analysis II** 3 s.h.  
Continuation of 22M:270. Prerequisites: 22M:270.

**22M:280 Introduction to Financial Mathematics** 2-3 s.h.  
Financial mathematics; option pricing and portfolio optimization, stochastic integration, methods due to Ito and Feynman-Kac, Monte-Carlo simulation. Prerequisites: 22M:210.

**22M:303 Topics in Analysis** 2-3 s.h.  
Measure theory, integration, general topology. Repeatable.

**22M:305 Topics in Topology** 2-3 s.h.  
May include homotopy theory, topology of 3-manifolds, 4-manifolds, or higher-dimensional manifolds, knotting and embedding problems, fiber bundles and characteristic classes, K-theory, PL manifolds, infinite-dimensional manifolds. Repeatable.

**22M:313 Functional Analysis I** 2-3 s.h.  
Locally convex topological vector spaces, duality, tensor products and nuclear spaces; Krein-Millman theorem, Choquet's theory; geometry of Banach spaces, nonlinear functional analysis; operators on Hilbert spaces, spectral theorem, algebras of operators. Prerequisites: 22M:211.

**22M:314 Functional Analysis II** 2-3 s.h.  
Continuation of 22M:313. Prerequisites: 22M:313.

**22M:321 Topics in Applied Mathematics** arr.  
Application of mathematics to other disciplines. Repeatable.

**22M:324 Topics in Partial Differential Equations** 2-3 s.h.  
Regularity theory, nonlinear analysis in partial differential equations, fluid dynamics, harmonic analysis, conservation laws, other topics. Repeatable.

**22M:328 Topics in Logic**

2-3 s.h.

Theory of models, recursive functions, sets, deductions. Repeatable. Prerequisites: 22M:221.

**22M:330 Topics in Algebra**

2-3 s.h.

May include algebraic number theory, groups, representation theory, algebras, ideal theory, lattice theory. Repeatable. Prerequisites: 22M:206.

**22M:340 Homological Algebra**

2-3 s.h.

Modules, tensor products, groups of homomorphisms, categories, functors, homology functors, projective and injective modules, derived functors, torsion and extension functors, homological dimension. Prerequisites: 22M:206.

**22M:360 Topics in Mathematical Biology**

2-3 s.h.

Application of mathematics to biology. Repeatable.

**22M:382 Seminar: Nonlinear Dynamics and Differential Equations**

arr.

Repeatable.

**22M:383 Seminar: Commutative Ring Theory**

arr.

Repeatable.

**22M:384 Seminar: Fourier Analysis**

arr.

Repeatable.

**22M:385 Seminar: Representation Theory**

arr.

Repeatable.

**22M:386 Seminar in Undergraduate Mathematics Education**

arr.

Varied topics in teaching, learning, curriculum; philosophy, objectives, strategies, methods; use of technology, group learning, projects, discovery method, multiple approaches, other current issues. Repeatable.

**22M:387 Seminar: Differential Geometry**

arr.

Repeatable.

**22M:389 Seminar: Algebra**

arr.

Repeatable.

**22M:390 Seminar: Operator Theory**

arr.

Repeatable.

**22M:391 Seminar: Logic and Foundations of Mathematics**

arr.

Repeatable.

**22M:392 Seminar: Topology**

arr.

Repeatable.

**22M:393 Seminar: Mathematical Physics**

arr.

Repeatable.

**22M:394 Seminar: Mathematical Biology**

arr.

Repeatable.

**22M:395 Seminar: Analysis**

arr.

Repeatable.

**22M:396 Seminar: Functional Analysis**

arr.

Repeatable.

**22M:397 Seminar: Partial Differential Equations**

arr.

Repeatable.

**22M:398 Seminar: Numerical Analysis**  
Repeatable.

arr.

**22M:399 Reading Research**  
Repeatable.

arr.

# Medieval Studies

**Chair:** Carin M. Green

**Coordinator:** Robert Bork

**Undergraduate nondegree program:** Certificate in Medieval Studies

**Web site:** <http://www.uiowa.edu/~medieval/>

The Medieval Studies Program enables undergraduate students to combine study in three or more disciplines into an organized investigation of the Middle Ages, a rich historical period that continues to influence today's culture. Students can pursue the Certificate in Medieval Studies as a distinct interest or combine it with focused study in areas such as art history, classics, comparative literature, languages (e.g., French, German, Italian, Portuguese, Spanish), music, philosophy, religion, theatre, or women's studies.

## Certificate

The Certificate in Medieval Studies requires a minimum of 21 s.h. in medieval studies course work. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The program is open to current undergraduate students, but graduates who hold University of Iowa bachelor's degrees may return to earn the certificate.

Courses used to complete the certificate may be counted toward requirements for the College of Liberal Arts and Sciences General Education Program or toward a major or minor. Up to 6 s.h. of transfer credit may be applied toward the certificate, with the approval of the medieval studies coordinating committee.

Students must include courses from at least three different departments in their work for the certificate; they may count a maximum of 10 s.h. from a single department or program toward the 21 s.h. required.

All certificate students must complete one of the following two courses and should do so early in their study program.

162:109 Medieval Civilization I	3 s.h.
162:110 Medieval Civilization II	3 s.h.

Remaining courses may be chosen from those listed under "Associated Courses" below and from those listed under "Medieval Studies Courses" at the end of this section. Students should consult regularly with a medieval studies advisor while planning and completing their study program.

The Medieval Studies Program strongly encourages students to complete course work in a language relevant to the medieval period. Latin is recommended for anyone intending to pursue graduate study in the field. Many language courses have prerequisites, and some are offered irregularly, so students should complete their language course work as early as possible. The following language courses are approved for the medieval studies certificate.

008:140 Elementary Old English	3 s.h.
20L:011-20L:012 World of Cicero - Golden Age of Roman Poetry	6 s.h.
032:100-032:101 Biblical Hebrew I-II	8 s.h.
195:111-195:112 Intermediate Modern Standard Arabic I-II	10 s.h.

## Sample Study Plans

Both study plans below fulfill certificate requirements. The first is tailored for a student intending to pursue graduate work in medieval studies, while the second might be designed by a student with a general interest in the period.

Sample plan 1:

01H:040 Introduction to Medieval Art	3 s.h.
16E:112 Medieval Intellectual History 1150-1500	3 s.h.
20L:011 World of Cicero	3 s.h.
20L:012 Golden Age of Roman Poetry	3 s.h.
032:025 Medieval Religion and Culture	3 s.h.
162:101/008:101 Literature and Culture of the Middle Ages	3 s.h.
162:110/16E:110 Medieval Civilization II	3 s.h.

Sample plan 2:

008:140/103:132 Elementary Old English	3 s.h.
008:146 Chaucer	3 s.h.
16E:117 History of the Medieval Church	3 s.h.
16E:119 Women, Power, and Society in Medieval Europe	3 s.h.

025:144 History of Music I	3 s.h.
035:160 The Cid in History and Legend	3 s.h.
162:109 Medieval Civilization I	3 s.h.

## Associated Courses

The following courses are approved for the medieval studies certificate. Courses not on this list may be approved for satisfaction of certificate requirements. Students who wish to have a course approved should make a request to the Certificate in Medieval Studies coordinating committee. The coordinating committee revises the list of approved courses as necessary.

### ARABIC LANGUAGE AND LITERATURE

195:111 Intermediate Modern Standard Arabic I	5 s.h.
195:112 Intermediate Modern Standard Arabic II	5 s.h.

### ART AND ART HISTORY

01H:040 Introduction to Medieval Art	3 s.h.
01H:199 Topics in Art History (when topic is medieval)	3 s.h.

### CENTER FOR THE BOOK

108:182/16E:120 The Book in the Middle Ages	3 s.h.
108:183/16E:118/021:258 The Transition from Manuscript to Print	3 s.h.

### CLASSICS

20L:011 World of Cicero	3 s.h.
20L:012 Golden Age of Roman Poetry	3 s.h.

### ENGLISH

008:060 Selected Works of the Middle Ages	3 s.h.
008:101 Literature and Culture of the Middle Ages	3 s.h.
008:140/103:132 Elementary Old English	3 s.h.
008:141 Old English Beowulf	3 s.h.
008:142 Medieval Celtic Literature	3 s.h.
008:144/049:181 Medieval Drama	3 s.h.
008:146 Chaucer	3 s.h.

### FRENCH

009:113 French Civilization	3 s.h.
-----------------------------	--------

### GERMAN

13E:080 King Arthur Through the Ages	3 s.h.
--------------------------------------	--------

**HISTORY**

16E:051 Colloquium for History Majors (European) (when topic is medieval)	3 s.h.
16E:108 The Twelfth-Century Renaissance	3 s.h.
16E:109 Medieval Civilization I	3 s.h.
16E:110 Medieval Civilization II	3 s.h.
16E:111 Medieval Intellectual History 300-1150	3 s.h.
16E:112 Medieval Intellectual History 1150-1500	3 s.h.
16E:113 Economic and Social History of Medieval Europe	3 s.h.
16E:116 Ireland in the Early Middle Ages	3 s.h.
16E:117 History of the Medieval Church	3 s.h.
16E:118/108:183/021:258 The Transition from Manuscript to Print	3 s.h.
16E:119 Women, Power, and Society in Medieval Europe	3 s.h.
16E:120/108:182 The Book in the Middle Ages	3 s.h.
16E:121 The Middle Ages in Film	3 s.h.
16E:139 Ancient and Medieval Science	3 s.h.
16W:051 Colloquium for History Majors (World) (when topic is medieval)	3 s.h.

**ITALIAN**

018:119 Medieval Italian Literature	3 s.h.
018:120 Medieval and Renaissance Italian Literature	3 s.h.

**MUSIC**

025:144 History of Music I	3 s.h.
025:145 Counterpoint Before 1600	3 s.h.

**PHILOSOPHY**

026:112 Medieval Philosophy	3 s.h.
-----------------------------	--------

**RELIGIOUS STUDIES**

032:025 Medieval Religion and Culture	3 s.h.
032:100 Biblical Hebrew I	4 s.h.
032:101 Biblical Hebrew II	4 s.h.
032:132 Medieval and Reformation Religious Thought	3 s.h.

**SPANISH AND PORTUGUESE**

035:160 The Cid in History and Legend	3 s.h.
035:181 Topics in Spanish Literature (when topic is medieval)	3 s.h.

**THEATRE ARTS**

049:181/008:144 Medieval Drama	3 s.h.
--------------------------------	--------

## Medieval Studies Courses

- 162:101 Literature and Culture of the Middle Ages** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 008:101.
- 162:108 The Twelfth-Century Renaissance** 3 s.h.  
Social, economic, intellectual, and cultural rebirth of Europe in the 12th century; Latin learning and education; developments in vernacular literature, art, architecture, new religious orders and institutions, pilgrimage and Crusade. Same as 16E:108.
- 162:109 Medieval Civilization I** 3 s.h.  
Europe from the decline of Roman empire to the eleventh century; cultural, political, economic, artistic and architectural foundations of Western civilization. Same as 16E:109.
- 162:110 Medieval Civilization II** 3 s.h.  
Europe from the eleventh century to the Italian Renaissance; cultural, political, economic, artistic, and architectural foundations of Western civilization. GE: Foreign Civilization & Culture. Same as 16E:110.
- 162:111 Medieval Intellectual History 300-1150** 3 s.h.  
Philosophy, art, literature, religious culture of Europe from waning of classical intellectual modes of culture in late antiquity, to their recovery in 12th century. Same as 16E:111.
- 162:112 Medieval Intellectual History 1150-1500** 3 s.h.  
European philosophy, religion, literature, art from 12th-century rise of scholasticism; their transformation in period of Copernicus, Luther. Same as 16E:112.
- 162:113 Economic and Social History of Medieval Europe** 3 s.h.  
Changes in western Europe from 300 to 1500 A.D.; feudalism, manorialism, revival of towns, heresy, women, monasticism, agricultural and commercial revolutions, Black Death. GE: Foreign Civilization & Culture. Same as 16E:113.
- 162:116 Ireland in the Early Middle Ages** 3 s.h.  
Ireland and the northern British islands 400-1000 CE, a region of small kingdoms and thin population, lacking natural resources, far from Rome and ancient centers of Mediterranean culture; development of civilization, including monastic, legal, theological, and scholarly traditions that had a major impact on continental Europe; early medieval Irish history; introduction to the world of historical scholarship. Same as 16E:116.
- 162:117 History of the Medieval Church** 3 s.h.  
Development of Christianity to end of great schism; rise of Roman primacy, development of monasticism, orthodox and heterodox groups. GE: Foreign Civilization & Culture. Same as 16E:117.
- 162:119 Women, Power, and Society in Medieval Europe** 3 s.h.  
Same as 16E:119.
- 162:121 The Middle Ages in Film** 3 s.h.  
How films that represent medieval events and literature may be analyzed to reveal the culture and times in which the films were made; Middle Ages and European nationalistic mythmaking as represented in film. Same as 16E:121.
- 162:139 Ancient and Medieval Science** 3 s.h.  
Greeks' initiation of scientific inquiry; developments in astronomy, cosmology, optics, mathematics, physics, medicine, psychology in ancient and medieval societies of Middle East, Europe. Same as 16E:139.



# Microbiology

**Head:** Michael A. Apicella

**Professors:** Michael A. Apicella (Internal Medicine), Gail A. Bishop (Internal Medicine), John E. Butler, Steven Clegg, Charles D. Cox, Michael G. Feiss, John T. Harty (Pathology), David M. Lubaroff (Urology), Linda L. McCarter, Paul B. McCray (Pediatrics), William Nauseef (Internal Medicine), Stanley Perlman (Pediatrics), Richard J. Roller, Paul Rothman (Internal Medicine), George V. Stauffer, Mark F. Stinski, C. Martin Stoltzfus, Jerrold P. Weiss (Internal Medicine), Mary E. Wilson (Internal Medicine)

**Professors emeriti:** Robert F. Ashman (Internal Medicine), John Cazin Jr., David T. Gibson, Louis G. Hoffmann, William Johnson, Erich W. Six, Donald P. Stahly

**Associate professors:** Lee-Ann Allen (Internal Medicine), Bradley D. Jones, John R. Kirby, Al J. Klingelhutz (Radiation Oncology), Wendy J. Maury, Steven M. Varga (Pathology), David S. Weiss, Timothy L. Yahr

**Associate professor emeritus:** Jose E. Rodriguez

**Assistant professors:** Craig D. Ellermeier, Alex Horswill, Jon Houtman, Kevin L. Legge (Pathology), Howard Xue

**Adjunct assistant professor:** Marcia L. Cordts

**Adjunct lecturers:** Jennifer D. Boddicker, Linda M. Knudtson

**Undergraduate degree:** B.S. in Microbiology

**Undergraduate nondegree program:** Minor in Microbiology

**Graduate degrees:** M.S., Ph.D. in Microbiology

**Web site:** <http://www.uiowa.edu/microbiology>

Study in the Department of Microbiology is dedicated to the branch of biological sciences that deals with the smallest living things: bacteria, archaea, fungi, algae, protozoa, and viruses. It is coupled with immunology, the study of the response of higher organisms to foreign substances.

Microbiology and immunology are at the forefront of the modern biological revolution. Microbes are often the experimental subjects of choice for examining basic genetic and biological phenomena because of their small size, rapid growth rate, and relative simplicity. A significant portion of contemporary biochemical research employs microbiological and immunological methods.

Current research is making theoretical and practical advances concerning microbial species and viruses that infect animals, including man, plants, and other microbes; the use of comparative genomics, gene expression profiling, and recombinant DNA methods to analyze basic biological processes and generate valuable products; the nature and occurrence of microbial life in extreme or unusual environments; microbial synthesis and modification of antibiotics and other natural products; the role of microbes in stabilization of the biosphere by recycling and detoxifying waste products; the genetics and regulation of metabolic processes; and the genetics and regulation of the immune response, including characterization of mechanisms used by bacteria to signal one another and characterization of interactions between different types of immune cells and their targets.

The Department of Microbiology offers degree programs for undergraduates and for graduate students and administers the academic curriculum at both levels. The College of Liberal Arts and Sciences grants undergraduate degrees in microbiology and oversees undergraduate academic policy relating to the student record. The Graduate College grants graduate degrees in microbiology.

## Undergraduate Program

The Department of Microbiology offers a Bachelor of Science and a minor in microbiology.

Microbiology is an excellent major for undergraduate students who want a good general education with emphasis on an important and interesting branch of biological sciences. Graduates find employment opportunities in government, hospitals, public health laboratories, research laboratories, and industrial laboratories (food, dairy, chemical, pharmaceutical, and genetic engineering companies). Those who pursue advanced degrees have more advanced career opportunities in these same areas as well as in college and university teaching.

### Bachelor of Science

The Bachelor of Science in microbiology requires a minimum of 120 s.h., including 64 s.h. of work for the major (21 s.h. in microbiology and 43 s.h. in supporting course work). Students also must complete the College of Liberal Arts and Sciences General Education Program.

The required 21 sh. of microbiology must include at least 12 s.h. earned in University of Iowa courses numbered 061:147 Survey of Immunology and above, except 061:164 Nursing Microbiology; students may count 061:218 Microscopy for Biomedical Research toward the requirement but not 061:220 Advanced Microscopy Biomedical Research. No more than 2 s.h. of 061:161 Undergraduate Research in Microbiology (or 061:171 Honors Undergraduate Research in Microbiology for honors students) and no more than 2 s.h. of 061:163 Seminar: Microbiology may be counted toward the requirement. In order to take microbiology courses more advanced than 061:157 General Microbiology, students must earn a grade of C or higher in 061:157 General Microbiology. The supporting science and mathematics course work required for the major may not be taken pass/nonpass.

Students must include 061:163 Seminar: Microbiology (2 s.h.) in the required 21 s.h. of microbiology; they must take the course for credit once during their last two semesters before graduation, but they are encouraged to take it for 0 s.h. during other semesters, once they have completed 061:157 General Microbiology.

In addition to the required 21 s.h. of microbiology, the major requires supporting course work as follows.

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:121-004:122 Organic Chemistry I-II	6 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.
029:011-029:012 College Physics I-II	8 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.

One of these:

22M:016 Calculus for the Biological Sciences	4 s.h.
22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

In addition, the following courses may be recommended for some students.

08N:080 Nonfiction Writing	3 s.h.
171:161 Introduction to Biostatistics (some medical schools require a biostatistics course for admission)	3 s.h.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Before the third semester begins:** 002:010 Principles of Biology I; 004:011 Principles of Chemistry I, and 004:012 Principles of Chemistry II; an approved calculus class; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 002:011 Principles of Biology II; 004:121 Organic Chemistry I, 004:122 Organic Chemistry II, and 004:141 Organic Chemistry Laboratory; 061:157 General Microbiology; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** five more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** another 10-12 s.h. of course work

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining required General Education courses, and a sufficient number of semester hours to graduate

## Honors

Microbiology majors who are members of the University of Iowa Honors Program may enroll in the honors program in microbiology. Membership in the University Honors Program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33. Microbiology honors students also must maintain a g.p.a. of at least 3.33 in microbiology courses. The program requires 25 s.h. of course work in microbiology, including 6 s.h. in 061:171 Honors Undergraduate Research in Microbiology, which introduces students to experimental research. At the end of the research, students present written and oral reports. Students who successfully complete these requirements receive the B.S. with honors.

## Minor

The minor in microbiology requires a minimum of 15 s.h. in microbiology courses, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, courses numbered 061:147 Survey of Immunology and above, except 061:164 Nursing Microbiology, are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 2 s.h. earned in 061:161 Undergraduate Research in Microbiology or 061:171 Honors Undergraduate Research in Microbiology, and 2 s.h. earned in 061:163 Seminar: Microbiology, toward the minor. They also may count 061:218 Microscopy for Biomedical Research, but not 061:220 Advanced Microscopy Biomedical Research.

## Graduate Programs

The Department of Microbiology offers a Master of Science and a Doctor of Philosophy in microbiology. Graduate study in the department is designed to help students become highly qualified in microbiology research and teaching.

Admitted graduate students usually pursue the Ph.D.

Graduate study is offered in six subdisciplines: pathogenic bacteriology, microbial genetics, immunology, microbial physiology, animal virology, and bioinformatics. Several areas involve interdisciplinary training both within and outside the department, so students gain broad experience during their course of study. Students also may pursue interdisciplinary Ph.D. programs in genetics, immunology, and molecular and cellular biology.

During their first year, students rotate in three laboratories of their choice and are advised by the Graduate Student Advisory Committee. At the end of the first year, they choose a research supervisor who chairs their advisory committee. The committee provides intellectual and research guidance for the student's training.

The Department of Microbiology cooperates with other University of Iowa departments to give students ample access to diverse course offerings, seminars, and research programs. For example, microbiology students may participate in courses and seminars in immunology, genetics, molecular and cellular biology, biocatalysis/biotechnology, and electron microscopy.

All students admitted to advanced degree programs are expected to assist in departmental teaching.

## **Master of Science**

The Master of Science in microbiology requires a minimum of 30 s.h. of graduate credit. M.S. students are required to earn a minimum of 12 s.h. in microbiology courses chosen from three of the department's six subdisciplines. They may substitute a course they have already taken (at The University of Iowa or elsewhere) for a course requirement, with the M.S. advisory committee's approval. Additional course requirements depend on students' interests and the advice of the examining committee.

Students must write a thesis based on their own research and defend it satisfactorily in an oral examination. No more than 9 s.h. of credit for thesis research may be counted toward the 30 s.h. required for the Master of Science.

## **Doctor of Philosophy**

The Doctor of Philosophy in microbiology requires a minimum of 72 s.h. of graduate credit. Ph.D. students are required to earn a minimum of 15 s.h. of credit in graduate-level microbiology courses. They may substitute a course they have already taken (at The University of Iowa or elsewhere) for a course requirement, with the Ph.D. advisory committee's approval.

Students must pass a comprehensive examination before their sixth semester in the program and write a thesis based on their own research. The thesis must be defended satisfactorily in an oral examination.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They should have a cumulative g.p.a. of at least 3.00 and must have completed courses in biology, chemistry (inorganic and organic), mathematics including calculus, and physics. Those admitted with deficiencies must complete the relevant course work during their first year of graduate study. Admission is determined through a review and formal vote by the faculty. Preference is given to students applying for the Ph.D. program.

## **Facilities**

The Department of Microbiology is situated on the University of Iowa health sciences campus, where it shares the Bowen Science Building with the Departments of Anatomy and Cell Biology, Biochemistry, Molecular Physiology and Biophysics, and Pharmacology. Laboratory space and modern equipment are available for teaching and research.

## **Microbiology Courses**

- |   |        |
|---|--------|
| <b>061:005 Microbes and Our World</b>   | 2 s.h. |
| Bacteria, viruses, and parasites and their role in shaping human health, industry, current affairs, history.  |        |
| <b>061:015 Web-Based Microbes and Our World</b>   | 2 s.h. |
| Bacteria, viruses, and other microorganisms; ways in which microbes affect our health, economy, and environment; how humans have harnessed microbial growth; how microbes have shaped human experience and continue to play key roles in modern life. |        |
| <b>061:103 Principles of Infectious Diseases</b>  | 5 s.h. |

Principles and methods essential to study of microorganisms, their isolation and identification; microorganisms in infectious diseases; current immunology concepts. Requirements: M.D. enrollment.

**061:104 Principles Infectious Diseases--Physician Assistant** 5 s.h.

Principles and methods essential to study of microorganisms, their isolation and identification; microorganisms in infectious diseases; current immunology concepts. Requirements: Physician Assistant Program enrollment.

**061:112 Pharmacy Microbiology** 4 s.h.

Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: pre-pharmacy standing.

**061:113 Dental Microbiology** 3 s.h.

Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: D.D.S. enrollment.

**061:147 Survey of Immunology** 4 s.h.

Major features of the evolutionary, ontogenic, and comparative development of innate and adaptive immune systems and their functions at the cellular and molecular levels. Prerequisites: 002:010 and 002:011.

**061:157 General Microbiology** 5 s.h.

Principles of microbial diversity, microbial genetics, physiology and metabolism, pathogenic microbiology, virology, immunology, industrial and environmental microbiology; laboratory emphasis on basic techniques. Prerequisites: 002:010 and 002:011. Corequisites: 004:121.

**061:159 Pathogenic Bacteriology** 5 s.h.

Pathogenic bacteria, with emphasis on mechanisms of pathogenicity, laboratory methods for isolation, identification; laboratory emphasis on advanced methods for study of pathogenic bacteria. Requirements: grade of C or higher in 061:157.

**061:160 Microbial Physiology** 3 s.h.

Bacterial genomes, cell structure, growth, energy metabolism, biosynthesis, mechanisms of signal transduction and regulation; laboratory supplement in 061:180. Requirements: grade of C or higher in 061:157.

**061:161 Undergraduate Research in Microbiology** arr.

Experimental research under faculty supervision. Requirements: grade of C or higher in 061:157.

**061:163 Seminar: Microbiology** 2 s.h.

Current topics in microbiology, immunology. Requirements: grade of C or higher in 061:157 and senior standing.

**061:164 Nursing Microbiology** 4 s.h.

Overview of bacteria, viruses, and eukaryotic microorganisms that cause human disease; microbial structure, growth control and reproduction; immunology in the context of host defense mechanisms. Requirements: pre-nursing student standing. Corequisites: 002:002 or 002:010 or 002:021, if not taken as a prerequisite.

**061:168 Introduction to Animal Viruses** 3-5 s.h.

Basic physical, chemical, biological properties of animal viruses, their association with human disease; optional laboratory with emphasis on methods in basic, clinical, and molecular virology. Requirements: grade of C or higher in 061:157.

**061:170 Microbial Genetics** 3 s.h.

Genetics of bacteria, bacteriophages. Requirements: grade of C or higher in 002:128 or 061:157.

**061:171 Honors Undergraduate Research in Microbiology** arr.

Experimental research under faculty supervision. Prerequisites: 061:157. Requirements: microbiology major, junior or senior standing, 3.33 overall g.p.a, and 3.33 g.p.a. in microbiology courses.

**061:175 Microbial Genetics Laboratory** 3 s.h.

Basic principles of genetic analysis of bacteria and bacteriophage. Prerequisites: 061:170.

**061:179 Bacterial Diversity** 3-5 s.h.

Analysis of bacteria from varied habitats; emphasis on the physiological basis and molecular characteristics of diversity. Prerequisites: 061:157.

**061:180 Microbial Physiology Laboratory** 2 s.h.  
Isolation and growth of bacteria, bacterial function products, nutrient transport, metabolic pathways, enzymes. Corequisites: 061:160.

**061:190 Web-Based Nursing Microbiology** 4 s.h.  
Nursing microbiology, principles of immunology; web-based instruction. Requirements: pre-nursing standing. Corequisites: 002:002 or 002:010 or 002:021, if not taken as a prerequisite.

**061:201 Graduate Immunology** 3 s.h.  
Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Requirements: (for 148:201) college biology, general chemistry, and introductory immunology courses; (for 061:201) courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: (for 148:201) courses in biochemistry and genetics; (for 061:201) biochemistry course. Same as 148:201.

**061:207 Advanced Topics in Immunology** 3 s.h.  
In-depth analysis of selected areas. Requirements: (for 148:221) 148:201 or 148:202; (for 061:207) 061:201 and 061:202, or 148:201 and 148:202. Same as 148:221.

**061:210 Advance Prokaryotic Molecular Biology** 3 s.h.  
Mechanism and regulation of DNA, RNA, and protein synthesis in bacteria. Requirements: (for 142:210) 156:201, or 002:128 and 099:130; (for 061:210) 002:128 and 099:130. Same as 142:210.

**061:217 Integrated Topics in Infectious Diseases** 1 s.h.  
Clinical cases used to raise questions in host-parasite interactions; case/scientific exposés followed by related journal club discussions at next class session. Same as 148:217.

**061:218 Microscopy for Biomedical Research** arr.  
Preparation, analysis of biomedical projects by light and electron microscopy. Prerequisites: 002:114. Same as 060:218.

**061:220 Advanced Microscopy Biomedical Research** arr.  
Technically advanced microscopy methods for research; individualized laboratory experience with opportunity to explore application of microscopy methods. Requirements: (for 060:220) an introductory microscopy course; (for 002:220) 002:218 or 060:218 or 061:218 or 012:156 or 052:156 or 060:156; (for 061:220) an introductory EM course. Same as 002:220, 060:220.

**061:227 Advanced Topics in Microbiology** 1 s.h.  
Presentations by graduate students on selected research topics in microbiology; different topics each semester. Offered fall and spring semesters. Requirements: graduate standing in microbiology.

**061:247 Graduate Survey of Immunology** 4 s.h.  
Major features of evolutionary, ontogenic, and comparative development of innate and adaptive immune systems; their functions at cellular and molecular levels. Offered fall semesters. Same as 148:247.

**061:259 Graduate Pathogenic Bacteriology** 4 s.h.  
Pathogenic bacteria, with emphasis on mechanisms of pathogenicity, laboratory methods for isolation, identification; laboratory emphasis on advanced methods for study of pathogenic bacteria; research literature.

**061:260 Graduate Microbial Physiology** 3 s.h.  
Bacterial genomes, cell structure, growth, energy metabolism, biosynthesis, mechanisms of signal transduction and regulation; laboratory supplement in 061:280.

**061:261 Graduate Research in Microbiology** arr.  
Requirements: microbiology graduate standing.

**061:263 Graduate Student Research Seminar**

1 s.h.

Presentation of thesis work in progress. Requirements: microbiology graduate standing.

**061:264 Directed Study in Microbiology**

arr.

**061:265 Topics in Virology Literature**

1 s.h.

Papers of current interest in primary virology literature.

**061:267 Graduate Introduction to Animal Viruses**

3-5 s.h.

Basic physical, chemical, biological properties of animal viruses, their association with human diseases; optional laboratory with emphasis on methods in basic, clinical, and molecular virology; discussion topics in the primary literature. Requirements: grade of C or higher in 061:157.

**061:268 Biology and Pathogenesis of Viruses**

2 s.h.

Molecular biology of animal DNA and RNA viruses, interaction of these viruses with eucaryotic cells; mechanisms of viral latency, persistence, cellular transformation, oncogenesis; virology literature. Prerequisites: 061:168 or 061:267.

**061:270 Graduate Microbial Genetics**

3 s.h.

Genetics of bacteria, bacteriophages.

**061:271 Graduate Microbial Genetics Laboratory**

3 s.h.

Basic principles of genetic analysis in bacteria. Prerequisites: 061:270.

**061:275 Perspectives in Biocatalysis**

1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 046:275, 052:275, 053:275, 099:275.

**061:279 Graduate Bacterial Diversity**

4-6 s.h.

Analysis of bacteria from varied habitats; emphasis on the physiological basis and molecular characteristics of diversity.

**061:280 Graduate Microbial Physiology Laboratory**

2 s.h.

Isolation and growth of bacteria, bacterial function products, nutrient transport, metabolic pathways, enzymes.

**061:299 Mechanisms of Parasitism Journal Club**

1 s.h.

Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students. Same as 142:299.

# Museum Studies

**Chair:** James Enloe

**Director:** Margaret Beck

**Adjunct assistant professors:** Tiffany Adrain, Sean Ulmer

**Undergraduate nondegree program:** Certificate in Museum Studies

The University of Iowa has maintained a long museum studies tradition, having offered courses in the subject continuously since 1910. Iowa's museum studies students have gone on to become directors, curators, educators, and exhibit specialists in museums throughout the country.

Museums are interdisciplinary institutions that embrace every aspect of cultural study, and the study of museums mirrors that multiplicity. Many University of Iowa departments and programs offer courses relevant to museum studies, for example, American studies, anthropology (including archaeology), art history, studio art, biology, business, communication studies, elementary and secondary education, English, foreign languages, history, library and information sciences, and leisure studies.

Museum facilities at the University of Iowa include the Museum of Natural History, the Museum of Art and the Old Capitol Museum.

The Museum Studies Program offers an undergraduate certificate. Its courses are open to all University of Iowa students; they attract individuals who have a general interest in the arts, humanities, or sciences as well as those who would like to learn more about how museums work.

The Museum Studies Program is administered by the Department of Anthropology.

## Certificate

The Certificate in Museum Studies requires 18 s.h. The undergraduate certificate provides a broad foundation of knowledge increasingly desired in the museum field.

Museum studies courses introduce students to the spectrum of museum endeavors, from organization and mission planning to institutional histories and current developments in the field. Most courses developed by the program offer hands-on experience in exhibition planning and design, collection management, educational programming, community development, and administration.

A major in one of the natural sciences (e.g., biology, geoscience), anthropology, science education, art history, American studies, or history is recommended for students preparing for museum careers; see the appropriate College of Liberal Arts and Sciences department sections of the Catalog for information about those majors. CLAS students also may use the individualized plan of study track in the interdepartmental studies major to create a museum studies concentration relevant to their academic and professional interests.

Requirements for the Certificate in Museum Studies include 15 s.h. of foundation course work and an internship (3 s.h.), for a total of 18 s.h.

All students take 024:102 Introduction to Museology (3 s.h.), which provides a historical overview of museum development and function while introducing students to issues such as museum governance and financing, ethics and law, collection management, exhibition and educational programming, interpretation, and audience research. Ideally, this is the first course students take in the certificate program; it is a prerequisite for some of the program's more advanced courses.

In addition to the introductory course, students select three courses (minimum of 9 s.h.), typically one from each of three of the following categories, and one additional course (minimum of 3 s.h.) from any of the categories:

Museum administration and management

History, theory, and culture

Exhibition development and public education

Collection management and care

After completing the 15 s.h. of foundation course work described above, students complete an internship (minimum of 3 s.h.). The director of the museum studies certificate program works closely with students and affiliated faculty members to ensure that internships provide students with the instruction and experience they need.

Students may count a maximum of 6 s.h. completed for another certificate, major, or minor in the College of Liberal Arts and Sciences toward the Certificate in Museum Studies; students must first request permission from the director of the museum studies certificate to use courses that are not included in the program, and the proposed course content and requirements must fit into one of the program's defined areas.

Students interested in the museum studies certificate are encouraged to contact the director of the Museum Studies Program.

## Museum Studies Courses

### **024:102 Introduction to Museology**

3 s.h.

Overview of museum history, function, philosophy, collection and curatorial practices, governance and funding issues, exhibition evaluation, audience studies; American cultural institutions. GE: Humanities. Same as 07S:112, 097:115, 113:103.

### **024:104 Exhibition Planning**

3 s.h.

Preliminary work for and process of developing museum exhibitions; history of exhibit design, evaluation, budgets, teams and team member roles, working with community and special interest groups, methods of production and display; students research a topic, choose artifacts and images, and create a narrative and exhibit script.

Prerequisites: 024:102.

### **024:105 Designing History Exhibits**

3 s.h.

Process of developing exhibitions by museum staff and professional design services; designer's role; aspects of materials used in exhibit fabrication; lighting issues, design elements, organization and development of exhibit script, label and graphic production; creation of advertising and promotional material, and fit of such material with final exhibit product; produce documents to develop an exhibit at a nearby museum using narrative and script created in 024:104.

Prerequisites: 024:102 and 024:104.

### **024:115 Museum Literacy and Historical Memory**

3 s.h.

Concepts and methods for understanding the role of museums in shaping knowledge and collective memory of history; institutionally based exhibits and collections, historical markers and public monuments, public holidays and events, media and artistic works that interpret the past; how events, people, and civic ambitions are memorialized and how memories of them are shaped; appearance of museums and related practices in the non-Western world after 1850.

Same as 016:120.

### **024:120 Collection Care and Management**

3 s.h.

How a museum's management policy relates to its administrative, legal, and ethical obligations to its collections; acquisitions, deaccessions, collection use, data standards, storage environment, health, safety, documentation. Same as 012:120.

### **024:121 Power of Placement**

3 s.h.

How placement of artworks in a setting and their relationship to each other affect the way in which viewers understand the works; influence of curator's choice of placement, sequence, height, wall color, and so forth; varied settings, with focus on display issues in art museums; includes gallery and museum experiences. Prerequisites: 024:102.

### **024:140 Advanced Collection Care and Management**

3 s.h.

Builds on 024:120; types of museum objects and materials, their care and management; care, storage, and use of paper, books, photographs, works of art, electronic information media, textiles, furniture, archaeological artifacts, natural history specimens, archives; digitization projects, integrated pest management, risk assessment, museum security, museum construction and renovation, grant writing; for students planning museum careers or for professions that require care of collections. Prerequisites: 012:120 or 024:120. Same as 012:160.

### **024:147 Nonprofit Organizational Effectiveness I**

3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 032:127, 042:157, 06J:147, 06T:144, 096:168.

### **024:148 Nonprofit Organizational Effectiveness II**

3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as 032:128, 042:158, 06J:148, 096:169.

### **024:150 Directed Studies and Projects**

arr.



Advanced readings in historical development, educational philosophy, programs, operations of museums; individual projects coordinated with programs, exhibits, or collections of campus and area museums. Prerequisites: 024:102 or 024:104 or 024:120.

**024:160 Introduction to Archives**

1 s.h.

Purpose and function of archival repositories (as compared with libraries); professional responsibilities of archivists; theoretical basis of currently accepted practices; collection solicitation and development; appraisal of records and manuscripts; processing, or arrangement and description, of collections; archival preservation and conservation, including digital preservation; reference services; outreach efforts; current issues, including electronic records, privacy and copyright.

**024:161 Art, Law, and Ethics**

3 s.h.

How law and ethics apply to individuals and institutions concerned with the visual arts. Same as 01H:182, 033:175, 091:192.

**024:162 The Art Museum: Theory and Practice**

3 s.h.

Introduction to different aspects of art museums; emphasis on roles of art historians, especially curatorial practice; current and historical theories and practices of art exhibitions; varying debates of the politics of display; art museum professions; the many facets of art exhibition preparation; the University of Iowa Museum of Art collections. Same as 01H:181.

**024:170 Grant Writing in the Arts**

3 s.h.

Same as 01P:185.

**024:180 Museum Internship**

arr.

Working experience in functions, departments, programs of the sponsoring museum; relation to museum's overall mission and museum field in general.

**024:247 Nonprofit Organizational Effectiveness I**

3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 028:257, 032:227, 042:247, 06J:247, 091:320, 102:278, 174:247.

**024:248 Nonprofit Organizational Effectiveness II**

3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 028:258, 032:228, 042:248, 06J:248, 091:322, 102:279, 174:248.

# Music

**Director, Division of Performing Arts:** Alan MacVey

**Director:** David Gier

**Director of planning:** Kristin Thelander

**Associate directors:** Benjamin Coelho, Christine Getz, Dan Moore

**Professors:** Mary Adamek, Elizabeth Aubrey, Don Coffman (Teaching and Learning/Music), Katherine Eberle, Kate Gfeller (Music/Communication Sciences and Disorders), David Gier, David K. Gompper, William LaRue Jones, Réne Lecuona, Maurita Murphy Mead, Dan Moore, David Nelson, John Rapson, Stephen Swanson, Kristin Thelander, Ingo Titze (Communication Sciences and Disorders/Music), Uriel Tsachor

**Professors emeriti:** Kenneth Amada, Paul Anderson, Delores Bruch-Cannon, Frederick Crane, Lowell Cross, Thomas Davis, Delbert Disselhorst, Robert Eckert, Beaumont Glass, David Greenhoe, Sven Hansell, William Hatcher, Richard B. Hervig, Edward L. Kottick, Betty Bang Mather, Eldon Obrecht, Allen Ohmes, Kenneth Phillips, William Preucil, Ronald Tyree, Himie Voxman, Myron D. Welch, Charles Wendt

**Associate professors:** Jeffrey Agrell, Anthony Arnone, Gary Briggie, Benjamin Coelho, Michael Eckert, Lawrence Fritts, Christine Getz, Richard Mark Heidel, Rachel Joselson, Kevin Kastens, John Muriello, Ksenia Nosikova, Volkan Orhon, Christine Rutledge, Timothy Stalter, Kenneth Tse, Marian Wilson Kimber, Katherine Wolfe

**Associate professors emeriti:** Richard J. Bloesch, Don Haines, T.M. Scruggs, Carole Thomas, Robert Yeats

**Assistant professors:** Matthew Arndt, Nicole Biamonte, Mary Cohen (Teaching and Learning/Music), Scott Conklin, Robert Cook, Nicole Esposito, Gregory Hand, Alan Huckleberry, Jennifer Iverson, John Manning, Andrew Parker, David Puderbaugh, Amy Schendel

**Adjunct assistant professors:** Joel Boyer, Rachelle Tsachor, Joey Walker, Brett Wolgast

**Lecturers:** Jerry Cain, James Dreier, Steven Grismore, Hannah Holman, Zoran Jakovcic, Susan Jones, Jean Littlejohn, Elizabeth Oakes, Tricia Park, Donna Parsons, Shari Rhoads, Brent Sandy

**Undergraduate degrees:** B.A. in Music; B.M.

**Undergraduate nondegree program:** Minor in Music

**Graduate degrees:** M.A., M.F.A., Ph.D. in Music; D.M.A.

**Graduate nondegree program:** Certificate in Sacred Music

**Web site:** <http://www.uiowa.edu/~music>

The University of Iowa School of Music is prominent in a fine arts community of international repute. It has long been recognized as one of the excellent university-based schools of music in the United States.

The school's on-campus enrollment of approximately 470 music majors is large enough to sustain strong programs in all areas of specialization, yet small enough to ensure the individual attention essential to each student's development.

The faculty consists of highly trained artist-teachers in each area of specialization and scholars of international distinction. Faculty ensembles in residence include the Iowa Woodwind Quintet, the Iowa Brass Quintet, and the Maia String Quartet. Private lessons with faculty members are offered in all band and orchestra instruments, voice, piano, and organ.

The school's undergraduate curricula offer all qualified students, whether music majors or nonmajors, the opportunity for further study of music. In addition to its comprehensive course offerings for majors, the school provides a substantial selection of courses especially recommended for nonmajors (see "Courses for Nonmajors").

The graduate curricula are designed primarily as preparation for teaching in secondary schools, colleges, and universities and for careers in performance and music therapy.

The School of Music is a charter member of the National Association of Schools of Music. The requirements for entrance and for graduation are in accordance with the published standards of the National Association of Schools of Music.

The department is one of four academic units that make up the Division of Performing Arts.

## Undergraduate Programs

The school offers the Bachelor of Music, a Bachelor of Arts in music, and a minor in music. It also participates in offering the Certificate in Performing Arts Entrepreneurship, offered through the Division of Performing Arts.

The Bachelor of Music program offers concentrations in composition, music therapy, and performance; a second emphasis in jazz studies may be added to the performance concentration. Professional certification in music education and music therapy are available only through the B.M.

The Bachelor of Arts is a nonprofessional degree for students who are not planning careers as musicians or for those who wish to pursue a double major or earn more than one bachelor's degree.

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into a performance area through audition either in person or by recording before they register. Students who plan to major in composition also must submit examples of creative work; for details, see "Composition Concentration" below. All entering students must complete the online theory diagnostic examination for 025:002 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses.

Transfer students admitted to the School of Music must complete a minimum of one year of applied music (lower- or upper-level) and one year of major ensemble at The University of Iowa in order to earn a degree in music. Transfer students who have not completed the equivalent of the four-semester sequence of Musicianship and Theory I-IV ( 025:002 Musicianship and Theory I, 025:003 Musicianship and Theory II, 025:004 Musicianship and Theory III, and 025:005 Musicianship and Theory IV) must complete a theory diagnostic exam to determine appropriate placement in the musicianship and theory sequence. Transfer students who have not completed the equivalent of two semesters of

class piano or a piano proficiency exam must meet piano proficiency requirements at The University of Iowa.

## Bachelor of Music

The Bachelor of Music requires a minimum of 120 s.h.; many students earn more than 120 s.h. in fulfilling the requirements for their majors—for instance, those who choose the music therapy concentration or seek teacher certification. The College of Liberal Arts and Sciences maximum hours rule does not apply to the Bachelor of Music, so B.M. students may count more than 50 s.h. of course work in music toward the degree. All students must complete the College of Liberal Arts and Sciences General Education Program.

The program offers concentrations in composition, music therapy, and performance; a second emphasis in jazz studies may be added to the performance concentration. Bachelor of Music students may not choose guitar as their major instrument, and Bachelor of Arts students may not transfer to the B.M. program with guitar as their major instrument.

Students seeking professional certification in music education or music therapy should enroll in the B.M. program.

The Bachelor of Music requires the following School of Music course work.

### GENERAL COURSE REQUIREMENTS

025:001 Fundamentals of Music for Majors (or successful completion of the online theory diagnostic examination for 025:002)	3 s.h.
025:002-025:003-025:004-025:005 Musicianship and Theory I-II - Musicianship and Theory III - Musicianship and Theory IV	16 s.h.
025:071-025:072 Group Instruction in Piano I-II (or successful completion of proficiency exams I and II)	2 s.h.

Registration in 025:071 Group Instruction in Piano I and 025:072 Group Instruction in Piano II is corequisite with 025:002 Musicianship and Theory I and 025:003 Musicianship and Theory II, unless exempted by proficiency exam. Transfer students should complete this requirement in their first year of residence, unless exempted by proficiency exam.

025:074 Recital Attendance (six semesters)	6 s.h.
--	--------

Six semesters of 025:074 Recital Attendance are required for all B.M. students, except music therapy students, who are required to take four semesters. Transfer students should plan to enroll in this course each of their remaining semesters, or until the requirement is met.

025:107 Techniques of Conducting	2 s.h.
025:144 History of Music I (western music of the Middle Ages, Renaissance, and Baroque)	3 s.h.
025:146 History of Music II (western music 1750-present)	3 s.h.
025:154 Senior Recital	1 s.h.

To complete the senior recital, students must have achieved upper-level applied status or be enrolled in upper-level applied music courses (see "Applied Music"). Music therapy students may complete a senior recital or a senior research project. Composition students substitute 025:099 Bachelor's Thesis for the senior recital. The senior recital, research project, or thesis must be completed at The University of Iowa.

One of these:

025:080 Jazz Cultures in America and Abroad	3 s.h.
025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:141 History of Jazz	3 s.h.
025:178 Music, Culture, and Identity	3 s.h.

At least 3 s.h. from these:

025:101 Introduction to Improvisation	3 s.h.
025:102 Intermediate Jazz Improvisation	2 s.h.
025:117 Arranging for Band	2 s.h.
025:118 Jazz Theory	2 s.h.
025:145 Counterpoint Before 1600	3 s.h.

025:147 Counterpoint After 1600	3 s.h.
025:148 Instrumentation	2 s.h.
025:153 Keyboard Harmony	2 s.h.
025:157 Orchestration	2 s.h.
025:243 Advanced Jazz Improvisation	2 s.h.
025:244 Transcription	2 s.h.
025:247 Post-Tonal Analysis	3 s.h.
025:249 Tonal Analysis	3 s.h.
025:256 Special Topics in Theory and Analysis	3 s.h.

## **APPLIED MUSIC**

Four years of applied music are required. Instruction is provided on two levels, lower and upper. Students must achieve upper-level status before they may present the senior recital. Readiness for upper-level applied music is determined by a jury examination in the area. The eighth semester of applied music may be waived for students who are enrolled in the Teacher Education Program and are student teaching. Students are allowed a maximum of six semesters (not including summer) in lower-level applied instruction. Those who want to continue lessons beyond the maximum allowable lower-level registration must do so under the nonmajor category.

Composition students are required to take 6 s.h. of lower-level applied music and 2 s.h. of secondary piano.

Music therapy students who complete a senior research project rather than a senior recital are required to take three years of lower-level applied music.

## **ENSEMBLE PARTICIPATION**

Eight semesters of major ensemble participation are required. Students normally enroll in major ensemble participation during consecutive semesters, beginning early in their degree work, to ensure completion of the requirement in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director. String students participate in University Orchestra and Chamber Orchestra. Wind and percussion students participate in the Symphony Band/Concert Band/University Band. Voice students participate in Camerata Singers, University Choir, Kantorei, and/or University Chorale. Keyboard students may substitute accompaniment for major ensemble participation for two semesters during their junior and/or senior years, with their major applied teacher's consent. Composition students may, with their advisor's consent, substitute two semesters of other ensembles during their junior and/or senior year.

Music therapy students who complete a senior research project rather than a senior recital are required to complete 6 s.h. of major ensemble participation.

Any student who wants to request adjustment of the major ensemble requirement must submit his or her request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the associate director for undergraduate studies.

Major ensembles are as follows.

025:142 Camerata Singers	1 s.h.
025:181 University Choir	1 s.h.
025:185 Kantorei	1 s.h.
025:191 University Chorale (Women's Chorale)	1 s.h.
025:192 Orchestra	1 s.h.
025:194 Symphony Band/Concert Band/University Band	1 s.h.

## **ELECTIVES**

Students may take advanced electives in performance (including chamber music and piano accompaniment), theory, composition, music education, music therapy, music history, diverse music cultures, music literature, conducting, and orchestration.

## **Performance Concentrations**

A performance concentration is available in each of the orchestral areas--strings, brass, woodwinds, and percussion--and in voice, piano, and organ. Students must take at least an additional 17 s.h. beyond the School of Music general course requirements. This course work includes required courses and electives unique to each performance area. Course listings for each of the respective areas are available from the School of Music academic

office. For degree requirement checklists, see Degree Programs—curriculum check sheets on the School of Music web site.

### **JAZZ STUDIES EMPHASIS**

Students with a performance concentration may add a second emphasis in jazz studies. To be admitted to the jazz studies emphasis, students must audition after they complete their first year. Students admitted to the emphasis are assigned to the jazz studies advisor in addition to their regular faculty advisor.

Senior recital and recital attendance requirements are the same as those for the Bachelor of Music. In addition to satisfying all course requirement for the B.M., jazz studies emphasis students must complete 21 s.h. of jazz course work. Many jazz studies courses fulfill other B.M. course requirements, including music electives.

### **Music Therapy Concentration**

Admission to the music therapy concentration is based on successful completion (grade of C-plus or higher) of 025:087 C 025:087 Orientation to Music Therapy. In addition to the core courses in music therapy listed below, specific courses are required in biology, anatomy, psychology, and music.

A six-month internship in an approved off-campus clinical facility is required. Following successful completion of the internship, students are eligible to take the board certification examination in music therapy.

Specific course requirements for music therapy are as follows.

All of these:

07S:144 Psychology of Music	2 s.h.
07S:149 Introduction to Music Research	2 s.h.
025:017 Secondary Performance--Voice	1 s.h.
025:071 Group Instruction in Piano I	1 s.h.
025:072 Group Instruction in Piano II	1 s.h.
025:073 Group Instruction in Piano III	1 s.h.
025:074 Recital Attendance (four semesters required)	4 s.h.
025:087 Orientation to Music Therapy	2 s.h.
025:091 Music Foundations in Therapy I	2 s.h.
025:092 Music Foundations in Therapy II	2 s.h.
025:094 Music Therapy Practicum (three semesters, for 1, 2, and 2 s.h., respectively)	5 s.h.
025:096 Music Techniques in Special Education and Recreation	3 s.h.
025:101 Introduction to Improvisation	3 s.h.
025:138 Music Therapy Techniques: Atypical Children	3 s.h.
025:139 Music Therapy Techniques: Adult Clients	3 s.h.
025:140 Internship in Music Therapy	2 s.h.
025:167/049:105/137:160/188:167 Introduction to Laban Movement Studies	2 s.h.

One of these:

025:007 Garage Band: The Basics	2 s.h.
025:117 Arranging for Band	2 s.h.
025:148 Instrumentation	2 s.h.

One of these:

025:098 Senior Project in Music Therapy	1 s.h.
025:154 Senior Recital	1 s.h.

Music therapy students who elect the senior recital option must take four years of applied music and attain upper-level status; they also must take 8 s.h. of major ensemble participation. Those who elect the senior research project option must take three years of applied music and 6 s.h. of major ensemble.

### **Composition Concentration**

The composition concentration is open to students who have been admitted to a performance area in the School of Music. Before admission to the concentration, students normally must complete the four-semester sequence Musicianship and Theory I-IV (025:002 Musicianship and Theory I, 025:003 Musicianship and Theory II, 025:004 Musicianship and Theory III, and 025:005 Musicianship and Theory IV); 025:005 Musicianship and Theory IV is a

prerequisite for 025:179 Composition (undergraduate composition lessons).

Applicants to the composition concentration must submit a portfolio of creative work to the composition faculty for evaluation and acceptance into the program. Students who wish to prepare a portfolio may register for 025:036 Secondary Performance--Composition.

Composition students must satisfy the degree requirements stated under "Bachelor of Music." The composition concentration requires additional course work in composition and music theory; contact the School of Music or see Information for Undergraduate Students—Degree Areas on the school's web site.

The Bachelor's Thesis (025:099) replaces the recital required of applied music students. It consists of one or more compositions, approved by a committee of three faculty members and performed on regularly scheduled School of Music recitals.

## **B.M. with Teacher Licensure**

Undergraduate students seeking teacher certification must be enrolled in a Bachelor of Music program in performance. Teacher licensure in music education is earned by completing the appropriate licensure program (e.g., band, choral, string) in addition to the School of Music requirements for the Bachelor of Music. Students must be admitted to the College of Education's Teacher Education Program (TEP) before they may take required professional education courses. See "Admission to Teacher Education Program" below.

Music TEP students must maintain a University of Iowa g.p.a. and a cumulative g.p.a. of at least 2.70 in all course work, and a cumulative g.p.a. of at least 3.00 in course work for the music major. They must have a cumulative g.p.a. of at least 2.70 at the time of recommendation for licensure.

Music TEP students must complete at least 40 s.h. at The University of Iowa in order to be recommended for licensure. For more information, see Teaching and Learning (College of Education) in the Catalog.

All students must complete the College of Liberal Arts and Sciences General Education Program. In addition to the B.M. requirements in music, TEP students must take General Education courses that fulfill licensure requirements. The certification program requires music methods and techniques courses, professional education courses, and student teaching.

The following courses are required for all music TEP students.

One college-level math course (excluding 22M:001, 22M:003, 22M:008)

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom	2 s.h.
07E:145 Methods and Materials: General Music	3 s.h.
07E:192 Special Area Student Teaching	6 s.h.
07P:075 Educational Psychology and Measurement	3 s.h.
07S:096 Introduction and Practicum: Music	2 s.h.
07S:187 Seminar: Curriculum and Student Teaching	1 s.h.
07S:190 Orientation to Secondary Education	1 s.h.
07S:191 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:195 Teaching Reading in Secondary Content Areas	1 s.h.
07U:100 Foundations of Special Education	3 s.h.

## **BRASS, WOODWIND, AND PERCUSSION STUDENTS**

Brass, woodwind, and percussion students in the TEP participate in 025:193 Hawkeye Marching Band for one semester. Exceptions must be approved by the head of the music education area.

The following courses are required.

07S:140/025:164 Band Methods and Materials	3 s.h.
07S:143/025:105 Instrumental Techniques (taken three times)	6 s.h.
07S:145/025:108 Instrumental Conducting	3 s.h.
025:095 Sight Reading Jazz	1 s.h.
025:100 Class Strings (Section 1)	1 s.h.
025:182 Marching Band Techniques	1 s.h.
025:193 Hawkeye Marching Band	1 s.h.
025:196 Jazz Band Techniques	1 s.h.

**STRING STUDENTS**

String majors in the TEP take one semester of secondary performance on each of three string instruments other than their primary instrument (total of 3 s.h.).

The following courses are required.

025:100 Class Strings (Section 2, taken three times)	3 s.h.
025:114 Introduction to Band Instruments	2 s.h.
07S:145/025:108 Instrumental Conducting	3 s.h.
07S:150/025:112 String Methods and Materials	3 s.h.

**VOCAL AND KEYBOARD STUDENTS**

Vocal majors in the TEP register for 025:018 Secondary Performance--Piano for one semester. Keyboard students register for 025:017 Secondary Performance--Voice for two semesters, 025:115 Diction for Singers I, and 025:116 Diction for Singers II. Keyboard majors with a choral music emphasis must include choral ensembles in their major ensemble experience.

The following courses are required.

07S:147/025:109 Choral Methods	3 s.h.
07S:148/025:110 Choral Conducting and Literature	3 s.h.
025:073 Group Instruction in Piano III	1 s.h.
Secondary performance	1-2 s.h.

**KEYBOARD STUDENTS (NONVOCAL)**

Keyboard students who plan to teach in nonvocal areas complete the requirements in either the brass-woodwind-percussion area or the string area, as stated above.

**Admission to Teacher Education Program**

Application forms for admission to the Teacher Education Program are available from the Office of Teacher Education and Student Services at the College of Education. Application deadlines for the secondary Teacher Education Program are October 15 for entry the following spring and March 15 for entry the following fall. The Teacher Education Program in music accepts a limited number of applicants; meeting the minimum requirements (stated below) does not guarantee admission. Application also requires a proficiency exam and a personal statement.

Minimum requirements for admission to the music TEP are:

- admission to the School of Music;
- a University of Iowa g.p.a. and a cumulative g.p.a. of at least 2.70 at the time of admission to the program;
- a g.p.a. of at least 3.00 on all music course work;
- successful completion of 025:002-025:003 Musicianship and Theory I-II;
- completion of at least 33 s.h. of college credit;
- completion of a 10-hour volunteer practicum in a secondary school setting; and
- the PRAXIS I exam.

**Bachelor of Arts**

The Bachelor of Arts in music requires a minimum of 120 s.h., including 42-47 s.h. of work for the major. The B.A. program is designed for students who have strong abilities and interest in music but are not planning on a career as a musician, or who wish to pursue a double major or earn more than one bachelor's degree. Students must audition and be accepted into a performance area. They develop musicianship and performance skills and choose from a wide variety of music electives.

Students in many areas, from engineering and physics to history, art, and English, find that a B.A. in music is a good addition to their studies. Other students choose the B.A. in music to complement course work in business (especially the minor in business administration), foreign language and literature, or interdisciplinary fields such as American studies. Some students combine a B.A. in music with undergraduate preparation to study law or medicine.

All B.A. students must complete the College of Liberal Arts and Sciences General Education Program and satisfy all other requirements for graduation with a bachelor's degree. For more information, contact the School of Music and the

Academic Advising Center.

The B.A. in music requires the following course work.

025:001 Fundamentals of Music for Majors (or successful completion of the online theory diagnostic examination for 025:002)	3 s.h.
025:002-025:003 Musicianship and Theory I-II	8 s.h.
025:071-025:072 Group Instruction in Piano I-II (or successful completion of proficiency exams I and II)	2 s.h.

Registration for 025:071 Group Instruction in Piano I and 025:072 Group Instruction in Piano II is corequisite with 025:002 025:002 Musicianship and Theory I and 025:003 Musicianship and Theory II, unless exempted by proficiency exam. Transfer students should complete this requirement in their first year of residence, unless exempted by proficiency exam.

025:074 Recital Attendance (two semesters)	2 s.h.
Lower-level applied music	4 s.h.
Major ensemble (minimum of four semesters)	4 s.h.

With approval, students may use 025:197 Jazz Band to satisfy the major ensemble requirement.

Two of these:

025:141 History of Jazz	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.

Performance electives (lower- or upper-level applied music, ensembles, or improvisation)	6 s.h.
--	--------

At least 6 s.h. from these:

025:004 Musicianship and Theory III	4 s.h.
025:005 Musicianship and Theory IV	4 s.h.
025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:107 Techniques of Conducting	2 s.h.
025:117 Arranging for Band	2 s.h.
025:118 Jazz Theory	2 s.h.
025:141 History of Jazz	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
025:145 Counterpoint Before 1600	3 s.h.
025:231 Jazz Composition and Arranging	2 s.h.
025:244 Transcription	2 s.h.

Music electives	6 s.h.
-----------------	--------

All music majors with scholarships must participate in a major ensemble and studio lessons each semester.

For a list of major ensembles, see "Ensemble Participation" under "Bachelor of Music" above.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

In addition to the requirements listed under the checkpoints, all students must complete 2 s.h. in applied music and 1 s.h. in a major ensemble each semester.

The Four-Year Graduation Plan is not available for music therapy and music education.

## Bachelor of Arts

The Bachelor of Arts in music requires 42-47 s.h. in School of Music courses.

**Before the third semester begins:** 15-18 s.h. of course work in the major, including 025:002 Musicianship and Theory I, 025:003 Musicianship and Theory II, 025:071 Group Instruction in Piano I, and 025:072 Group Instruction in



Piano II; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least 23-32 s.h. of course work in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least 33-41 s.h. of course work in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least 40-46 s.h. of course work in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Bachelor of Music**

Students may apply more than 50 s.h. earned in School of Music courses toward the minimum 120 s.h. required for the B.M.

**Before the third semester begins:** 18 s.h. of course work in the major, including 025:002 Musicianship and Theory I, 025:003 Musicianship and Theory II, 025:071 Group Instruction in Piano I, and 025:072 Group Instruction in Piano II; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least 34 s.h. of course work in the major, including 025:004 Musicianship and Theory III and 025:005 Musicianship and Theory IV, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least 50 s.h. of course work in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least 56 s.h. of course work in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

Exceptional music majors who are members of the University of Iowa Honors Program and maintain a music g.p.a. of at least 3.80 may enroll in the School of Music's honors program. Membership in the University Honors Program requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

Throughout undergraduate residence, honors music students may enroll in honors sections of courses in the school and in the College of Liberal Arts and Sciences. They also may seek honors designation for any course, with the instructor's consent. All honors course work must be approved by the School of Music honors advisor at the beginning of the semester in which the work is to be done.

Honors students with junior or senior standing and a music g.p.a. of at least 3.80 may undertake work leading to the B.M. or B.A. with honors. Graduation with honors is awarded after completion of 6-8 s.h. of honors work; students must earn a minimum of 3 s.h. in 025:097 Honors in Music. Honors projects for which credit is given in 025:097 Honors in Music include honors performances (solo and/or ensemble); honors compositions (or transcriptions, orchestrations, arrangements); and honors essays, research papers, editions, or translations. A combination of at least two of these types of projects is required. None of the projects may duplicate projects assigned in other courses, nor may they be required for graduation (e.g., 025:154 Senior Recital).

Honors students in music are encouraged to take graduate-level courses. Advanced courses in music history, music theory, and languages are particularly recommended. Consult the School of Music honors advisor for more information.

### **Minor**

The minor in music requires a minimum of 15 s.h. in music courses, including 12 s.h. in advanced courses and 8 s.h. taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work toward the minor may not be taken pass/nonpass.

Work for the minor must include one music theory course, one music history course, and 3 s.h. of performance courses (applied instruction or ensembles). Auditions with the instructor are required for admission to the lower-level applied instruction courses; admission to the theory courses is determined by results on the theory placement exam or completion of 025:001 Fundamentals of Music for Majors. Advanced courses include those numbered 025:100 Class Strings and above; courses in the four-semester sequence Musicianship and Theory I-IV (025:002 Musicianship and Theory I, 025:003 Musicianship and Theory II, 025:004 Musicianship and Theory III, and 025:005 Musicianship and Theory IV); and all lower-level applied instruction courses for majors.

Students may count a maximum of 7 s.h. of transfer credit up to 7 s.h. toward the music theory, music history, and

elective requirements. No transfer credit may be counted toward music performance requirements.

## Courses for Nonmajors

Courses recommended for nonmajors who are interested in music include the following.

025:007 Garage Band: The Basics	2 s.h.
025:009 First-Year Seminar	1 s.h.
025:010 Fundamentals of Music	3 s.h.
025:013 Concepts and Contexts of Western Music	3 s.h.
025:014 Great Musicians	3 s.h.
025:059 Performance Instruction for Nonmajors	1 s.h.
025:063 Survey of World Percussion	1 s.h.
025:064 Recital Attendance for Non-Majors	1 s.h.
025:080 Jazz Cultures in America and Abroad	3 s.h.
025:082 Group Piano I: Non-Music Majors	1 s.h.
025:083 Introduction to Hand Drumming	1 s.h.
025:084 Group Piano II: Non-Music Majors	1 s.h.
025:086 Issues in Popular Music: Women Who Rock	3 s.h.
025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:137 World of the Beatles	3 s.h.
025:141 History of Jazz	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
025:166 Popular Music in the United States	3 s.h.
025:167 Introduction to Laban Movement Studies	2-3 s.h.
025:173 Introduction to Afro-Cuban Drumming	1 s.h.
025:178 Music, Culture, and Identity	3 s.h.

Group Piano I: Non-Music Majors (025:082) is available for nonmajors who wish to develop elementary keyboard skills for personal musical growth and enjoyment.

Participation in School of Music ensembles is open to all University students with the ensemble director's approval (for a list of major ensembles, see "Ensemble Participation" under "Bachelor of Music" above).

Applied music instruction is offered to nonmajors as instructors are available. Nonmajors interested in registering for 025:059 Performance Instruction for Nonmajors should consult music advisors.

## National Honor Society

The School of Music sponsors a chapter of Pi Kappa Lambda, the national music honor society. Students of exceptional ability are recommended for membership by faculty members. For more information, consult the School of Music honors advisor.

## Financial Support

A number of music performance-based merit scholarships are available to qualified undergraduate music majors. All music majors with scholarships must enroll in a major ensemble and studio lessons each semester. For information, write to the School of Music.

## Graduate Programs

The School of Music offers four graduate degrees: Master of Arts, Master of Fine Arts, Doctor of Philosophy, and Doctor of Musical Arts. It also offers a graduate theory pedagogy minor and the graduate Certificate in Sacred Music.

Applicants to any of the graduate programs must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission and curriculum requirements for each area in the School of Music is available from the school's academic office or on the School of Music web site.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations of the Graduate College or Graduate College in the Catalog.

## ADVISORY EXAMINATIONS

Before they register, entering graduate students must take two School of Music advisory examinations: one in music theory, and one in music history and literature. M.A. students in music therapy are not required to take the advisory examination in music theory or music history. These examinations are given at the beginning of the fall semester on the two days (except Sunday) immediately preceding the opening of classes, and at the beginning of the spring and summer sessions by appointment. A leaflet describing the general content of these tests is available from the School of Music academic office.

## ENSEMBLE PARTICIPATION

Graduate students in the performance and pedagogy tracks of all graduate programs are required to complete four semesters of major ensemble participation. Students normally enroll in major ensemble participation during consecutive semesters beginning early in their degree work, to ensure completion of the major ensemble requirements in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director. For a list of major ensembles, see "Ensemble Participation" under "Bachelor of Music" above.

Keyboard majors may substitute piano accompanying for major ensemble participation, at their major applied teacher's discretion. Jazz studies majors substitute 025:197 Jazz Band for major ensemble participation. Theory, composition, music education, and music therapy majors have no major ensemble requirement. The M.A. in musicology requires one semester of any ensemble.

Any student who wants to request adjustment of this requirement must submit his or her request in writing to a review committee consisting of the major ensemble director(s) involved, the major teacher, and the School of Music associate director for graduate studies.

## Master of Arts

The Master of Arts in music requires a minimum of 30-37 s.h. of graduate credit. The M.A. in performance, conducting, jazz studies, composition, music theory, musicology, music therapy, and music education requires a recital, capstone project, or thesis. Performance majors present a public recital in place of a written thesis. Music therapy majors complete a capstone research project. Jazz studies majors present a public recital and a separate performance project. The Master of Arts in music education is offered with thesis and nonthesis options. All M.A. programs—except music therapy and music education—must include the following requirements. For degree requirement checklists, see Degree Programs—curriculum check sheets on the School of Music web site.

### Common M.A. Requirements

025:321 Introduction to Graduate Study in Music	2 s.h.
---	--------

## MUSIC THEORY

Students must earn 6 s.h.

025:240 Basic Analytical Techniques (unless exempt by advisory exam)	3 s.h.
--	--------

Students exempted from 025:240 Basic Analytical Techniques through the advisory examination in music theory must substitute an additional theory elective chosen from the following.

025:145 Counterpoint Before 1600	3 s.h.
025:147 Counterpoint After 1600	3 s.h.
025:247 Post-Tonal Analysis	3 s.h.
025:249 Tonal Analysis	3 s.h.
025:256 Special Topics in Theory and Analysis	3 s.h.

Students also must choose one elective from these:

025:145 Counterpoint Before 1600	3 s.h.
025:147 Counterpoint After 1600	3 s.h.
025:241 History of Music Theory I	3 s.h.
025:242 History of Music Theory II	3 s.h.
025:247 Post-Tonal Analysis	3 s.h.
025:249 Tonal Analysis	3 s.h.

025:256 Special Topics in Theory and Analysis	3 s.h.
025:311 Advanced Post-Tonal Theory and Analysis	3 s.h.
025:312 Advanced Tonal Theory and Analysis	3 s.h.

## MUSIC HISTORY

Students must earn 6 s.h.

025:301 Advanced History and Literature of Music I	3 s.h.
025:302 Advanced History and Literature of Music II	3 s.h.

Students exempted from 025:301 Advanced History and Literature of Music I and/or 025:302 Advanced History and Literature of Music II through the advisory examination in music history must substitute a music history course from the following list for each of the exemptions.

025:303 Medieval Music	3 s.h.
025:304 Renaissance Music	3 s.h.
025:305 Seventeenth-Century Music	3 s.h.
025:306 Eighteenth-Century Music	3 s.h.
025:307 Nineteenth-Century Music	3 s.h.
025:308 Music 1900-1945	3 s.h.
025:309 Music 1945-Present	3 s.h.
025:310 American Music	3 s.h.
025:313 Major Composers	3 s.h.
025:314 Genres of Music	3 s.h.
025:318 Topics in Ethnomusicology	3 s.h.
025:319 Foundations of Ethnomusicology	3 s.h.
025:323 Medieval Music Notations	3 s.h.
025:324 Renaissance Music Notations	3 s.h.
025:325 Music Editing	3 s.h.
025:330 Seminar in Musicology	3 s.h.
025:331 Performance Practices of Medieval and Renaissance Music	3 s.h.

## Master of Fine Arts

The Master of Fine Arts in music requires a minimum of 60 s.h. of graduate credit. It is designed for students of superior ability in instrumental or vocal performance. M.F.A. students present at least two full-length recitals or programs and must write an M.F.A. Thesis (025:401)—a research paper of moderate length. The thesis may relate to some or all of the repertoire included on the recitals.

Students may earn a Master of Arts while working toward the Master of Fine Arts, but they must take two separate final examinations.

For degree requirement checklists, see Degree Programs—curriculum check sheets on the School of Music web site.

## Doctor of Philosophy

The Doctor of Philosophy in music requires a minimum of 72 s.h. of graduate credit. Ph.D. concentration areas include composition, musicology, music education, music theory, and music literature. The music literature program is designed for students who already have achieved a professional level of musical performance. These students are required to audition in their major performance area.

Information about specific admission and curricular requirements for each area is available from the School of Music academic office.

## Common Ph.D. Requirements

Ph.D. students in composition, musicology, music theory, and music literature must complete the course requirements for the M.A. (see "Common M.A. Requirements" above). They also must complete the following.

One or more additional music theory course(s) listed in the M.A. requirements

One or more additional course(s) in music history, chosen from those listed in the M.A. requirements

One of these:

025:500 Ph.D. Thesis	arr.
025:501 Composition Ph.D. Thesis	arr.
025:502 D.M.A. Essay	arr.

Proficiency in one or more foreign languages is required for Ph.D. students in composition, musicology, music theory, and music literature. Ph.D. students in music education should contact the School of Music for requirements.

### Doctor of Musical Arts

Requirements for the D.M.A. in conducting and in performance and pedagogy are the same as for the Ph.D. (see "Common Ph.D. Requirements" under "Doctor of Philosophy" above), except that the D.M.A. requires three recitals or programs. At the performance area's discretion, a concerto performance with orchestra or other appropriate ensemble from the School of Music may be substituted for one of the recitals. Some performance areas allow one or more lecture recitals, with faculty approval. Singers may substitute one major opera role or one major solo contribution to an orchestra performance for one of their recitals. See the associate director of graduate programs for specific area requirements.

D.M.A. candidates also must complete a scholarly investigation of limited scope in a written essay or thesis.

### Certificate in Sacred Music

The Certificate in Sacred Music requires 25 s.h. The certificate is an interdisciplinary graduate program with courses in sacred music, choral conducting and literature, keyboard, voice, religion, and art and art history. Students may earn the certificate while working toward a graduate degree. Individuals not enrolled in a graduate program also may complete the certificate, but they must be admitted to the Graduate College and have the consent of a faculty advisor. Successful completion of the certificate program is noted on the student's transcript.

### Theory Pedagogy Minor

Any student admitted to a graduate degree program in the School of Music may earn the theory pedagogy minor by completing the following required courses.

One of these:

025:145 Counterpoint Before 1600	3 s.h.
025:147 Counterpoint After 1600	3 s.h.

Both of these:

025:236 Music Theory Pedagogy	3 s.h.
025:237 Music Theory Colloquium (taken 2 times)	0-1 s.h.

One of these:

025:249 Tonal Analysis	3 s.h.
025:312 Advanced Tonal Theory and Analysis	3 s.h.

One of these:

025:247 Post-Tonal Analysis	3 s.h.
025:311 Advanced Post-Tonal Theory and Analysis	3 s.h.

Two of these:

025:241 History of Music Theory I	3 s.h.
025:242 History of Music Theory II	3 s.h.
025:256 Special Topics in Theory and Analysis	3 s.h.
025:311 Advanced Post-Tonal Theory and Analysis	3 s.h.
025:312 Advanced Tonal Theory and Analysis	3 s.h.

## Financial Support

Qualified graduate students are invited to apply for teaching and research assistantships. Inquiries should be directed to the academic office of the School of Music.

## Facilities, Resources

### Center for New Music

The Center for New Music is a vital component of the School of Music's composition program. Since its founding in 1966, the center has been both laboratory and showcase for late-20th and 21st-century music. It presents at least four concerts of contemporary works each academic season. It also provides a forum for visiting composers and other creative artists, bringing new music to a variety of outreach venues. Audition, rehearsal, and programming information is available on the Center for New Music web site.

### Rita Benton Music Library

The Rita Benton Music Library is currently located in the University's Main Library. The music library holds more than 70,000 scores, including chamber music sets; 50,000 books, including bound journals; 3,500 microforms, chiefly manuscripts and early printed books; and 28,000 media items in all formats. It receives about 300 journals. Its rare book division has particular strengths in 18th- and 19th-century music theory treatises and instrumental methods, and an outstanding collection of keyboard and chamber music by Ignaz Pleyel. The library also houses the Goldman Band Collection. Music manuscripts of the composer Phillip Greeley Clapp, a former director of the school, are housed in Special Collections & University Archives.

The library's large reference collection is supplemented by several online resources, including Music Index, IIMP, Grove Music Online, RILM, RISM, RIPM, WorldCat, and InfoHawk Catalog, the University's online library catalog. Online resources for streamed audio include Classical Music Library, Naxos Music Library, Naxos Jazz, African-American Song, Smithsonian Global Sound, and the Database of Recorded American Music (DRAM).

Materials circulate to University of Iowa faculty and students and to institutions that have reciprocal agreements with the University. Individuals not affiliated with the University may qualify for borrower's permits.

## Music Courses

### General

The following courses are especially appropriate for non-music majors. Other courses appropriate for nonmajors are 025:144 History of Music I and 025:146 History of Music II (see "Music History"); 025:080 Jazz Cultures in America and Abroad and 025:141 History of Jazz (see "Jazz Studies"); and most ensembles (see "Ensembles").

Instruction in 025:059 Performance Instruction for Nonmajors consists of a half-hour lesson per week. The course is offered on a fee-per-course basis, in addition to tuition. Students register under separate section numbers for different instruments.

#### **025:007 Garage Band: The Basics** 2 s.h.

Application of GarageBand software (Mac platform) using midi keyboards; composition and music theory for projects using drag-and-drop looping, multitrack recording, sound effects, mixing, importing music for composition. Requirements: prior musical experience (student can sing or play an instrument).

#### **025:008 Jazz Masters** 3 s.h.

Major 20th-century jazz leaders of varied styles and recordings; developments between 1917 and present.

#### **025:009 First-Year Seminar** 1 s.h.

An aspect of performance, creativity, musical literature, or scholarship; seminar format with classroom participation, papers, projects, other assignments; may require attendance at lectures, rehearsals, or performances. Requirements: first- or second-semester standing.

#### **025:010 Fundamentals of Music** 3 s.h.

Notation of pitch and rhythm, intervals, scales, key signatures, triads, and seventh chords. Offered by Saturday & Evening Classes. Requirements: non-music major.

#### **025:013 Concepts and Contexts of Western Music** 3 s.h.

Ideas, social and historical contexts, emergence of genres and styles, diverse performing traditions in music making of Europe and North America. GE: Fine Arts, Humanities.

**025:014 Great Musicians** 3 s.h.

Lives and works of important composers, performers. GE: Fine Arts, Humanities.

**025:059 Performance Instruction for Nonmajors** 1 s.h.

Bassoon, cello, clarinet, euphonium, flute, horn, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, or voice. Requirements: non-music major. GE: Fine Arts.

**025:063 Survey of World Percussion** 1 s.h.

Percussion music explored through a selection of nonwestern musical and cultural traditions; hands-on experience learning to play instruments from a variety of musical genres; music of Cuba, Brazil, Africa, Trinidad, Asia, other areas.

**025:064 Recital Attendance for Non-Majors** 1 s.h.

Musical experience through student, faculty recitals.

**025:074 Recital Attendance** 1 s.h.

Requirements: music major.

**025:082 Group Piano I: Non-Music Majors** 1 s.h.

Reading, technical study, chording, playing by ear, improvisation; for beginners. Requirements: non-music major. GE: Fine Arts.

**025:083 Introduction to Hand Drumming** 1 s.h.

Hand drumming techniques indigenous to several Afro-Caribbean cultures; hands-on instruction and coaching on varied ethnic instruments, lectures, listening sessions.

**025:084 Group Piano II: Non-Music Majors** 1 s.h.

Continuation of 025:082. Requirements: non-music major.

**025:086 Issues in Popular Music: Women Who Rock** 3 s.h.

History of popular female musicians and the influence of their lyrics, music, and performances on American and British cultures; how women's musical careers have been influenced by civil rights, the British invasion (Beatles, Rolling Stones), second-wave feminism, postfeminism, Vietnam, counterculture, social injustice, music education, rock festivals, charity concerts.

**025:103 World Music** 3 s.h.

Varied perspectives on the relationship of music and culture, drawing from musical cultures around the world. GE: Fine Arts, Foreign Civilization & Culture.

**025:104 Music of Latin America and the Caribbean** 3 s.h.

Folk and popular musical traditions and their social contexts in Latin America, the Caribbean; listening skills; video/film screenings. GE: Fine Arts, Humanities.

**025:106 Improvisation for Classical Musicians** 3 s.h.

Theory and practice in beginning nonjazz improvisation; development of aural and rhythmic skills, creation of rhythms and melodies, use of timbres and extended techniques in expression, development of instrumental technique for improvisation, practical understanding of harmony and form, experience in solo and accompaniment roles, creation of short pieces as vehicles for improvisation. Requirements: one year of music theory.

**025:111 Special Topics** 3 s.h.

One or more musical styles, genres, cultures, composers, or subjects.

**025:137 World of the Beatles** 3 s.h.

How the Beatles' music was influenced by American pop music, the drug culture, and the Avant Garde, nonwestern instruments and philosophy, anti-war sentiments, and world politics, and so forth; Beatlemania's impact on British and American cultures and its role in opening Eastern Europe to the West. Same as 188:137.

**025:143 Reed Class** 1 s.h.

Development of reed-making skills; focus on steps to complete reeds from tube cane to a finished reed; different ways of reed making; practical, pedagogical, and historical approaches; producing various reed styles. Requirements: music major.

### **025:166 Popular Music in the United States**

3 s.h.

Popular music and culture in the United States from early 20th century to present; basic musical style and performance analysis, social meaning and use.

### **025:167 Introduction to Laban Movement Studies**

2-3 s.h.

Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically-efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as 049:105, 137:160, 188:167.

### **025:173 Introduction to Afro-Cuban Drumming**

1 s.h.

Drumming, dance, songs from folkloric and ceremonial Afro-Cuban forms; emphasis on drumming; may include participation in Afro-Cuban drum and dance ensemble. Same as 188:173.

### **025:176 Introduction to the Alexander Technique**

3 s.h.

The Alexander Technique and "self-use"--how our movement choices affect the results we achieve; improving physical skills and presence; principles from the Alexander Technique in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting) and applied to skills in daily life, addressing the underpinnings of movement; physical participation, including laying, rolling, sitting, standing, and locomotion. Same as 049:170, 137:173, 188:168.

### **025:178 Music, Culture, and Identity**

3 s.h.

Use of music as marker of social identity; focus on popular music in the United States and interplay among Latino, African, and European-American musical cultures; listening skills.

## **Applied Music**

Instruction consists of individual and/or class lessons, at the instructor's option, for a minimum of one hour per week (students register for 2 s.h.), or one half-hour per week (students register for 1 s.h.). Majors are required to attend weekly performance and pedagogy seminars in applied music. Offered on a fee-per-course basis, in addition to tuition. Repeatable.

Guitar instruction is offered only at the lower level. Enrollment in 025:043 Lower Level Jazz Guitar is limited to three Bachelor of Arts students. Students may not enroll in the Bachelor of Music program with guitar as their major instrument.

## **LOWER-LEVEL UNDERGRADUATE MAJORS**

### **025:040 Lower Level Voice**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

### **025:041 Lower Level Piano**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: piano major or approval of the area following a successful audition.

### **025:042 Lower Level Organ**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.



**025:043 Lower Level Jazz Guitar**

1 s.h.

Requirements: B.A. enrollment and audition.

**025:044 Lower Level Violin**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:045 Lower Level Viola**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:046 Lower Level Cello**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:047 Lower Level String Bass**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:048 Lower Level Flute**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:049 Lower Level Oboe**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:050 Lower Level Clarinet**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:051 Lower Level Bassoon**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:052 Lower Level Saxophone**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:053 Lower Level Horn**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:054 Lower Level Trumpet**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:055 Lower Level Euphonium**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:056 Lower Level Trombone**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:057 Lower Level Tuba**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:058 Lower Level Percussion**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**UPPER-LEVEL UNDERGRADUATE MAJORS****025:119 Upper Level Voice**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:120 Upper Level Piano**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: piano major or approval following a successful audition.

**025:121 Upper Level Organ**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:122 Upper Level Violin**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:123 Upper Level Viola**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:124 Upper Level Cello**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:125 Upper Level String Bass**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:126 Upper Level Flute**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:127 Upper Level Oboe**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:128 Upper Level Clarinet**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:129 Upper Level Bassoon**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:130 Upper Level Saxophone**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:131 Upper Level Horn**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:132 Upper Level Trumpet**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:133 Upper Level Euphonium**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:134 Upper Level Trombone**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:135 Upper Level Tuba**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**025:136 Upper Level Percussion**

arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

**GRADUATE MAJORS**

<b>025:263 Major Voice</b>	arr.
<b>025:264 Major Piano</b>	arr.
<b>025:266 Major Organ</b>	arr.
<b>025:267 Major Violin</b>	arr.
<b>025:268 Major Viola</b>	arr.
<b>025:269 Major Cello</b>	arr.
<b>025:270 Major String Bass</b>	arr.
<b>025:271 Major Flute</b>	arr.
<b>025:272 Major Oboe</b>	arr.
<b>025:273 Major Clarinet</b>	arr.
<b>025:274 Major Bassoon</b>	arr.
<b>025:275 Major Saxophone</b>	arr.
<b>025:276 Major Horn</b>	arr.
<b>025:277 Major Trumpet</b>	arr.
<b>025:278 Major Euphonium</b>	arr.
<b>025:279 Major Trombone</b>	arr.
<b>025:280 Major Tuba</b>	arr.
<b>025:281 Major Percussion</b>	arr.

#### SECONDARY PERFORMANCE INSTRUCTION FOR MAJORS

Instruction consists of one half-hour lesson per week. Offered on a fee-per-course basis, in addition to tuition.

<b>025:017 Secondary Performance--Voice</b>	1 s.h.
<b>025:018 Secondary Performance--Piano</b> Requirements: music major.	1 s.h.
<b>025:019 Secondary Performance--Organ</b>	1 s.h.
<b>025:021 Secondary Performance--Violin</b>	1 s.h.
<b>025:022 Secondary Performance--Viola</b>	1 s.h.
<b>025:023 Secondary Performance--Cello</b>	1 s.h.
<b>025:024 Secondary Performance--String Bass</b>	1 s.h.
<b>025:025 Secondary Performance--Flute</b>	1 s.h.

<b>025:026 Secondary Performance--Oboe</b>	1 s.h.
<b>025:027 Secondary Performance--Clarinet</b>	1 s.h.
<b>025:028 Secondary Performance--Bassoon</b>	1 s.h.
<b>025:029 Secondary Performance--Saxophone</b>	1 s.h.
<b>025:030 Secondary Performance--Horn</b>	1 s.h.
<b>025:031 Secondary Performance--Trumpet</b>	1 s.h.
<b>025:032 Secondary Performance--Euphonium</b>	1 s.h.
<b>025:033 Secondary Performance--Trombone</b>	1 s.h.
<b>025:034 Secondary Performance--Tuba</b>	1 s.h.
<b>025:035 Secondary Performance--Percussion</b>	1 s.h.
<b>025:036 Secondary Performance--Composition</b>	1 s.h.
Individual lessons for non-composition majors that help to prepare a portfolio for entrance into the composition area. Corequisites: 025:002, 025:003, 025:004, and 025:005.	

### Choral Literature

<b>025:341 Seminar: Choral Literature and Analysis I</b>	1-3 s.h.
Choral music of the Renaissance. Repeatable. Corequisites: 025:203.	
<b>025:342 Seminar: Choral Literature and Analysis II</b>	1-3 s.h.
Choral music of the Baroque era. Repeatable. Corequisites: 025:204.	
<b>025:343 Seminar: Choral Literature and Analysis III</b>	1-3 s.h.
Choral music of the Classical and Romantic eras. Repeatable. Corequisites: 025:205.	
<b>025:344 Seminar: Choral Literature and Analysis IV</b>	1-3 s.h.
Choral music of the 20th and 21st centuries. Repeatable. Corequisites: 025:206.	

### Composition

<b>025:148 Instrumentation</b>	2 s.h.
Basic techniques of writing for orchestral instruments; ranges, transpositions, sound production, notating scores and parts. Prerequisites: 025:005.	
<b>025:156 Composition Seminar</b>	0-1 s.h.
Corequisites: 025:179 and 025:223.	
<b>025:157 Orchestration</b>	2 s.h.
Instrumental capabilities and combinations in solo, chamber, and large ensemble literature; application in composition. Prerequisites: 025:148.	
<b>025:179 Composition</b>	arr.
Individual lessons with a composition faculty member. Requirements: admission to B.M. composition concentration. Corequisites: 025:156.	

<b>025:223 Advanced Composition</b> Repeatable. Corequisites: 025:156.	arr.
<b>025:250 Composition: Electronic Media I</b> Composition using analog, digital technology. Offered fall semesters. Repeatable.	3 s.h.
<b>025:251 Composition: Electronic Media II</b> Advanced interactive techniques in composition in association with analog, digital technologies. Offered spring semesters. Repeatable.	3 s.h.
<b>Conducting</b> See also 025:108 Instrumental Conducting, 025:109 Choral Methods, and 025:110 Choral Conducting and Literature, under the heading Music Education.	
<b>025:107 Techniques of Conducting</b> Basic elements, score analysis.	2 s.h.
<b>025:158 Advanced Conducting</b> Requirements: graduate standing.	2 s.h.
<b>025:200 Seminar in Advanced Band Literature and Band History</b> Band literature; history.	arr.
<b>025:203 Advanced Choral Conducting I</b> Music of the Renaissance. Repeatable. Corequisites: 025:341.	1-3 s.h.
<b>025:204 Advanced Choral Conducting II</b> Music of the Baroque era. Repeatable. Corequisites: 025:342.	1-3 s.h.
<b>025:205 Advanced Choral Conducting III</b> Music of the Classical and Romantic eras. Repeatable. Corequisites: 025:343.	1-3 s.h.
<b>025:206 Advanced Choral Conducting IV</b> Music of the 20th and 21st centuries. Repeatable. Corequisites: 025:344.	1-3 s.h.
<b>025:225 Score Reading</b>	1 s.h.
<b>025:291 Orchestral Literature</b>	2 s.h.
<b>Ensembles</b> Courses may be repeated; consent of instructor required.	
<b>025:142 Camerata Singers</b>	1 s.h.
<b>025:162 All-University String Orchestra</b> Repertoire, rehearsal pacing, and performance expectation geared to general students. Open to all UI students with no audition.	1 s.h.
<b>025:163 Steel Band</b> Musical and cultural introduction to steel band music of Trinidad and other Caribbean musical styles, including calypso, soca, ska, and reggae.	1 s.h.
<b>025:171 Center for New Music Ensemble</b> Participation in the Center for New Music; focus on contemporary composition and performance, 20th- and 21st-century repertoire and styles.	1 s.h.

- 025:180 Large Pep Band** 1 s.h.  
Performing ensemble for men's basketball games during spring semester. Requirements: membership in 025:193 Marching Band and audition.
- 025:181 University Choir** 1 s.h.
- 025:183 Chamber Orchestra** 1 s.h.  
Requirements: upper-level undergraduate standing.
- 025:185 Kantorei** 1 s.h.
- 025:186 Piano Accompaniment** arr.  
Collaborative arts techniques, methods, and history. Requirements: keyboard major.
- 025:187 Piano Chamber Music** arr.  
Requirements: music major.
- 025:188 String Chamber Music** arr.
- 025:190 Wind Chamber Music** arr.  
Preparation, performance of representative literature; sections for woodwinds, brass, flute, clarinet, horn, saxophone, double reed, trumpet, trombone, brass choir, tuba/euphonium ensemble.
- 025:191 University Chorale** 1 s.h.  
Women's chorale.
- 025:192 Orchestra** 1 s.h.
- 025:193 Hawkeye Marching Band** 1 s.h.  
Offered fall semesters.
- 025:194 Symphony Band/Concert Band/University Band** 1 s.h.  
Participation in Symphony Band, Concert Band, and/or University Band.
- 025:195 Percussion Ensemble** arr.  
Range of styles and idioms, primarily written during the 20th and 21st centuries; historical or cultural aspects such as ancient rudimental drumming styles, ragtime, jazz, popular music, and music from Africa, the Caribbean, Brazil, Cuba, China.

## Jazz Studies

- 025:080 Jazz Cultures in America and Abroad** 3 s.h.  
How to listen to jazz and recognize a variety of processes that are taking place in performances and recordings; historical, social, and political issues, including race and gender; the unique blend of jazz of a particular region; attendance at live performances, meet and interview musicians, critics, and educators. GE: Cultural Diversity, Fine Arts.
- 025:095 Sight Reading Jazz** 1 s.h.  
Methods for sight-reading and interpreting jazz notation. Requirements: instrumental major.
- 025:101 Introduction to Improvisation** 3 s.h.  
Introduction to the practice of improvisation through performance of repertoire and the development of practicing strategies; exercises in melody, harmony, rhythm and transcription that together form an integrated approach to developing improvisations. Requirements: 025:003 or audition.
- 025:102 Intermediate Jazz Improvisation** 2 s.h.

Improvisation in the jazz repertoire of standards, bebop, and major composers such as Thelonious Monk, Wayne Shorter; memorization and use of melodies, knowledge of chords to the thirteenth, chromatic harmony, development of rhythmic motifs/alteration, strategies for multiple chorus improvisations. Prerequisites: 025:101 and 025:118. Requirements: audition.

**025:118 Jazz Theory** 2 s.h.

Development of skills for interpreting melodies and chord symbols in mainstream practice of jazz harmony at the piano; application of scales, development of voice leading for jazz harmonies, reharmonization, and analysis. Prerequisites: 025:003.

**025:141 History of Jazz** 3 s.h.

Major 20th-century styles, artists, seminal works, and recordings; developments between 1917 and 1972. GE: Cultural Diversity.

**025:196 Jazz Band Techniques** 1 s.h.

Development of skills for sight-reading and interpreting notated jazz. Prerequisites: 025:095. Requirements: audition.

**025:197 Jazz Band** 1 s.h.

Jazz performance ensembles, rehearsals (three hours per week), and concerts on and off campus. Requirements: audition.

**025:224 Small Jazz Ensembles** 1 s.h.

Development of repertoire from standard jazz literature, arrangements and compositions by ensemble members; rehearsals (three hours per week) and performances on and off campus. Repeatable. Requirements: audition.

**025:231 Jazz Composition and Arranging** 2 s.h.

Experience writing and arranging original jazz material for small and large ensembles, and presenting scores in computer notation; individual lessons. Repeatable. Requirements: 025:118 or score submission. Recommendations: 025:117 and 025:157.

**025:243 Advanced Jazz Improvisation** 2 s.h.

Builds on the skills learned in 025:102; contemporary techniques and styles used by current practitioners of improvisation; free improvisation, bitonal harmonies, through-composed forms, collective improvisation, nonwestern approaches. Repeatable. Prerequisites: 025:102. Requirements: audition.

**025:244 Transcription** 2 s.h.

Individual projects to transcribe improvisations, small ensemble arrangements, large ensemble arrangements, or nonwestern techniques; use of computer notation programs and midi-realizations. Repeatable. Prerequisites: 025:102 or 025:118.

## Music Education

Other music education courses are offered by the College of Education; see Teaching and Learning in the Catalog for listings and descriptions. Some courses have two numbers, one for the School of Music and the other for the College of Education. Students preparing for music teacher licensure should register under the education number.

Also see 025:196 Jazz Band Techniques under "Jazz Studies."

**025:100 Class Strings** 1 s.h.

String playing and basic principles of string pedagogy. Requirements: teacher education student in music.

**025:105 Instrumental Techniques** 2 s.h.

Repeatable. Same as 07S:143.

**025:108 Instrumental Conducting** 3 s.h.

Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: 025:107. Same as 07S:145.

**025:109 Choral Methods** 3 s.h.

Organization, implementation of effective choral music programs for all ages. Same as 07S:147.



- 025:110 Choral Conducting and Literature** 3 s.h.  
Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under 07S:148. Prerequisites: 07S:147 and 025:107. Same as 07S:148.
- 025:112 String Methods and Materials** 3 s.h.  
Methods for teaching bands in schools. Offered fall semesters. Same as 07S:150.
- 025:114 Introduction to Band Instruments** 2 s.h.  
Survey of wind and percussion instruments; for music education string majors.
- 025:117 Arranging for Band** 2 s.h.  
Scoring and arranging techniques for concert, marching bands. Offered spring semesters.
- 025:164 Band Methods and Materials** 3 s.h.  
High school and elementary school music methods required for teaching certificate; for instrumental music education majors. Same as 07S:140.
- 025:182 Marching Band Techniques** 1 s.h.  
Administration, show design. Offered fall semesters.
- 025:220 Music Education Workshop** 1 s.h.  
For inservice music teachers; topics vary. Same as 07S:241.

## Music History

Note: Courses 025:303 Medieval Music and 025:309 Music 1945-Present, 025:313 Major Composers and 025:314 Genres of Music, 025:323 Medieval Music Notations and 025:324 Renaissance Music Notations, and 025:331 Performance Practices of Medieval and Renaissance Music deal with periods and special topics in music history. They are offered about every two years. All of them have as prerequisites 025:301 Advanced History and Literature of Music I and 025:302 Advanced History and Literature of Music II, or the equivalents, or consent of instructor.

This listing includes several courses appropriate for nonmajors. Other music history courses appropriate for nonmajors are listed under "General."

- 025:144 History of Music I** 3 s.h.  
Requirements: 025:003 and 025:004 for music majors. GE: Fine Arts, Historical Perspectives.
- 025:146 History of Music II** 3 s.h.  
Requirements: 025:003 and 025:004 for music majors. GE: Fine Arts, Historical Perspectives.
- 025:238 Musicology Colloquium** 0 s.h.  
Repeatable.
- 025:301 Advanced History and Literature of Music I** 3 s.h.  
History and style of Medieval, Renaissance, and Baroque music (750-1750). Offered fall semesters.
- 025:302 Advanced History and Literature of Music II** 3 s.h.  
History and style of Classical, 19th-, 20th-, and 21st-century music (1750-present). Offered spring semesters.
- 025:303 Medieval Music** 3 s.h.  
Prerequisites: 025:301.
- 025:304 Renaissance Music** 3 s.h.  
Prerequisites: 025:301.
- 025:305 Seventeenth-Century Music** 3 s.h.  
Prerequisites: 025:301.

<b>025:306 Eighteenth-Century Music</b> Prerequisites: 025:302.	3 s.h.
<b>025:307 Nineteenth-Century Music</b> Prerequisites: 025:302.	3 s.h.
<b>025:308 Music 1900-1945</b> Repeatable. Prerequisites: 025:302.	3 s.h.
<b>025:309 Music 1945-Present</b> Prerequisites: 025:302.	3 s.h.
<b>025:310 American Music</b> Prerequisites: 025:302.	3 s.h.
<b>025:313 Major Composers</b> Life and works of one or more important composers (announced before registration). Repeatable.	3 s.h.
<b>025:314 Genres of Music</b> One or more major genres in the history of music (announced before registration). Repeatable.	3 s.h.
<b>025:318 Topics in Ethnomusicology</b> Perspectives on analysis and representation of selected musical cultures from around the world. Repeatable.	3 s.h.
<b>025:319 Foundations of Ethnomusicology</b> Ethnomusicology in relation to domains of musical, humanistic, social science scholarship on expressive culture and artistic processes. Requirements: senior standing. Same as 113:208.	3 s.h.
<b>025:320 Introduction to Musicology</b> Methods, materials of research in historical musicology; field of musicology. Offered fall semesters. Requirements: for 1 s.h. credit option, 025:321. Corequisites: for 3 s.h. credit option, 025:321.	1-3 s.h.
<b>025:321 Introduction to Graduate Study in Music</b> Music library; reference materials; bibliography; research problems, methods; writing research papers. Offered fall and spring semesters.	2 s.h.
<b>025:323 Medieval Music Notations</b> Chant neumes, medieval black notation, musical and textual paleography; transcription of early vocal and instrumental notations; editorial problems. Prerequisites: 025:301.	3 s.h.
<b>025:324 Renaissance Music Notations</b> Renaissance white notation, keyboard tablatures, musical paleography; transcription of early vocal, instrumental notations; editorial problems. Prerequisites: 025:301.	3 s.h.
<b>025:325 Music Editing</b> Principles and methods of music editing; use of primary source materials, establishment of music text, preparation of critical apparatus; project to prepare a critical edition of music for publication. Prerequisites: 025:321.	3 s.h.
<b>025:330 Seminar in Musicology</b> One or more selected areas of music history. Repeatable.	3 s.h.
<b>025:331 Performance Practices of Medieval and Renaissance Music</b> Practical approaches to performing vocal and instrumental music before 1600; theoretical, social issues bearing on performance. Prerequisites: 025:301.	3 s.h.
<b>025:381 Readings in Music History</b>	arr.

## Music and Technology

Also see 025:250 Composition: Electronic Media I and 025:251 Composition: Electronic Media II listed under "Composition."

### 025:149 Audio Recording I

3 s.h.

Audio fundamentals, including sound generation, acoustical environments, forms of sound energy, basic audio systems; use of microphones (primarily stereo techniques), mixers, recorders, related equipment; introduction to Pro Tools digital recording, editing, and mixing on Macintosh; production of high-quality audio compact discs. Offered fall semesters.

### 025:152 Audio Recording II

3 s.h.

Functionality with Pro Tools digital audio recording, editing, mixing, and mastering on Macintosh; basic digital theory; configuration of Macintosh G4 computer with Pro Tools hardware and software; music editing projects and production of multitrack recordings. Offered spring semesters. Prerequisites: 025:149.

### 025:161 Fundamentals of Piano Technology

1 s.h.

Offered spring semesters.

## Music Therapy

### 025:087 Orientation to Music Therapy

2 s.h.

Theory, practice; typical clients and places of employment in music therapy.

### 025:091 Music Foundations in Therapy I

2 s.h.

Skill development on social instruments such as guitar, autoharp, piano; percussion, song-leading skills, and repertoire development for use in clinical music therapy sessions. Prerequisites: 025:087. Requirements: music therapy major.

### 025:092 Music Foundations in Therapy II

2 s.h.

Advanced skill development on guitar for use in clinical music therapy sessions; percussion techniques, and related skills used in therapeutic settings. Prerequisites: 025:091. Requirements: music therapy major.

### 025:094 Music Therapy Practicum

1-2 s.h.

Supervised clinical training with adult clients and children in variety of health care and educational settings. Prerequisites: 025:087. Requirements: music therapy major.

### 025:096 Music Techniques in Special Education and Recreation

2-3 s.h.

Music methods and materials appropriate for students with disabilities in special educational settings; overview of individualized educational planning for students with disabilities. Requirements: music therapy or music education major.

### 025:098 Senior Project in Music Therapy

1 s.h.

### 025:138 Music Therapy Techniques: Atypical Children

3 s.h.

Techniques, procedures for use in clinical, educational settings. Prerequisites: 025:087. Requirements: music therapy major.

### 025:139 Music Therapy Techniques: Adult Clients

3 s.h.

Techniques, procedures for work with adult clients with disabilities. Prerequisites: 025:087. Requirements: music therapy major.

### 025:140 Internship in Music Therapy

arr.

Clinical training under direction of board certified music therapist. Requirements: core music therapy requirements.

### 025:221 Special Studies in Music Therapy

2-3 s.h.

Seminar. Requirements: music therapy or music education graduate standing.

- 025:283 Graduate Music Therapy Practicum** 1-3 s.h.  
Seminar, clinical field work. Requirements: undergraduate music therapy practicum.
- 025:285 Research in Music Therapy--Graduate** 1 s.h.  
Research methodology; foundation for subsequent semesters of research on capstone project in music therapy. Repeatable.
- 025:286 College Teaching and Clinic Supervision in Music Therapy** 3 s.h.  
Principles of college teaching, curriculum development, clinical supervision in music therapy.
- Orchestra and Band Instruments**
- Also see 025:112 String Methods and Materials, under "Music Education."
- 025:168 Audition Repertoire** 1 s.h.  
Practicum on passages frequently requested at professional auditions.
- 025:174 Baroque Seminar** 1 s.h.  
Introduction to Baroque performance practices and techniques on period instruments; ensembles.
- 025:209 Advanced Woodwind Pedagogy and Literature I** 2 s.h.  
Saxophone and clarinet solo and study literature; integration of pedagogical topics.
- 025:210 Advanced Woodwind Pedagogy and Literature II** 3 s.h.  
Oboe, bassoon, and flute solo and study literature; integration of pedagogical topics.
- 025:253 Advanced Brass Pedagogy and Literature I** 2 s.h.  
Tuba, euphonium, and trombone literature; pedagogical topics.
- 025:254 Advanced Brass Pedagogy and Literature II** 2 s.h.  
Trumpet and horn literature; pedagogical topics.
- 025:255 Advanced Brass Ensemble Literature** 2 s.h.  
Brass chamber music literature, including mixed and like-instrument ensembles.
- 025:295 Advanced Percussion Pedagogy and Literature** 2 s.h.  
Percussion literature, styles, notation, performance techniques, composition; survey.
- 025:298 Advanced String Methods and Literature I** 2 s.h.  
Violin, viola, cello, and double bass solo and chamber music repertoire, pedagogical methods.
- 025:299 Advanced String Methods and Literature II** 2 s.h.  
Violin, viola, cello, and double bass solo and chamber music repertoire, pedagogical methods.
- 025:335 Seminar in Performance and Pedagogy Research I** 1 s.h.  
Research in the student's area; selection of a research topic. Offered spring semesters.
- 025:340 Seminar in Performance and Pedagogy Research II** 1 s.h.  
Continuation of 025:335; thesis proposal preparation; survey of related literature. Offered spring semesters.

## Organ and Sacred Music

- 025:184 Liturgics** 2 s.h.  
History of liturgies and survey of liturgical music from Judaism to present.
- 025:189 Organ Literature Survey** 2 s.h.  
Fifteenth century to present. Requirements: advanced undergraduate or graduate standing.

- 025:198 Service Playing and Improvisation** 2 s.h.  
Hymn playing, accompanying, basic improvisation techniques. Requirements: organ major.
- 025:226 History of Organ Building and Design** 2-3 s.h.  
Development of organ design from Middle Ages to present; basic concepts of construction, maintenance. Repeatable.
- 025:228 Organ Pedagogy** 2 s.h.  
History, theory, practice from Renaissance to present; methods, literature appropriate for various levels.
- 025:229 Organ Literature Special Topics** 2 s.h.  
Specialized study in selected areas of organ literature. Repeatable.
- 025:252 Hymnology** 1-2 s.h.  
Survey of historic hymnody: ancient odes, Latin hymns, Reformation hymns and psalms; current developments in hymnody and hymnals; may be special topic study. Repeatable.

## Piano

- 025:071 Group Instruction in Piano I** 1 s.h.  
Beginning instruction for music majors whose principal performing medium is voice or an orchestral or band instrument; skill development in sight reading, technique, harmonization, transposition, improvisation, simple literature. Requirements: music major. Corequisites: 025:002.
- 025:072 Group Instruction in Piano II** 1 s.h.  
Elementary to early intermediate instruction for music majors whose principal performing medium is voice or an orchestral or band instrument; continued skill development begun in 025:071; introduction of easy solo and ensemble literature. Requirements: 025:071 or successful completion of proficiency examination. Corequisites: 025:003.
- 025:073 Group Instruction in Piano III** 1 s.h.  
Skills for the music therapy profession; sight-reading, harmonization, transposition, reading from a fake book, improvisation. Requirements: music therapy, music education, or piano major.
- 025:113 Methods of Teaching Piano** 2 s.h.  
Methods, materials, and teaching techniques for preschool students, precollege students, and adult learners. Requirements: keyboard major.
- 025:232 Piano Pedagogy I** 2 s.h.  
In-depth study of techniques and materials needed to teach intermediate and advanced piano students; judging competitions; conducting master classes; writing curriculum vitae and cover letters in preparation for academic job searches.
- 025:233 Piano Pedagogy II** 2 s.h.  
History of the piano and its technique and pedagogy; national schools of piano playing; relationship of technological changes in piano construction to piano technique, pedagogy, and composition; major methods and treatises, historical recordings and video clips; research leading to understanding of students' individual piano lineage.
- 025:296 Piano Literature I** 2 s.h.  
Baroque era to Mozart or Chopin through 1900. Repeatable.
- 025:297 Piano Literature II** 2 s.h.  
Beethoven through Schumann or 20th century. Repeatable.
- 025:361 Special Studies Piano Literature** arr.  
Individual research in special aspects of piano literature; primarily for D.M.A. students. Repeatable.
- 025:362 Special Studies in Piano Accompaniment and Chamber Music** arr.  
Advanced collaborative arts practicum. Prerequisites: 025:186.

**Recital and Thesis**

<b>025:097 Honors in Music</b> Requirements: honors standing.	1-4 s.h.
<b>025:099 Bachelor's Thesis</b>	0-1 s.h.
<b>025:154 Senior Recital</b>	1 s.h.
<b>025:199 Special Studies</b>	arr.
<b>025:390 M.A. Performance Project</b>	arr.
<b>025:400 M.A. Thesis</b>	arr.
<b>025:401 M.F.A. Thesis</b>	arr.
<b>025:402 M.A. Recital</b>	arr.
<b>025:500 Ph.D. Thesis</b>	arr.
<b>025:501 Composition Ph.D. Thesis</b>	arr.
<b>025:502 D.M.A. Essay</b>	arr.
<b>025:503 D.M.A. Recital</b>	arr.

**Theory**

<b>025:001 Fundamentals of Music for Majors</b> Rudiments of music--notation of pitch and rhythm, meter, scales, keys, intervals, triads; first of a five-semester sequence.	3 s.h.
<b>025:002 Musicianship and Theory I</b> Principles of harmony; emphasis on aural skills, theoretical concepts, notation. Offered fall semesters. Requirements: 025:001 or successful completion of music theory diagnostic exam. Corequisites: 025:071 or successful completion of piano proficiency exam.	4 s.h.
<b>025:003 Musicianship and Theory II</b> Continuation of 025:002. Offered spring semesters. Corequisites: 025:072 or successful completion of piano proficiency exam.	4 s.h.
<b>025:004 Musicianship and Theory III</b> Continuation of 025:002 and 025:003; focus on common-practice repertory. Offered fall semesters. Prerequisites: 025:003.	4 s.h.
<b>025:005 Musicianship and Theory IV</b> Continuation of 025:002, 025:003, and 025:004; focus on late 19th- and early 20th-century repertories. Offered spring semesters.	4 s.h.
<b>025:145 Counterpoint Before 1600</b> Two- and three-part counterpoint; Renaissance polyphony. Requirements: 025:004 for undergraduates; 025:240 for graduate students.	3 s.h.

**025:147 Counterpoint After 1600**

3 s.h.

Two- and three-part writing in the style of J.S. Bach; fugue. Requirements: 025:005 for undergraduates, 025:240 for graduate students.

**025:153 Keyboard Harmony**

1-2 s.h.

Melody harmonization and figured-bass realization at the keyboard. Requirements: 025:005 for undergraduates, 025:240 for graduate students; and keyboard proficiency.

**025:236 Music Theory Pedagogy**

3 s.h.

Methods and techniques of teaching college-level music theory, including harmony, sight singing, ear training. Prerequisites: 025:240. Corequisites: 025:237.

**025:237 Music Theory Colloquium**

arr.

Repeatable.

**025:240 Basic Analytical Techniques**

3 s.h.

Theories and strategies of analysis applied to tonal and post-tonal music.

**025:241 History of Music Theory I**

3 s.h.

Requirements: 025:240 or exemption from 025:240 on the Graduate Theory Advisory Examination.

**025:242 History of Music Theory II**

3 s.h.

Prerequisites: 025:240 and 025:241.

**025:247 Post-Tonal Analysis**

3 s.h.

Prerequisites: 025:240.

**025:249 Tonal Analysis**

3 s.h.

Requirements: 025:240 or exemption from 025:240 on the Graduate Theory Advisory Examination.

**025:256 Special Topics in Theory and Analysis**

3 s.h.

Repeatable. Requirements: 025:005 for undergraduates; 025:240 or exemption on Graduate Theory Advisory Exam for graduate students.

**025:311 Advanced Post-Tonal Theory and Analysis**

3 s.h.

Repeatable. Prerequisites: 025:247.

**025:312 Advanced Tonal Theory and Analysis**

3 s.h.

Repeatable. Prerequisites: 025:249.

**025:380 Readings in Music Theory**

arr.

**Voice and Opera****025:115 Diction for Singers I**

2 s.h.

Italian and German pronunciation for singing; basics of international phonetic alphabet; no previous background required.

**025:116 Diction for Singers II**

2 s.h.

French and English pronunciation for singing. Prerequisites: 025:115.

**025:150 Interpretation of German Art Song**

1 s.h.

Schubert, Schumann, Brahms, Wolf, Strauss, Mahler; appropriate diction, style. Prerequisites: 025:115 and 025:116.

**025:151 Interpretation of Non-German Art Song**

1 s.h.

Art songs in English, French, Italian, Spanish; appropriate diction, style. Prerequisites: 025:115 and 025:116.

**025:159 Graduate Diction**

2 s.h.

Advanced pronunciation of singing languages. Requirements: grade of B or higher in undergraduate diction in French, German, and Italian.

**025:165 Opera Workshop** 2 s.h.  
Opera performing techniques, including acting, aria interpretation, scene work. Requirements: vocal major or audition.

**025:169 Singing for Actors** 2 s.h.  
Skill development for healthy, effective singing in the musical theatre style; techniques of vocal production through breath management, resonance, articulation, flexibility; song interpretation and repertoire. Recommendations: (for 025:169) concurrent registration in 025:059. Same as 049:106.

**025:170 Opera Theater Chorus** 1 s.h.  
Requirements: audition.

**025:175 Acting for Singers** 2 s.h.  
Fundamentals of acting technique, with attention to demands on performers in opera and musical theater. Same as 049:102.

**025:201 Principles of Voice Production** 3 s.h.  
Basic physical, physiological, pedagogical principles in understanding professional, nonprofessional, impaired voice production; vocal anatomy, voice classification; control of loudness, pitch, register, quality; efficient, inefficient use of voice; instrumentation for voice analysis, synthesis. Offered fall semesters of odd years. Same as 003:201.

**025:202 Methods of Teaching Voice** 3 s.h.  
Attitude, musicianship, foreign language aptitude, physical and emotional characteristics; mental images used to modify respiratory, phonatory, articulatory behavior; vocal hygiene; performance anxiety; student-teacher relationships; administration in vocal schools, professional organizations. Offered spring semesters. Same as 003:202.

**025:216 Voice for Performers** 2 s.h.  
Comparison of Kinesthetic techniques for singing and acting voice; relaxation, posture, breathing, tone quality, diction, interpretation. Same as 003:204, 049:201.

**025:235 Topics in Vocal Performance** 2 s.h.  
Selected areas of vocal performance. Repeatable.

**025:245 Opera Production** 2-4 s.h.  
Preparation and rehearsals leading up to performance of full production; may include one-act opera, chamber opera, musical theater production, or full-length opera. Repeatable. Requirements: audition. Corequisites: 025:348.

**025:248 Opera Theater: Directing Seminar** arr.  
Exploration, discussion, experience using techniques unique to directing opera; score and libretto analysis, fundamentals of stagecraft, casting and management skills.

**025:339 Survey of Operatic Literature** 3 s.h.  
Important operatic scores examined from standpoint of performers, directors; production problems. Repeatable.

**025:348 Vocal/Operatic Coaching** 1 s.h.  
Professional-level vocal coaching in preparation for opera productions, opera workshop, degree recitals. Repeatable. Corequisites: 025:245.

**025:351 Survey of Song Literature I** 3 s.h.  
German language lieder from 18th century to present; French mélodie from Meyerbeer to present. Offered fall semesters of odd years.

**025:352 Survey of Song Literature II** 3 s.h.  
British, American, Italian, Spanish, Latin American, Scandinavian, and Russian art song from 18th century to present. Offered fall semesters of even years.

**025:356 Voice Habilitation** 2-3 s.h.



Application of methods of intervention in development, training, rehabilitation of vocal behavior; motor learning, efficacy of treatment strategies, factors affecting compliance with recommended therapy. Offered fall semesters. Prerequisites: 003:114 or 003:201. Requirements: enrollment in Summer Vocology Institute, Salt Lake City, Utah. Same as 003:213.

**025:357 Instrumentation for Voice Analysis**

2 s.h.

Glottographic, videostroboscopic, electromyographic, and acoustic analysis for assessment of vocal and respiratory function; using these techniques in conjunction with perceptual evaluation of voice; through the Vocology Institute in Utah. Offered summer sessions of even years. Same as 003:221.

# Performing Arts Entrepreneurship

**Director, Division of Performing Arts:** Alan MacVey

**Coordinator:** David McGraw

**Advisor:** David McGraw (Theatre Arts)

**Undergraduate degree:** B.A. in Performing Arts Entrepreneurship

**Undergraduate nondegree program:** Certificate in Performing Arts Entrepreneurship

**Web site:** <http://www.uiowa.edu/~dpa>

The Division of Performing Arts, in partnership with the John Pappajohn Entrepreneurial Center in the Tippie College of Business, offers the undergraduate Certificate in Performing Arts Entrepreneurship. The program gives students the opportunity to pursue professional studies in the performing arts, in the framework of a liberal arts education, and to develop the skills required for creating market-based opportunities in the arts.

The Bachelor of Arts major in performing arts entrepreneurship is closing; no new enrollments are being accepted in the major. Students who declared the major before the beginning of fall semester 2009 may complete the major. Some courses required by the program may be dropped, so students are urged to finish the major as quickly as possible. See "Bachelor of Arts" below.

## Certificate

The undergraduate Certificate in Performing Arts Entrepreneurship requires a minimum of 29-33 s.h. The program is designed for students of dance, music, and theatre arts who wish to learn about the business of the performing arts and to develop the entrepreneurial skills necessary for promoting their artistic work.

Certificate students take entrepreneurship-related course work in accounting, financial management, and marketing as well as courses focused on arts management and leadership practices in both commercial and nonprofit organizations (20-24 s.h.). They also must complete course work in dance, music, or theatre arts (9 s.h.) and an internship in an arts organization (0 s.h.).

Students are strongly encouraged, but not required, to pursue a major in one of the performing arts.

The certificate requires the following course work. Students may not use a single course to satisfy more than one certificate requirement (e.g., a business course required for the certificate that is cross-listed in dance, music, or theatre arts may not also be counted toward the performing arts course requirement).

## PERFORMING ARTS

Certificate students earn 9 s.h. in 100-level courses taken in one of three performing arts units: the Department of Dance, the School of Music, or the Department of Theatre Arts. Many 100-level courses have prerequisites; consult an advisor about course sequencing.

## BUSINESS AND ENTREPRENEURSHIP

Students complete one course in each of these areas: accounting, marketing, financial management, new ventures/entrepreneurship, entrepreneurial marketing, e-commerce, arts management, and arts leadership. They also must complete 06T:050 Foundations in Entrepreneurship, an entrepreneurship prerequisite that is offered both on campus and online.

Prerequisite:

06T:050 Foundations in Entrepreneurship	2 s.h.
---	--------

One of these:

06T:116 Basics of Small Business Marketing	1 s.h.
--	--------

06M:100 Introduction to Marketing Strategy	3 s.h.
--	--------

An approved college-level marketing course (transfer courses accepted)

One of these:

01P:185 Grant Writing in the Arts	3 s.h.
-----------------------------------	--------

06T:133 Entrepreneurial Finance	3 s.h.
---------------------------------	--------

One of these:

06T:120 Entrepreneurship and Innovation	3 s.h.
---	--------

188:111 New Ventures in the Arts

3 s.h.

All of these:

06T:134 Entrepreneurial Marketing

3 s.h.

06T:148 E-Commerce Strategies for Entrepreneurs

3 s.h.

188:109 Introduction to Arts Management

3 s.h.

188:195 Arts Leadership Seminar

3 s.h.

**INTERNSHIP**

Students may complete the required internship (0 s.h.) during any semester in the program. The Pomerantz Career Center coordinates a wide variety of internships; see Career Center Programs (University College) in the Catalog. Students also may choose other internship opportunities. The Iowa Arts Council and the Iowa Cultural Corridor Alliance maintain lists of recommended host organizations.

**Residence in Performing Arts Learning Community**

First- and second-year students studying performing arts entrepreneurship may apply to live in the Performing Arts Living-Learning Community, a coed floor in Currier Hall, across the Iowa River from the fine arts campus. The community includes students from art and art history, dance, film, music, and theatre arts.

**Bachelor of Arts**

The major in performing arts entrepreneurship is closing. The closure was approved by the Board of Regents, State of Iowa, in summer 2008. No new enrollments are being accepted in the major.

Students who previously declared the major in performing arts entrepreneurship must fulfill all requirements for the major and the Bachelor of Arts by July 27, 2012. Students who do not complete the major by this date will not be allowed to continue in the major and will need to declare a new program of study. The requirements for the major are stated below. They are the same as in previous years.

The Bachelor of Arts in performing arts entrepreneurship requires a minimum of 120 s.h., including 53-59 s.h. of work for the major. All students pursuing the major choose a primary area of study in dance, music, or theatre arts. They also choose a secondary area different from their primary area. All students complete three required courses in entrepreneurship, a capstone course, and an internship.

Students must complete the College of Liberal Arts and Sciences General Education Program.

Students may apply a maximum of 24 s.h. earned at other institutions toward the major in performing arts entrepreneurship. In order to be counted toward the major, all transfer course work must be reviewed and approved by the program.

Performing arts entrepreneurship students are advised by the Academic Advising Center until they have earned 24 s.h. Students are then assigned a faculty advisor from the Performing Arts Entrepreneurship Program.

Requirements for the major are as follows.

**PRIMARY AREA**

Students complete the requirements for the primary area of their choosing.

**Dance**

This primary area requires a total of 26 s.h., including at least 12 s.h. earned in University of Iowa courses numbered 137:100 or above. An audition is required; contact the Department of Dance for details.

Before enrolling in a course, students must satisfy the course's prerequisites. For course descriptions, including prerequisites, see the Department of Dance course listing in the Catalog.

One of these:

137:034 Beginning/Contact Improvisation

1-2 s.h.

137:134 Improvisation I

1-2 s.h.

All of these:

137:050 Dance Production	3 s.h.
137:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
Dance technique (any level, from ballet, modern, jazz, or Afro-Cuban drum and dance)	9 s.h.

Dance electives--6 s.h. from these:

137:070 Choreography I	2 s.h.
137:071 Choreography II	2 s.h.
137:106 Dance Performance	1 s.h.
137:147/049:108 Dance Kinesiology	3 s.h.
137:149 Honors Studies in Dance	arr.
137:181 Dance History	3 s.h.
137:182 The Contemporary Dance Scene	3 s.h.
137:190 Independent Study	arr.
Additional dance technique courses (any level, from ballet, modern, jazz, or Afro-Cuban drum and dance)	1-3 s.h.

One of these:

137:147/049:108 Dance Kinesiology	3 s.h.
137:181 Dance History	3 s.h.
137:182 The Contemporary Dance Scene	3 s.h.

### Music

This primary area requires a total of 26 s.h. An audition is required. Contact the School of Music for details.

All of these:

025:001 Fundamentals of Music for Majors (unless exempted by proficiency exam)	3 s.h.
025:002 Musicianship and Theory I	4 s.h.
025:003 Musicianship and Theory II	4 s.h.
025:071 Group Instruction in Piano I (unless exempted by proficiency exam)	1 s.h.
025:072 Group Instruction in Piano II (unless exempted by proficiency exam)	1 s.h.

Music history--one of these:

025:103 World Music	3 s.h.
025:104 Music of Latin America and the Caribbean	3 s.h.
025:141 History of Jazz	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
025:178 Music, Culture, and Identity	3 s.h.

All of these:

Applied music for lower-level undergraduates (students must audition to be accepted by a professor--register for 2 s.h. each for two semesters)	4 s.h.
Ensemble participation (placement by audition in choral, orchestra, band, or jazz ensembles)	4 s.h.
025:074 Recital Attendance (two sessions)	2 s.h.

Students who are exempted by proficiency exam from 025:001 Fundamentals of Music for Majors (3 s.h.), 025:071 Group Instruction in Piano I (1 s.h.), or 025:072 Group Instruction in Piano II (1 s.h.) must earn an equal number of semester hours in music electives.

### Theatre Arts

This primary area requires a total of 25 s.h.

All of these:

049:025 Acting I	3 s.h.
049:044 Theatre Crafts	3 s.h.
049:060 Playscript Analysis	3 s.h.
049:112 History of Theatre and Drama I	3 s.h.
049:113 History of Theatre and Drama II	3 s.h.

Design--one of these:

049:043 Elements of Design	3 s.h.
049:133 Theatre Design I	3 s.h.
049:134 Scene Design I	3 s.h.
049:135 Costume Design I	3 s.h.
049:136 Lighting Design I	3 s.h.
049:146 Drawing and Rendering for the Theatre	3 s.h.

One of these:

049:045 Production: Run Crew	1 s.h.
049:047 Production: Construction	1 s.h.

One of these:

049:130 Directing I	3 s.h.
049:172 Senior Seminar	3 s.h.
049:194 Dramaturgy	3 s.h.
A playwriting course (049:063 or 049:165)	3 s.h.

One of these:

049:109 Introduction to Arts Management	3 s.h.
049:125 Voice for the Actor	3 s.h.
049:127 Theatre Movement	3 s.h.
049:132 Stage Management	3 s.h.
049:133 Theatre Design I	3 s.h.
049:134 Scene Design I	3 s.h.
049:135 Costume Design I	3 s.h.
049:136 Lighting Design I	3 s.h.
049:140 Sound Design for the Theatre	3 s.h.
049:147 Technical Production I	3 s.h.
049:148 Technical Production: Special Topics	3 s.h.

## SECONDARY AREA

Students complete the requirements for the secondary area of their choosing.

### Dance

This secondary area requires at least 15 s.h. of course work in dance. The following courses are required.

137:034 Beginning/Contact Improvisation	2 s.h.
137:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts	3 s.h.
Dance technique (any level, from ballet, modern, jazz, or Afro-Cuban drum and dance)	7 s.h.
Dance electives	3 s.h.

### Music

This secondary area requires at least 18 s.h. of course work (15 s.h. for students who are exempted from 025:001 Fundamentals of Music for Majors by proficiency exam). The following courses are required.

All of these:

025:001 Fundamentals of Music for Majors (unless exempted by proficiency exam)	3 s.h.
025:002 Musicianship and Theory I	4 s.h.
025:064 Recital Attendance for Non-Majors (taken twice)	2 s.h.
Ensemble or applied music courses	3 s.h.
Music electives	3 s.h.

Music history--one of these:

025:103 World Music	3 s.h.
---------------------	--------

025:104 Music of Latin America and the Caribbean	3 s.h.
025:141 History of Jazz	3 s.h.
025:144 History of Music I	3 s.h.
025:146 History of Music II	3 s.h.
025:178 Music, Culture, and Identity	3 s.h.

### Theatre Arts

This secondary area requires at least 15 s.h. of course work in theatre arts, excluding 049:001 Art of the Theatre, 049:002 Theatre and Society: Ancients and Moderns, and 049:003 Theatre and Society: Romantics and Rebels.

At least 12 of the 15 s.h. must be earned in University of Iowa courses chosen from the following list.

049:021 Basic Acting II	3 s.h.
049:025 Acting I	3 s.h.
049:043 Elements of Design	3 s.h.
049:044 Theatre Crafts	3 s.h.
049:060 Playscript Analysis	3 s.h.
049:062 Playwriting I	3 s.h.
049:063 Playwriting II	3 s.h.
049:101 Drama in the Classroom	3 s.h.
Courses numbered above 049:101	

### ENTREPRENEURSHIP STUDIES

Required courses total 9 s.h. Students also must complete 06T:050 Foundations in Entrepreneurship, an entrepreneurship prerequisite that is offered both on campus and online.

Prerequisite:

06T:050 Foundations in Entrepreneurship	2 s.h.
---	--------

Required courses:

06T:133 Entrepreneurial Finance	3 s.h.
06T:134 Entrepreneurial Marketing	3 s.h.

One of these:

06T:120 Entrepreneurship and Innovation	3 s.h.
06T:125/049:111/145:111/188:111 New Ventures in the Arts	3 s.h.

### CAPSTONE COURSE

One of these:

188:161/049:161 The Arts in Performance (or 137:161)	3 s.h.
188:195/049:195 Arts Leadership Seminar (or 145:195)	3 s.h.

### INTERNSHIP

409:188 Internship in Performing Arts	0 s.h.
---------------------------------------	--------

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students pursuing the performing arts entrepreneurship major. Many students need an extra semester to complete the internship requirement. But some students may be able to graduate in four years by taking summer course work or a summer internship. Advisors work with students to develop individual graduation plans.

### Honors

Students who are members of the University of Iowa Honors Program, have a g.p.a. of at least 3.33 in the major, and have approval from their primary advisor may undertake an honors project. Projects may be analytical, creative, or a combination of the two. They ordinarily require an oral presentation or performance for designated faculty members as

well as a research and writing component, which is due upon the project's completion. Performing arts entrepreneurship majors who are members of the University of Iowa Honors Program may take honors courses in their primary and secondary areas. Courses can be designated honors courses with permission of the faculty member who teaches the course, the department offering the course, and the University of Iowa Honors Program. Honors Program membership requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

## Performing Arts Entrepreneurship Courses

### **188:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

### **188:080 Dance and Society: U.S. Forms in Transnational and Critical Contexts**

3 s.h.

Dance and other physical endeavors as embodied forms of knowledge and culture; U.S. dance practices; European and African dance cultures; aesthetic and political issues raised by concert dance (i.e., performance, choreography, spectatorship, criticism); ethnographic methods to examine the function of dance in cultural formation (i.e., spiritual, celebratory, social, political contexts); lecture, discussion, viewing, movement workshops, formal and informal writing, field research, and WIKI construction. GE: Fine Arts, Humanities. Same as 137:080.

### **188:109 Introduction to Arts Management**

3 s.h.

Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as 049:109, 145:109.

### **188:111 New Ventures in the Arts**

3 s.h.

Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates 06J:125 and 06T:120. Corequisites: 06T:050, or 06A:001 and 06M:100. Same as 049:111, 06T:125, 145:111.

### **188:137 World of the Beatles**

3 s.h.

How the Beatles' music was influenced by American pop music, the drug culture, and the Avant Garde, nonwestern instruments and philosophy, anti-war sentiments, and world politics, and so forth; Beatlemania's impact on British and American cultures and its role in opening Eastern Europe to the West. Same as 025:137.

### **188:156 Stage Makeup**

3 s.h.

Same as 049:156.

### **188:161 The Arts in Performance**

3 s.h.

GE: Fine Arts, Humanities. Same as 033:161, 049:161, 137:161.

### **188:167 Introduction to Laban Movement Studies**

2-3 s.h.

Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically-efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as 025:167, 049:105, 137:160.

### **188:168 Introduction to the Alexander Technique**

3 s.h.

The Alexander Technique and "self-use"--how our movement choices affect the results we achieve; improving physical skills and presence; principles from the Alexander Technique in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting) and applied to skills in daily life, addressing the underpinnings of movement; physical participation, including laying, rolling, sitting, standing, and locomotion. Same as 025:176, 049:170, 137:173.

### **188:173 Introduction to Afro-Cuban Drumming**

1 s.h.

Drumming, dance, songs from folkloric and ceremonial Afro-Cuban forms; emphasis on drumming; may include participation in Afro-Cuban drum and dance ensemble. Same as 025:173.

**188:174 Introduction to Afro-Cuban Dance**

1 s.h.

Introduction to the dance, drumming, and songs of the Afro-Cuban folkloric traditions; emphasis on dance. May participate in UI Afro-Cuban Drum and Dance ensemble. Corequisites: 137:175 or 188:175, if not taken as a prerequisite. Same as 137:174.

**188:175 Afro-Cuban Drum and Dance Performance**

1 s.h.

Dance repertory for the UI Afro-Cuban Drum and Dance Ensemble. Performance pieces based on dance, drumming, songs of the Afro-Cuban folkloric traditions. May participate in UI Afro-Cuban Drum and Dance Ensemble. Prerequisites: 025:173 or 137:174 or 188:173 or 188:174. Requirements: audition. Same as 137:175.

**188:182 The Contemporary Dance Scene**

3 s.h.

Historical, theoretical, and practical elements of contemporary dance; the term "postmodern" and its associations with dance, performing arts, contemporary culture; relationships between process and product, identity and subjectivity, artistic intent and authorship, meaning and intertextuality; possibility of art as a form of dissent; theory and practice placed in a dialectic; analysis and synthesis of previous research. Same as 137:182.

**188:195 Arts Leadership Seminar**

3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Requirements: (for 049:195) 049:109 or 049:111 or graduate standing in an arts discipline. Same as 049:195, 06T:155, 145:195.

**188:198 Performance Practicum**

1-2 s.h.

Act in a faculty-directed production produced by the Theatre Arts Department. Same as 049:198.

**188:202 Theories of Dance and the Body**

3 s.h.

Theoretical trends in studies of dance and physical bodies; performative and choreographic aspects of being. Same as 137:202.

**188:275 Collaborative Performance**

1-4 s.h.

Collaborative experience with advanced artists from varied disciplines that culminates in a final performance; emphasis on sharing and investigating ideas, artistic intent, personal vision, and creating collaborative projects. Same as 049:275, 137:275.



# Philosophies and Ethics of Politics, Law, and Economics

**Coordinator:** Diane Jeske

**Undergraduate nondegree program:** Certificate in Philosophies and Ethics of Politics, Law, and Economics

**Web site:** <http://www.uiowa.edu/~people>

The certificate program in philosophies and ethics of politics, law, and economics is closing. Students who began working toward the certificate and were enrolled in certificate courses before the beginning of fall semester 2010 may complete the certificate. Some courses required by the program may be dropped, so students are urged to finish the certificate as quickly as possible. Certificate students should consult with their advisors.

## Certificate

The Certificate in Philosophies and Ethics of Politics, Law, and Economics requires 36 s.h. The final 18 s.h. used to complete the certificate must be taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the certificate.

Because of the program's multiple requirements, students are encouraged to begin the program as first-year students or sophomores; however, with careful planning, students who join the program as juniors can complete the requirements by their normal graduation date, especially if they already have taken several courses that satisfy PEOPLE requirements. Prospective certificate students should contact the PEOPLE program's coordinator.

The certificate program consists of two parts: the foundation, made up of six courses (18 s.h.), and the fields, also made up of six courses (18 s.h.). The foundation is the common element in the program. The five fields--economics, law, philosophy, political science, and sociology--provide opportunities for specialization.

## FOUNDATION

Students must take the following six courses. The first two (026:036 Principles of Reasoning: Argument and Debate or 026:103 Introduction to Symbolic Logic, and 026:001 Matters of Life and Death or 026:102 Introduction to Ethics) are best taken during the first or sophomore year.

One of these:

026:036 Principles of Reasoning: Argument and Debate	3 s.h.
026:103 Introduction to Symbolic Logic	3 s.h.

One of these:

026:001 Matters of Life and Death	3 s.h.
026:102 Introduction to Ethics	3 s.h.

One of these:

026:034 Philosophy and the Just Society	3 s.h.
026:132 Introduction to Political Philosophy	3 s.h.
026:135 Philosophy of Law	3 s.h.

One of these:

030:020 Introduction to Politics	3 s.h.
030:030 Introduction to Political Thought and Political Action	3 s.h.
030:050 Introduction to Political Behavior	3 s.h.
030:070 Introduction to Political Communication	3 s.h.

One of these:

06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.

One of these:

026:149 Undergraduate Seminar in Philosophy (requires consent of PEOPLE program director)	3 s.h.
033:153 Hard Cases: Science Policy and Values	3 s.h.

033:175/01H:182/024:161/091:192 Art, Law, and Ethics

3 s.h.

**FIELDS**

Students must choose two of the following fields and complete three courses in each.

**Economics**

One of these:

06E:104 Microeconomic Theory (if 06E:001 was taken for foundation requirement)

3 s.h.

06E:105 Macroeconomics (if 06E:002 was taken for foundation requirement)

3 s.h.

Two of these:

06E:119 Policy Analysis

3 s.h.

06E:125 Global Economics and Business

3 s.h.

06E:172 Law and Economics (cannot be used to satisfy both economics and law field requirements)

3 s.h.

06E:176 Public Sector Economics

3 s.h.

06E:179 History of Economic Thought

3 s.h.

**Philosophy**

Three of these:

026:102 Introduction to Ethics (if not taken for foundation requirement)

3 s.h.

026:104 Introduction to Philosophy of Science

3 s.h.

026:132 Introduction to Political Philosophy (if not taken for foundation requirement)

3 s.h.

026:133 Philosophy of History

3 s.h.

026:135 Philosophy of Law (if not taken for foundation requirement)

3 s.h.

026:180 Analytic Ethics

3 s.h.

026:182 History of Ethics

3 s.h.

026:185 Political Philosophy

3 s.h.

026:196 Philosophy of the Human Sciences

3 s.h.

**Political Science**

One of these:

030:116 American Constitutional Law and Politics

3 s.h.

030:118 American Political Development

3 s.h.

030:119 Problems in American Politics

3 s.h.

One of these:

030:132 Modern Political Theory

3 s.h.

030:133 Postmodern Political Theory

3 s.h.

030:138 Current Political Theory

3 s.h.

One of these:

030:126 American Public Policy

3 s.h.

030:136 Strategy in Politics

3 s.h.

030:152 The Legislative Process

3 s.h.

030:153 The Judicial Process

3 s.h.

**Law**

One of these:

026:135 Philosophy of Law (if not taken for foundation or another field requirement)	3 s.h.
144:143/091:288 Jurisprudence	3 s.h.

Two of these:

06E:172 Law and Economics (if not taken for economics field requirement)	3 s.h.
030:116 American Constitutional Law and Politics (if not taken for political science field requirement)	3 s.h.
091:193 Human Rights in the World Community	3 s.h.
091:195 Introduction to Public International Law	3 s.h.
144:142/091:224 Comparative Law	3 s.h.

Semester hours earned in PEOPLE courses taught by College of Law faculty members normally do not count toward requirements for a law degree.

**Sociology**

One of these:

034:001 Introduction to Sociology Principles	3 s.h.
034:009 Sociological Theory	3 s.h.

Two of these:

034:040 Criminology	3 s.h.
034:066 Social Inequality	3 s.h.
034:141 Juvenile Delinquency	3 s.h.
034:149 Sociology of Criminal Punishment	3 s.h.
034:150 Political Sociology	3 s.h.
034:182 Sociology of Law	3 s.h.

## Philosophies and Ethics of Politics, Law, and Economics Courses

### **144:142 Comparative Law** 2-3 s.h.

Comparative study of origins, development, and principal features of the world's main legal systems; common and civil law traditions; historical development of the main legal systems, their sources, ideologies, techniques; subjects important to international legal practice (e.g., international judicial assistance, application of foreign law in American courts; in-depth study of modern legal systems of the United States, Britain, France, Germany, Japan, Russia; introduction to other legal traditions, including preliterate tribal law, traditional Chinese and Islamic law. Same as 091:224.

### **144:143 Jurisprudence** 2-3 s.h.

Selected legal philosophies, with emphasis on legal positivism and natural law; relationship between law and morality. Same as 091:288.

# Philosophy

**Chair:** Diane Jeske

**Professors:** James Duerlinger, Richard Fumerton, Gregory Landini, David Stern

**Professors emeriti:** Laird Addis, Panayot Butchvarov, Phillip Cummins

**Associate professors:** David Cunniff, Evan Fales, Diane Jeske

**Assistant professors:** Carrie Figdor, Ali Hasan

**Undergraduate degree:** B.A. in Philosophy

**Undergraduate nondegree program:** Minor in Philosophy

**Graduate degrees:** M.A., Ph.D. in Philosophy

**Web site:** <http://www.uiowa.edu/~phil>

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in philosophy.

It also administers the Bachelor of Arts in ethics and public policy, an interdisciplinary major presented jointly by the Departments of Economics, Philosophy, and Sociology; see Ethics and Public Policy in the Catalog.

Undergraduate courses in philosophy are designed to impart knowledge of fundamental issues and main developments in philosophy while strengthening logical and analytic skills. A major in philosophy develops abilities useful for graduate or professional work in many fields--law, for example--and for any situation requiring clear, systematic thinking. A graduate degree is necessary for college teaching in philosophy.

### Bachelor of Arts

The Bachelor of Arts in philosophy requires a minimum of 120 s.h., including at least 27 s.h. of work for the major. Courses numbered 026:061 Introduction to Philosophy through 026:198 Topics in Philosophy count toward the major. The final 12 s.h. in philosophy courses used to complete the major must be earned at The University of Iowa; the department may make exceptions for students who pursue approved study abroad during their senior year.

Students must complete the College of Liberal Arts and Sciences General Education Program.

The major in philosophy requires the following courses.

026:103 Introduction to Symbolic Logic	3 s.h.
--	--------

026:111 Ancient Philosophy	3 s.h.
----------------------------	--------

026:114 Seventeenth-Century Philosophy	3 s.h.
--	--------

or

026:115 Modern Philosophy	3 s.h.
---------------------------	--------

Additional philosophy courses (prefix 026) chosen from those numbered 061 through 198	18 s.h.
---	---------

In addition to prerequisites listed for individual courses, considerations such as the order in which historical courses are taken are relevant to the effective structuring of the undergraduate major in philosophy. A student's department advisor or the director of undergraduate studies can provide more information.

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least one course in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** at least five courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** at least six courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Honors

The department administers an honors program for undergraduate students of superior ability. In order to be admitted

to the honors program in philosophy, a student must be a member of the University of Iowa Honors Program, which requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information), and must have taken and passed at least three philosophy courses for the major. In order to graduate with honors in philosophy, a student must complete the regular requirements for an undergraduate major in philosophy with a g.p.a. of at least 3.40 in philosophy courses and must write an acceptable honors thesis on a significant topic in philosophy that interests him or her. Contact the honors advisor for more information.

## **Minor**

The minor in philosophy requires a minimum of 15 s.h. in philosophy courses, including 12 s.h. in 100-level courses offered by the Department of Philosophy at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Contact the undergraduate studies director for more information.

## **Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in philosophy. Admission is granted only for the Ph.D. program. The M.A. is not offered as a terminal degree; it is awarded to students as they work successfully toward the Ph.D.

The graduate program is designed to train teachers and scholars in philosophy. The main areas in the graduate curriculum are metaphysics, epistemology, history of philosophy, logic, philosophy of science, and value theory.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### **Master of Arts**

The Master of Arts in philosophy requires a minimum of 30 s.h. of graduate credit and is offered without thesis. The M.A. is not offered as a terminal degree; it is awarded to students as they work successfully toward the Ph.D. Requirements include courses in metaphysics, epistemology, history of philosophy, ethics, logic, philosophy of science, and value theory. There is no foreign language requirement. Students must take an oral final examination. Contact the graduate studies director for more information.

### **Joint M.A./J.D.**

The Department of Philosophy and the College of Law offer a joint Juris Doctor/Master of Arts. Students in the joint J.D./M.A. program may count 12 s.h. earned in the joint program toward both degrees. Students must earn 18 of the 30 s.h. required for the M.A. in graduate-level philosophy courses (the usual requirement is 24 s.h.). They also must earn a minimum of 36 s.h. in undergraduate and graduate philosophy courses combined (the usual requirement is 42 s.h.).

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

See "Juris Doctor" and "Joint J.D./Graduate Degrees" in the College of Law section of the Catalog.

### **Doctor of Philosophy**

The Ph.D. requires a minimum of 72 s.h. of graduate credit. Candidacy for the doctoral program is determined by a formal vote of the entire faculty of the Department of Philosophy, usually after the student has completed three semesters of graduate study in residence.

Requirements include courses in metaphysics, epistemology, history of philosophy, logic, philosophy of science, and value theory. Students are required to take a comprehensive examination, including both written and oral components, that covers their area of specialization. Upon successfully completing the exam, students begin work on a prospectus for their dissertation. There is no foreign language requirement. Contact the graduate studies director for more information.

## **Philosophy Courses**

For more detailed descriptions of undergraduate and graduate courses offered during a given semester or summer session, visit the University's ISIS web site before early registration.

## For Undergraduates

The following courses are open only to undergraduates.

- 026:001 Matters of Life and Death** 3 s.h.  
Important ethical controversies with life and death implications (abortion, capital punishment, torture, terrorism and war) discussed and analyzed using philosophical reasoning.
- 026:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.
- 026:033 The Meaning of Life** 3 s.h.  
Philosophical investigation of the nature of human life and of what makes human life valuable and/or meaningful. GE: Historical Perspectives.
- 026:034 Philosophy and the Just Society** 3 s.h.  
The nature of individuals and governments and the obligations they have to each other; philosophical and historical examination of theories from Plato through the 19th century. GE: Historical Perspectives.
- 026:036 Principles of Reasoning: Argument and Debate** 3 s.h.  
Elementary logic and its application to the evaluation of arguments and debates. GE: Quantitative or Formal Reasoning.
- 026:061 Introduction to Philosophy** 3 s.h.  
Issues and arguments; topics may include rational belief, evidence, the self, causation, and the presuppositions of religion. GE: Humanities.

## For Undergraduate and Graduate Students

The following courses are closed to first-year students.

- 026:102 Introduction to Ethics** 3 s.h.  
Analytical and historical introduction to ethical theories about issues such as the nature of goodness, the nature of right conduct. GE: Humanities.
- 026:103 Introduction to Symbolic Logic** 3 s.h.  
Main ideas and techniques of formal deduction.
- 026:104 Introduction to Philosophy of Science** 3 s.h.  
Fundamental issues in scientific method, inductive reasoning, explanation, the distinctive nature of science.
- 026:111 Ancient Philosophy** 3 s.h.  
Main trends and major figures, such as Plato and Aristotle.
- 026:112 Medieval Philosophy** 3 s.h.  
Main trends and major figures, such as Augustine and Aquinas. Same as 16E:114.
- 026:114 Seventeenth-Century Philosophy** 3 s.h.  
Main trends, central arguments, major positions; Bacon and Descartes to Leibniz and Locke.
- 026:115 Modern Philosophy** 3 s.h.  
Main trends and major figures from Descartes to Kant.
- 026:118 Twentieth-Century Philosophy** 3 s.h.  
Main trends and major figures.
- 026:131 Aesthetics** 3 s.h.

Major problems in philosophy of the arts.

<b>026:132 Introduction to Political Philosophy</b> Major problems.	3 s.h.
<b>026:133 Philosophy of History</b> Major problems: objectivity, historiographic methods and theory of interpretation, nature of historical explanations, reduction.	3 s.h.
<b>026:134 Philosophy of Religion</b> Medieval to contemporary treatments of central issues: the nature of faith; the existence and nature of God; religion and ethics; the interpretation of religious texts. Same as 032:146.	3 s.h.
<b>026:135 Philosophy of Law</b> Introduction; the nature of law, legal authority, legal reasoning; issues in criminal law, such as punishment, responsibility; issues in property law; constitutional law. Prerequisites: 026:034 or 026:102 or 026:132.	3 s.h.
<b>026:136 The Nature of Evil</b> The nature of evil explored through philosophical works, case studies of individuals, videos, and films.	3 s.h.
<b>026:138 Philosophical Problems of Artificial Intelligence</b> Major issues and controversies.	3 s.h.
<b>026:141 Existentialist Philosophy</b> Main ideas of existentialism; emphasis on Kierkegaard, Nietzsche, Heidegger, Sartre.	3 s.h.
<b>026:145 Buddhist Philosophy</b> Introduction to main ideas. Same as 032:175.	3 s.h.
<b>026:147 Philosophical Issues</b> A philosophical topic or controversy.	3 s.h.
<b>026:148 Readings in Philosophy</b> Requirements: honors standing.	arr.
<b>026:149 Undergraduate Seminar in Philosophy</b> Selected problems.	3 s.h.
<b>026:152 Plato</b> Main ideas, major texts.	3 s.h.
<b>026:153 Aristotle</b> Main ideas, major texts.	3 s.h.
<b>026:158 Descartes</b> Major works, such as the <i>Discourse on Method</i> , as well as lesser known works, such as <i>The World</i> .	3 s.h.
<b>026:160 Spinoza and Leibniz</b> Main ideas, major texts.	3 s.h.
<b>026:163 Berkeley and Hume</b> Comparative and critical examination of metaphysical and epistemological views of 18th-century empiricists George Berkeley and David Hume; theory of ideas, perception, skepticism, limits of knowledge, scientific and philosophical method, role of God in Berkeley's and Hume's philosophical systems.	3 s.h.
<b>026:166 Kant</b> Main ideas, major texts of Kant's metaphysics and epistemology.	3 s.h.
<b>026:173 Heidegger</b>	3 s.h.

Main ideas and major texts of Heidegger; early and later periods, particular attention to Being and Time; focus on Heidegger's analyses of *being* and *being-in-the-world*.

- 026:174 Sartre** 3 s.h.  
Phenomenological and existentialist works.
- 026:176 Frege and Russell** 3 s.h.  
Main ideas, major texts.
- 026:177 Wittgenstein** 3 s.h.  
Main ideas, major texts.
- 026:179 Quine** 3 s.h.  
Major ideas, major texts.
- 026:180 Analytic Ethics** 3 s.h.  
Topics in contemporary ethics.
- 026:182 History of Ethics** 3 s.h.  
Selected topics in the history of philosophical ethics.
- 026:184 Russian Thinkers** 3 s.h.  
Same as 041:189, 048:189.
- 026:185 Political Philosophy** 3 s.h.  
Selected topics.
- 026:186 Metaphysics** 3 s.h.  
Fundamental topics; major works, both classical and contemporary.
- 026:187 Epistemology** 3 s.h.  
Contemporary topics.
- 026:188 Philosophy of Mind** 3 s.h.  
Contemporary topics.
- 026:189 Philosophy of Language** 3 s.h.  
Contemporary topics. Same as 103:163.
- 026:190 Philosophical Foundations of Cognitive Science** 3 s.h.  
Processes leading from stimulus to behavioral response in cognitive or mentalistic terms; motivations for cognitive explanations, nature of cognitive architecture, problem of mental representation; additional topics may include individuation of inputs and outputs, role of consciousness in cognition, relation between language and thought, nature of concepts.
- 026:191 Mathematical Logic** 3 s.h.  
Presentation of central metatheorems relating to decidability, completeness, model theory; second-order logic.
- 026:192 Modal Logic** 3 s.h.  
Formal techniques developed and applied to problems in analysis and modal semantics; related philosophical issues.
- 026:194 Philosophy of Science** 3 s.h.  
Central topics—for example, scientific explanation, confirmation, the meaning of scientific theories; survey of major 20th-century developments in these areas.
- 026:196 Philosophy of the Human Sciences** 3 s.h.  
Explanation and understanding, theories and reduction, values and ideology, freedom and causality.
- 026:198 Topics in Philosophy** 3 s.h.  
A single philosopher or philosophical problem.



**Primarily for Graduate Students**

All of the following courses are repeatable.

<b>026:220 Seminar: Philosophy of Language</b>	3 s.h.
<b>026:221 Seminar: Metaphysics</b>	3 s.h.
<b>026:222 Seminar: Epistemology</b>	3 s.h.
<b>026:223 Seminar: Philosophical Analysis</b>	3 s.h.
<b>026:224 Seminar: Philosophy of Science</b>	3 s.h.
<b>026:225 Seminar: Philosophy of Religion</b>	3 s.h.
<b>026:226 Seminar: Ethics</b>	3 s.h.
<b>026:229 Seminar: Modern Philosophy</b>	3 s.h.
<b>026:245 Research: Value Theory</b>	arr.
<b>026:247 Research: Metaphysics and Epistemology</b>	arr.
<b>026:249 Research: Logic and Philosophy of Science</b>	arr.
<b>026:251 Research: History of Philosophy</b>	arr.
<b>026:253 Thesis</b>	arr.

# Physics and Astronomy

**Chair:** Mary Hall Reno

**Professors:** David R. Andersen (Electrical and Computer Engineering/Physics and Astronomy), Thomas F. Boggess (Physics and Astronomy/Electrical and Computer Engineering), Michael E. Flatté, John A. Goree, Donald A. Gurnett (Carver/James A. Van Allen Professor of Physics), Richard Hichwa (Radiology/Physics and Astronomy), Philip Kaaret, Paul D. Kleiber (Harriet B. and Harold S. Brady Professor of Laser Physics), Craig A. Kietzing, Karl E. Lonngren (Electrical and Computer Engineering/Physics and Astronomy), Mark T. Madsen (Radiology/Physics and Astronomy), Usha Mallik, Robert L. Merlino, Yannick Meurice, Robert L. Mutel, Yasar Onel, Wayne N. Polyzoou, Mary Hall Reno, Vincent G.J. Rodgers, Jack D. Scudder, Frederick N. Skiff, Arthur L. Smirl (Physics and Astronomy/Electrical and Computer Engineering, Lowell Battershell Chair in Laser Engineering), Steven R. Spangler

**Professors emeriti:** Raymon T. Carpenter, Louis A. Frank, William H. Klink, George Knorr, Edward R. McCliment, John S. Neff, Edwin Norbeck, Gerald L. Payne, John W. Schweitzer

**Associate professors:** Kenneth G. Gayley, Jane M. Nachtman, Charles R. Newsom, John P. Prineas, Markus Wohlgenannt

**Assistant professors:** Gregory Howes, Maxim Khodas, Cornelia C. Lang, Randall McEntaffer, Craig Pryor

**Undergraduate degrees:** B.A., B.S. in Physics, Astronomy; B.S. in Applied Physics

**Undergraduate nondegree programs:** Minor in Physics, Astronomy

**Graduate degrees:** M.S. in Physics, Astronomy; Ph.D. in Physics (including specialization in Astronomy)

**Web site:** <http://www.physics.uiowa.edu>

The Department of Physics and Astronomy provides comprehensive and rigorous instruction in all basic aspects of its subjects. It also provides research facilities and guidance in selected specialties for advanced individual scholarly work.

Total departmental enrollment is approximately 1,700 each semester of the academic year and 150 during the summer session. All courses and advanced laboratories are taught by faculty members. Faculty members also supervise associated laboratories taught by graduate students.

Beyond the elementary level, typical course enrollment is 15-20; there is ample opportunity for individual work. Special introductory courses are offered for majors in physics and astronomy and for others with special interest in these subjects. There are about 80 undergraduate majors, half of whom are honors students, and 60 graduate students in physics or astronomy.

About 70 percent of graduates with bachelor's degrees pursue advanced study. Others find positions in government and industrial laboratories and in secondary school teaching. Some use their training as the basis for careers in other fields.

Graduates with an M.S. or Ph.D. in physics or astronomy have opportunities for employment in universities, colleges, and research laboratories in government and industry.

## Undergraduate Programs

The department offers a Bachelor of Science, a Bachelor of Arts, and an undergraduate minor in physics and in astronomy. It also offers a double major in physics and astronomy, available with a Bachelor of Science or a Bachelor of Arts; and a Bachelor of Science in applied physics.

### Bachelor of Science in Physics

The Bachelor of Science in physics requires a minimum of 120 s.h., including 60 s.h. of work for the major. It provides preparation for careers in industry, employment in research laboratories, and graduate study in physics and related sciences.

The B.S. major in physics requires the following courses or their equivalents. Students satisfy the following mathematics and laboratory requirements as well as the "Other Required Courses." The department encourages students to do additional work. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Many 100-level physics courses have prerequisites; students should consult their advisors when choosing 100-level courses.

#### MATHEMATICS

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:028 Calculus III	4 s.h.

#### LABORATORY

029:132 Intermediate Laboratory	3 s.h.
---------------------------------	--------

One of these:

029:128 Electronics	4 s.h.
029:133 Advanced Laboratory	3 s.h.

Students who choose 029:128 Electronics as one of their two required laboratory courses are advised to take it before they take 029:132 Intermediate Laboratory.

#### OTHER REQUIRED COURSES

All of these:

029:027-029:028 Physics I-II	8 s.h.
029:029-029:030 Physics III-IV	8 s.h.
029:115 Intermediate Mechanics	3 s.h.
029:118 Statistical Physics	3 s.h.
029:129-029:130 Electricity and Magnetism I-II	6 s.h.
029:140-029:141 Introduction to Quantum Mechanics I-II	6 s.h.

Two of these:

029:119 Introduction to Astrophysics I	3 s.h.
029:120 Introduction to Astrophysics II	3 s.h.
029:128 Electronics (may not be repeated)	4 s.h.
029:133 Advanced Laboratory	3 s.h.
029:171-029:172 Mathematical Methods of Physics I-II	6 s.h.
029:180 Introductory Optics	3 s.h.
029:182 Electro Optics	3 s.h.
029:184 Optical Signal Processing	3 s.h.
029:186 Radio Astronomy	3 s.h.
029:192 Elementary Particles and Nuclear Physics	3 s.h.
029:193 Introductory Solid State Physics	3 s.h.
029:194 Plasma Physics I	3 s.h.
029:195 Plasma Physics II	3 s.h.
029:196 Computational Physics	3 s.h.

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. or B.S. may apply a maximum of 50 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 50 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students earning a B.S. with a double major in physics and astronomy may count more than 50 s.h. earned in the Department of Physics and Astronomy to the 120 s.h. required for graduation, but they must earn at least 56 s.h. in course work outside the department in order to graduate.

### Bachelor of Arts in Physics

The Bachelor of Arts in physics requires a minimum of 120 s.h., including 48 s.h. of work for the major. It requires fewer physics courses than the B.S. and provides for a wider choice of electives.

The program is designed for students who wish to gain knowledge of physics but do not plan a research-oriented career in physics. It is appropriate for those planning careers in medicine, law, science-related administration, business, or technical writing. It also provides a foundation for students interested in secondary school science teaching; see "B.A. or B.S. in Physics with Teacher Licensure" below.

The B.A. major requires the following courses or their equivalents. The department encourages students to do additional work. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Many 100-level physics courses have prerequisites; students should consult their advisors when choosing 100-level courses.

22M:025-22M:026 Calculus I-II	8 s.h.
029:027-029:028 Physics I-II	8 s.h.
029:029-029:030 Physics III-IV	8 s.h.
029:132 Intermediate Laboratory	3 s.h.
Three additional 100-level physics courses (excluding 029:103, 029:105, 029:171, and 029:172), approved by the advisor	9-10 s.h.
One of these:	
Additional science courses in a thematic area, approved by the advisor	12 s.h.
The course work required for teacher licensure	

### **B.A. or B.S. in Physics with Teacher Licensure**

The major in physics (Bachelor of Arts or Bachelor of Science) provides a foundation for students who are interested in teaching secondary school science. The University's Science Education Program offers a Bachelor of Science program that also provides a foundation for teaching, allowing students to choose an emphasis in biology, chemistry, earth science, or physics; see Science Education in the Catalog.

Students who wish to teach must complete a bachelor's degree and the Teacher Education Program (TEP). See Teaching and Learning (College of Education) in the Catalog for more information about the TEP. Interested students must apply to the College of Education for admission to the TEP.

### **Joint B.A. in Physics/M.A.T.**

Students interested in pursuing a graduate degree in teaching may apply to the joint Bachelor of Arts/Master of Arts in Teaching program offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates in biology, chemistry, and physics, the joint program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "B.A.in Science/M.A.T. in Science Education" in the Teaching and Learning (College of Education) section of the Catalog. Interested students should consult an advisor.

### **Bachelor of Science in Applied Physics**

The Bachelor of Science in applied physics requires a minimum of 120 s.h., including 60-83 s.h. of work for the major. It is intended primarily for students interested in a broad program of study in physics combined with a significant concentration of courses in an applied field that has immediate application to industry. The degree provides a foundation for a wide range of employment opportunities in high-technology industries, including research and development, product design and testing, sales, and quality control. It also is designed to include exposure to physics sufficient to allow the student to continue with graduate studies in either physics or astronomy.

The program offers four areas of concentration: optics, solid-state electronics, computer science, and medical physics. A student also may design a customized concentration area in close consultation with his or her advisor, and with departmental approval.

An essential component of each concentration is successful completion of a one-semester industrial internship or practicum experience in a research laboratory (an applied physics thesis is required for the latter option). This requirement may result in the need for a ninth semester to fulfill all requirements. Because of this, the Four-Year Graduation Plan is not available for the major in applied physics. Well-prepared students will be able to complete the degree in four years. Students should work closely with their advisors on a graduation plan.

The B.S. in applied physics requires the following courses. Students are encouraged to take additional course work. Advisors can suggest electives that will enrich programs and help students prepare for graduate work. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Many 100-level physics courses have prerequisites; students should consult their advisors when choosing 100-level courses.

#### **COMMON REQUIREMENTS**

Students in all concentrations must successfully complete the following courses or their equivalents.

Mathematics—all of these:

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.

22M:028 Calculus III 4 s.h.

Physics—all of these:

029:027-029:028 Physics I-II 8 s.h.

029:029-029:030 Physics III-IV 8 s.h.

029:115 Intermediate Mechanics 3 s.h.

029:129 Electricity and Magnetism I 3 s.h.

029:140 Introduction to Quantum Mechanics I 3 s.h.

Experiential learning—one of these:

One-semester industrial internship

One-semester practicum in a research laboratory (requires an applied physics thesis)

### COMPUTER SCIENCE CONCENTRATION

All of these:

22C:016 Computer Science I: Fundamentals 4 s.h.

22C:021 Computer Science II: Data Structures 4 s.h.

Two additional 100-level computer science courses 6 s.h.

029:118 Statistical Physics 3 s.h.

029:128 Electronics 4 s.h.

029:130 Electricity and Magnetism II 3 s.h.

029:132 Intermediate Laboratory 3 s.h.

One of these:

22C:022 Object-Oriented Software Development 4 s.h.

22C:031 Algorithms 3 s.h.

22C:060 Computer Organization 3 s.h.

### OPTICS CONCENTRATION

All of these:

029:118 Statistical Physics 3 s.h.

029:128 Electronics 4 s.h.

029:130 Electricity and Magnetism II 3 s.h.

029:132 Intermediate Laboratory 3 s.h.

029:180 Introductory Optics 3 s.h.

Two of these:

029:182 Electro Optics 3 s.h.

029:184 Optical Signal Processing 3 s.h.

029:193 Introductory Solid State Physics 3 s.h.

### SOLID-STATE ELECTRONICS CONCENTRATION

All of these:

029:118 Statistical Physics 3 s.h.

029:193 Introductory Solid State Physics 3 s.h.

055:032 Introduction to Digital Design 3 s.h.

055:040 Linear Systems I 3 s.h.

055:041 Electronic Circuits 4 s.h.

057:017 Computers in Engineering 3 s.h.

057:018 Principles of Electronic Instrumentation 4 s.h.

059:006 Engineering Problem Solving II 3 s.h.

059:008 Engineering Fundamentals II: Electrical Circuits 3 s.h.

One of these:

029:130 Electricity and Magnetism II	3 s.h.
029:141 Introduction to Quantum Mechanics II	3 s.h.

#### **MEDICAL PHYSICS CONCENTRATION**

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:121-004:122 Organic Chemistry I-II	6 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.
Two additional advanced biology courses	
029:128 Electronics	4 s.h.
029:132 Intermediate Laboratory	3 s.h.

One of these:

22S:101 Biostatistics	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.

One of these:

029:105 Special Topics in Physics (physics of the body)	3 s.h.
029:118 Statistical Physics	3 s.h.
029:130 Electricity and Magnetism II	3 s.h.
029:133 Advanced Laboratory	3 s.h.
029:141 Introduction to Quantum Mechanics II	3 s.h.

### **Bachelor of Science in Astronomy**

The Bachelor of Science in astronomy requires a minimum of 120 s.h., including 64 s.h. of work for the major. It provides a balanced and integrated program of astronomy, mathematics, and physics courses that prepare students for advanced study in astronomy or astrophysics. It also serves as an interesting choice of major for a liberal arts education.

The B.S. in astronomy requires the following courses or their equivalents. Students also must complete the College of Liberal Arts and Sciences General Education Program.

#### **MATHEMATICS**

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:028 Calculus III	4 s.h.

#### **OTHER REQUIRED COURSES**

All of these:

029:027-029:028 Physics I-II	8 s.h.
029:029-029:030 Physics III-IV	8 s.h.
029:061-029:062 General Astronomy I-II	8 s.h.
029:115 Intermediate Mechanics	3 s.h.
029:119-029:120 Introduction to Astrophysics I-II (classes are offered alternate years, students are responsible for registering when the class is available)	6 s.h.
029:129-029:130 Electricity and Magnetism I-II	6 s.h.
029:137 Astronomical Laboratory (classes are offered alternate years, students are responsible for registering when the class is available)	3 s.h.
029:140 Introduction to Quantum Mechanics I	3 s.h.

One of these:

029:128 Electronics	4 s.h.
029:132 Intermediate Laboratory	3 s.h.

One of these:

029:141 Introduction to Quantum Mechanics II	3 s.h.
029:194 Plasma Physics I	3 s.h.

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, by taking one or more of the courses listed below. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. or B.S. may apply a maximum of 50 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 50 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students earning a B.S. with a double major in physics and astronomy may count more than 50 s.h. earned in the Department of Physics and Astronomy to the 120 s.h. required for graduation, but they must earn at least 56 s.h. in course work outside the department in order to graduate.

029:118 Statistical Physics	3 s.h.
029:141 Introduction to Quantum Mechanics II	3 s.h.
029:171-029:172 Mathematical Methods of Physics I-II	6 s.h.
029:180 Introductory Optics	3 s.h.
029:186 Radio Astronomy	3 s.h.
029:192 Elementary Particles and Nuclear Physics	3 s.h.
029:194-029:195 Plasma Physics I-II	6 s.h.

### **Bachelor of Arts in Astronomy**

The Bachelor of Arts in astronomy requires a minimum of 120 s.h., including 52 s.h. of work for the major. It is designed for students who wish to gain considerable knowledge of astronomy but who do not plan a research-oriented career in the field. The B.A. is appropriate for those planning careers in secondary school science teaching or science-related administration; see Science Education (College of Liberal Arts and Sciences) in the Catalog. It also is appropriate for those preparing for professional school. The B.A. requires fewer physics and mathematics courses than the B.S., and thus provides for a wider choice of electives.

The B.A. in astronomy requires the following courses or their equivalents. Students also must complete the College of Liberal Arts and Sciences General Education Program.

All of these:

22M:025-22M:026 Calculus I-II	8 s.h.
029:027-029:028 Physics I-II	8 s.h.
029:029-029:030 Physics III-IV	8 s.h.
029:061-029:062 General Astronomy I-II	8 s.h.
029:115 Intermediate Mechanics	3 s.h.
029:119-029:120 Introduction to Astrophysics I-II	6 s.h.
029:132 Intermediate Laboratory	3 s.h.
029:137 Astronomical Laboratory	3 s.h.

One of these:

029:118 Statistical Physics	3 s.h.
029:180 Introductory Optics	3 s.h.

One of these:

029:128 Electronics	4 s.h.
---------------------	--------

029:129 Electricity and Magnetism I (requires vector calculus as prerequisite)

3 s.h.

## **B.A. or B.S. with Double Major in Physics and Astronomy**

Students working toward a Bachelor of Arts or Bachelor of Science with a double major in physics and astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Earning a Degree in the [CLAS Academic Handbook](#).

### **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

#### **B.A. in Astronomy**

**Before the third semester begins:** math through calculus I and II, physics I and II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** physics III and IV, at least one more course in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** three more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** nine courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

#### **B.S. in Astronomy**

**Before the third semester begins:** calculus I and II, physics II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** remainder of the required math courses, physics III and IV, two other courses in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** four more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

#### **B.A. in Physics**

**Before the third semester begins:** calculus II, physics II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** physics III and IV, up to four more courses in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** two to four more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two or three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

#### **B.S. in Physics**

**Before the third semester begins:** calculus II, physics II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** physics III and IV, introduction to linear algebra, calculus III, up to two more courses in the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** two to four more courses in the major and at least three-quarters of the



semester hours required for graduation

**Before the eighth semester begins:** two or three more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.S. in Applied Physics**

The Four-Year Graduation Plan is not available for the major in applied physics. Students should work with their advisors to develop individual graduation plans.

### **Honors**

Junior and senior physics and astronomy majors who are members of the University of Iowa Honors Program may take 6-8 s.h. of 029:099 Undergraduate Research and conduct an investigation with the guidance of a faculty member as part of their programs for the B.A. or B.S. with honors in physics, applied physics, or astronomy. They must present a written research report (honors thesis) and describe the results of the research at a departmental seminar.

Membership in the University of Iowa Honors Program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

### **Minor in Physics**

The minor in physics requires a minimum of 15 s.h. in physics, including 12 s.h. taken at The University of Iowa, chosen from 029:029 Physics III, 029:030 Physics IV, and 100-level physics courses. Students must maintain a g.p.a. of at least 2.00 for all work in the minor. Course work in the minor may not be taken pass/nonpass. Before enrolling in 029:029 Physics III students must complete that course's prerequisites (029:027 Physics I and 029:028 Physics II, or 029:081 Introductory Physics I and 029:082 Introductory Physics II).

There is no minor offered in applied physics.

### **Minor in Astronomy**

The minor in astronomy requires a minimum of 15 s.h. in astronomy and physics courses, including 12 s.h. of upper-level course work and 12 s.h. taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 for all work in the minor. Course work in the minor may not be taken pass/nonpass.

The upper-level course work must include 6 s.h. chosen from 029:119 Introduction to Astrophysics I, 029:120 Introduction to Astrophysics II, and 029:137 Astronomical Laboratory. Remaining work may be chosen from any 100-level astronomy or physics courses.

## **Graduate Programs**

The department offers a Master of Science and a Doctor of Philosophy in physics, and a Master of Science in astronomy. Students who wish to pursue a program in astronomy beyond the M.S. may qualify for a Ph.D. in physics with a specialization and dissertation in astronomy or astrophysics. An M.S. is not prerequisite to a Ph.D.

All graduate students who intend to pursue a Ph.D. in physics must pass the qualifying exam (see "Doctor of Philosophy in Physics").

Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress.

The Department of Physics and Astronomy participates in an interdisciplinary doctoral program, the Program in Applied Mathematical and Computational Sciences (see Graduate College in the Catalog).

### **Master of Science in Physics**

The Master of Science in physics requires a minimum of 30 s.h. of graduate credit. It is offered with thesis or critical essay. The M.S. with thesis requires a thesis based on an original experimental or theoretical investigation by the student. The M.S. with critical essay requires a critical essay on the literature of a particular area of physics.

The M.S. may be a terminal degree or a step toward a Ph.D. In either case, the final examination is oral, conducted by a committee of three faculty members.

Each student's plan of study should provide for as much advanced work as his or her aptitude and previous preparation permit.

Students in the physics M.S. with thesis program earn the required 30 s.h. of graduate credit in courses numbered 170 or above, with at least 15 s.h. at the 200 level. They must maintain a g.p.a. of at least 3.00. Each student also must write a thesis based on an original experimental or theoretical investigation that he or she has conducted. Students may earn a maximum of 6 s.h. in 029:220 Individual Critical Study or 029:281 Research: Physics. Up to one-third of the graduate program may be taken in related scientific fields other than physics and mathematics (e.g., chemistry, astronomy, geology, engineering).

Students in the physics M.S. with critical essay program earn the required 30 s.h. of graduate credit in courses numbered 170 or above, with at least 15 s.h. at the 200 level. They must maintain a g.p.a. of at least 3.00. Each student also must conduct an independent study of the literature on a chosen topic and write a critical essay on that topic. Students may earn a maximum of 4 s.h. in 029:220 Individual Critical Study or 029:281 Research: Physics. Up to one-third of the graduate program may be taken in related scientific fields other than physics and mathematics (e.g., chemistry, astronomy, geology, engineering).

## Master of Science in Astronomy

The Master of Science in astronomy requires a minimum of 30 s.h. of graduate credit. It is offered either with or without thesis. The M.S. may be a terminal degree or a step toward a Ph.D. in physics with specialization and a dissertation in astronomy or astrophysics. In either case the final examination is oral, conducted by a committee of three faculty members.

Students in the astronomy M.S. with thesis program earn the required 30 s.h. in courses numbered 170 or above, with at least 15 s.h. at the 200 level. They must maintain a g.p.a. of at least 3.00. The 30 s.h. must include at least 6 s.h. chosen from 029:232 Theoretical Astrophysics I, 029:233 Theoretical Astrophysics II, 029:234 Stellar Structure and Evolution, and 029:235 Special Topics in Astrophysics. Students may earn a maximum of 6 s.h. in 029:220 Individual Critical Study and 029:282 Research: Astronomy. Seminars do not count for credit toward the 30 s.h. requirement. Up to one-third of the course work may be in graduate courses in related fields, such as meteorology, geology, and electrical engineering; selection of such courses is encouraged.

Students in the astronomy M.S. nonthesis program earn 18 s.h. of the required 30 s.h. in the core graduate courses 029:029:205 Classical Mechanics, 029:213 Classical Electrodynamics I, 029:214 Classical Electrodynamics II, 029:232 Theoretical Astrophysics I, 029:233 Theoretical Astrophysics II, 029:234 Stellar Structure and Evolution, and 029:235 Special Topics in Astrophysics. Students must maintain a g.p.a. of at least 3.00 in the core graduate courses. They may earn a maximum of 4 s.h. in 029:220 Individual Critical Study and 029:282 Research: Astronomy. Seminars do not count toward the required 30 s.h. Up to one-third of the course work may be in graduate courses in related fields, such as meteorology, geology, and electrical engineering; selection of such courses is encouraged.

## Doctor of Philosophy in Physics

The Doctor of Philosophy in physics requires a minimum of 72 s.h. of graduate credit.

Graduate students who wish to pursue a Ph.D. in physics must pass a qualifying examination in all principal areas of physics at the level of advanced undergraduate work. The examination, which may be repeated only once, is given each year before the beginning of the spring semester. Students must pass the qualifying examination before the beginning of their fourth semester of graduate work at The University of Iowa.

All Ph.D. students must take comprehensive examinations; participate in advanced seminars; do original research in experimental physics, theoretical physics, or astrophysics; and prepare and defend a written dissertation based on this work.

The program of study for the Ph.D. with a major in physics includes thorough course work in both classical and quantum physics for all students, whether their specialized research is to be in an experimental or a theoretical area.

Students must take at least 24 s.h. of 200-level courses in the department, excluding 029:220 Individual Critical Study, 029:281 Research: Physics, 029:282 Research: Astronomy, and seminars. The following courses are required.

029:171-029:172 Mathematical Methods of Physics I-II (students who pass a written examination are exempt from the requirement to take this sequence)	6 s.h.
029:205 Classical Mechanics	3 s.h.
029:212 Statistical Mechanics I	3 s.h.
029:213-029:214 Classical Electrodynamics I-II	6 s.h.
029:245-029:246 Quantum Mechanics I-II	6 s.h.

Advanced mathematics, such as complex variables and tensor analysis, is used freely in these courses. An introduction is given in 029:171 Mathematical Methods of Physics I and 029:172 Mathematical Methods of Physics II. The selection of less advanced course work depends on the adequacy of a student's preparation for graduate work; students' choice of more advanced and specialized courses depends on the direction in which their interests develop.

After a student has chosen a research specialty, he or she must submit a formal thesis proposal and defend the proposal in an oral comprehensive exam. The appropriate thesis advisor then becomes the candidate's general advisor and the chair of the comprehensive and final examination committee. The comprehensive exam must be taken before the beginning of the fourth year of graduate study.

Ph.D. candidates are not recommended for the degree until they have written the dissertation in proper form for formal publication and have submitted it for publication, with the approval of the research advisor, to a widely distributed, refereed scientific journal.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## **Financial Support**

Students qualified for graduate study are encouraged to apply for fellowships and assistantships. Contact the Department of Physics and Astronomy chair.

## **Research, Facilities**

The department has an excellent library and a number of well-equipped laboratories and observatories, as well as a student computer cluster for which students can obtain accounts. Faculty, students, and staff access national supercomputers via the Internet. The central machine shop is fully equipped and staffed by skilled instrument makers and machinists, and there are electronics and machine shops for use by advanced students and research staff.

Experimental research is conducted in astronomy (optical, radio, and X-ray), atomic and molecular physics, condensed matter physics, elementary particle physics, laser physics, medical physics, plasma physics, and space physics. Extensive facilities are available for construction of specialized research equipment and for data processing and analysis.

State-of-the-art semiconductor materials and devices are grown in two molecular beam epitaxy machines. Ultrafast laser techniques are developed and used to probe electron transport, energy relaxation, recombination, and spin dynamics in the novel nanostructures grown in these machines. Experiments also are conducted on laser-induced coherent phenomena and coherent control of charge carriers in semiconductor nanostructures. The experimental condensed matter program is closely coordinated with the condensed matter theory group.

Plasma physics is an active area of experimental and theoretical research. Laboratory experiments studying plasma processes of importance in various space and astrophysical plasmas are performed in a Q machine, including experiments on waves and instabilities in dusty plasmas. Additional laboratory and microgravity experiments with dusty plasmas include studies of Coulomb crystals, shocks, and complex fluids. Glow discharges for plasma processing applications are studied using laser diagnostics and numerical simulations. Wave propagation and plasma particle dynamics also are studied in collisionless plasmas through laboratory experiments. Laser techniques are developed for measuring plasma flow and following particle orbits. Plasma theory efforts include analytical and numerical investigations of magnetic reconnection and turbulence in space and astrophysical plasmas; collaboration with laboratory and space plasma experimental groups in strongly coupled dusty plasmas, waves, and instabilities; and free electron lasers and hydrodynamic turbulence.

State-of-the-art laser systems are available for high-resolution spectroscopic measurement and ultrafast studies of molecular structure, for collisional relaxation and nonlinear optical effects in atomic and molecular systems, and for plasma diagnostics.

Experimental research in elementary particle physics is carried out at Fermi National Accelerator Laboratory, Stanford Linear Accelerator Center, CERN in Switzerland, and other international laboratories. The present generation of high-energy experiments has been designed to probe both the strong nuclear force and the weak interactions.

The department is well-equipped for research and instruction in observational astronomy. The primary optical instrument is a fully automated 15-inch telescope at a dark-sky site in Arizona. The telescope is equipped with CCD cameras and a variety of filters. There are 3-meter and 4.5-meter radio telescopes on the roof of Van Allen Hall, which are used for instruction and student research projects.

Research programs in galactic and extragalactic radio astronomy are carried out using the facilities of the National Radio Astronomy Observatory, including the Very Large Array and the Very Long Baseline Array, one element of which is 10 miles north of campus. Current long-term research activities include studies of the center of the Milky Way galaxy; investigations of extragalactic radio sources; the formation of powerful winds in young, luminous stars; radio-wave scattering in the interstellar and interplanetary media; and interacting binary stars. A research program in X-ray astronomy has been established, and there is a laboratory for instrument development. Research topics in X-ray astronomy concentrate on observations of X-ray emission from black holes and supernova remnants, using existing spacecraft.

Active theoretical research is carried on in astrophysics; atomic, molecular, and optical physics; condensed matter physics; elementary particle physics; laser physics; mathematical physics; nuclear physics; plasma physics; and space physics. An active mathematical physics seminar fosters the exchange of ideas between mathematics and physics.

The primary emphasis of Iowa's program in experimental and theoretical space physics is on studies of cosmic and heliospheric physics, magnetospheric physics, and magnetosphere-ionosphere interactions. Facilities are available for designing and constructing spaceflight instruments. Investigators in the department have flown instruments for studying plasmas, energetic charged particles, auroral images, plasma waves, and radio emissions on a wide variety of terrestrial and planetary spacecraft, including Pioneer 10 and 11, Dynamics Explorer, Voyager 1 and 2, Galileo, Polar, Cassini, and Mars Express.

## Physics and Astronomy Courses

Prerequisites and corequisites are specified as guides and may be waived by the instructor. Courses 029:002 Nanoscience, 029:003 From Quarks to Quasars, 029:006 Physics of Everyday Experience, 029:008 Basic Physics, 029:011 College Physics I, 029:012 College Physics II, 029:027 Physics I, 029:028 Physics II, 029:044 Physics of Sound, 029:050 Stars, Galaxies, and the Universe, 029:051 Introductory Astronomy Laboratory, 029:052 Exploration of the Solar System, 029:061 General Astronomy I, 029:062 General Astronomy II, 029:081 Introductory Physics I, 029:082 Introductory Physics II, and 029:084 Introductory Physics II Lab are approved for the natural sciences component of College of Liberal Arts and Sciences General Education Program.

### Physics, Primarily for Undergraduates

- 029:001 Selected Topics in Physics** arr.
- 029:002 Nanoscience** 3 s.h.  
Properties of very small materials and structures; unique properties emerging at a length scale of one billionth of a meter, or one nanometer. GE: Natural Sciences.
- 029:003 From Quarks to Quasars** 3-4 s.h.  
Conceptual explanation of the latest discoveries in physics--from the smallest objects, such as quarks and atoms, to the largest, such as galaxies, black holes, and quasars. Requirements: nonscience major. GE: Natural Sciences.
- 029:006 Physics of Everyday Experience** 3 s.h.  
Principles of physics for nonscience majors; basic motion, behavior of fluids, waves, temperature and heat, gravity and planetary motion, electricity and magnetism, optics, nuclear energy, radioactivity, and medical imaging technology; examples from everyday experience. GE: Natural Sciences.
- 029:008 Basic Physics** 3-4 s.h.  
Quantitative treatment of mechanics, electricity, heat, liquids, gases, and atomic, nuclear, and elementary particle physics. Prerequisites: 22M:005. Recommendations: closed to students who have taken 029:011 or 029:012. GE: Natural Sciences.
- 029:011 College Physics I** 4 s.h.  
Mechanics, waves, thermodynamics, special relativity. Prerequisites: 22M:005. GE: Natural Sciences.
- 029:012 College Physics II** 4 s.h.  
Continuation of 029:011; electricity, magnetism, light, modern physics. Prerequisites: 029:011. GE: Natural Sciences.
- 029:027 Physics I** 4 s.h.  
Newtonian mechanics for point particles and rigid bodies; conservation laws. Offered fall semesters. Corequisites: 22M:025. Requirements: physics or astronomy major. GE: Natural Sciences.

- 029:028 Physics II** 4 s.h.  
Continuation of 029:027; introduction to fluid mechanics, electricity, magnetism (Maxwell's equations). Offered spring semesters. Prerequisites: 029:027. Corequisites: 22M:026. Requirements: physics or astronomy major. GE: Natural Sciences.
- 029:029 Physics III** 4 s.h.  
Continuation of 029:028; electromagnetic waves, optics; mechanical and sound waves; thermal physics. Offered fall semesters. Prerequisites: 029:028.
- 029:030 Physics IV** 3-4 s.h.  
Introduction to quantum mechanics and other topics in modern physics, including special relativity, atomic and solid state physics. Offered spring semesters. Prerequisites: 22M:026 and 029:029. Requirements: 3 s.h. only for nonmajors.
- 029:039 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first-or second-semester standing.
- 029:044 Physics of Sound** 3-4 s.h.  
Acoustical foundations of music; production of sound by vibrating objects, properties of sound waves, vocal acoustics, hearing, room acoustics, principles of electroacoustics. GE: Natural Sciences.
- 029:081 Introductory Physics I** 4 s.h.  
Mechanics, waves, thermodynamics. Corequisites: 22M:025 or 22M:031. GE: Natural Sciences.
- 029:082 Introductory Physics II** 3-4 s.h.  
Continuation of 029:081; electricity, magnetism, light. Prerequisites: 029:081. Corequisites: 22M:026 or 22M:032. GE: Natural Sciences.
- 029:084 Introductory Physics II Lab** 1 s.h.  
Laboratory for 029:082. Requirements: 3 s.h. in 029:082. GE: Natural Sciences.
- 029:093 Reading in Physics** arr.  
Selected topics in physics.
- 029:098 Undergraduate Seminar** arr.  
Selected topics in physics and astronomy; discussion, presentations.
- 029:099 Undergraduate Research** arr.  
Supervised research leading to written report or oral presentation.

## Physics for Undergraduate and Graduate Students

- 029:103 Reading in Physics** arr.  
Selected topics in physics.
- 029:105 Special Topics in Physics** arr.
- 029:115 Intermediate Mechanics** 3 s.h.  
Newtonian mechanics; noninertial reference systems; central forces, celestial mechanics; rigid body motion; Lagrangian, Hamiltonian equations of motion; small oscillations. Prerequisites: 22M:026, and 029:011 or 029:027 or 029:081.
- 029:118 Statistical Physics** 3 s.h.  
Integrated introduction to subjects of thermodynamics, statistical mechanics, kinetic theory; emphasis on applications. Prerequisites: 029:030 or 029:083, and 029:115.
- 029:128 Electronics** 4 s.h.

Design and construction of small circuits; use of measurement instruments--oscilloscope, multimeter, function generator; circuits, including transistors, operational amplifiers, digital, analog-to-digital conversion. Prerequisites: 029:012 or 029:028 or 029:082. Requirements: physics or astronomy major.

**029:129 Electricity and Magnetism I** 3 s.h.  
Electrostatics, magnetic fields, introduction to Maxwell's equations. Prerequisites: 22M:028, and 029:012 or 029:028 or 029:082.

**029:130 Electricity and Magnetism II** 3 s.h.  
Continuation of 029:129; magnetism, electromagnetic waves, A.C. circuits, applications of Maxwell's equations to wave guides, antennas, optics, plasma physics, other topics. Prerequisites: 029:129.

**029:132 Intermediate Laboratory** 3 s.h.  
Electricity; electronics; magnetism; optics; atomic, nuclear, solid state physics; techniques in data analysis, including error analysis. Prerequisites: 029:028 or 029:082, and 029:029 or 029:083. Corequisites: 029:129.

**029:133 Advanced Laboratory** 3 s.h.  
Topics in electricity; electronics; magnetism; atomic, nuclear, plasma, solid state physics; techniques in data analysis, including error analysis.

**029:140 Introduction to Quantum Mechanics I** 3 s.h.  
Superposition principle, Stern-Gerlach experiment, linear operators, measurement theory, time evolution, angular momentum, wave mechanics in one dimension, one-dimensional harmonic oscillator, two-body problems with central forces, the hydrogen atom. Prerequisites: 029:030 or 029:083, 029:115, 22M:027, and 22M:028.

**029:141 Introduction to Quantum Mechanics II** 3 s.h.  
Perturbation theory, variational methods, WKB approximation, scattering, Helium atom, periodic table, atomic spectroscopy, transition rates, other selected applications. Prerequisites: 029:140.

**029:171 Mathematical Methods of Physics I** 3 s.h.  
Functions of complex variables, integration methods, linear vector spaces, tensors, matrix algebra. Prerequisites: 22M:028.

**029:172 Mathematical Methods of Physics II** 3 s.h.  
Continuation of 029:171; Hilbert space, special functions, Fourier transform and expansions in orthogonal polynomials, differential equations, Green's functions. Prerequisites: 029:171.

**029:180 Introductory Optics** 3 s.h.  
Geometrical and physical optics; interference; diffraction; polarization; microscopic origins of macroscopic optical properties of matter; optical activity; electro-optical, magneto-optical, acousto-optical phenomena; spontaneous Brillouin, Raman, Rayleigh scattering. Prerequisites: 029:130. Same as 055:177.

**029:182 Electro Optics** 3 s.h.  
Wave equation solutions; optical birefringence; finite beam propagation in free space, dielectric waveguides and fibers; optical resonators; nonlinear phenomena; electro-optic, acousto-optic modulation; optical detection, noise; application to communication systems. Requirements: (for 055:179) 055:070; (for 029:182) 029:130. Same as 055:179.

**029:184 Optical Signal Processing** 3 s.h.  
Linear systems description of optical propagation; diffraction and angular plane wave spectrum; lenses as Fourier transformers, lens configurations as generalized optical processors; lasers, coherence, spatial frequency analysis; holography; convolvers, correlators, matched filters; synthetic aperture radar; optical computing. Requirements: (for 055:178) 055:070; (for 029:184) 029:130. Same as 055:178.

**029:192 Elementary Particles and Nuclear Physics** 3 s.h.  
Accelerators, particle detectors, passage of radiation through matter; nuclear structure, nuclear reactions; quark model of hadrons; strong, electromagnetic, weak interactions of elementary particles; gauge theories, intermediate vector bosons; unification of electromagnetic and weak interactions. Prerequisites: 029:140.

**029:193 Introductory Solid State Physics** 3 s.h.

Phenomena associated with solid state; classification of solids and crystal structures, electronic and vibrational properties in solids; thermal, optical, magnetic, dielectric properties of solids. Prerequisites: 029:140 and 22M:028. Same as 055:173.

### **029:194 Plasma Physics I**

3 s.h.

Physics of ionized gases, including orbit theory, guiding center motion, adiabatic invariants, ionization balance description of plasmas by fluid variables and distribution functions; linearized wave motions, instabilities; magnetohydrodynamics. Prerequisites: 029:130.

### **029:195 Plasma Physics II**

3 s.h.

Continuation of 029:194; linear, nonlinear solutions of the Vlasov equation, kinetic theory of plasmas, including Landau damping and velocity space instabilities. Prerequisites: 029:194.

### **029:196 Computational Physics**

3 s.h.

Introduction to contemporary use of computers by physicists; topics such as numerical solutions of ordinary differential equations in classical mechanics, boundary value problems in electricity and magnetism, eigenvalue problems in quantum mechanics, Monte Carlo simulations in statistical mechanics, methods of data analysis. Prerequisites: 029:115, 029:129, and 029:140.

## **Physics, Primarily for Graduate Students**

### **029:202 Workshops and Special Training in Physics**

arr.

Workshops and special training opportunities for postbaccalaureate students; may include collaborations with other departments, institutions, or externally funded research organizations. Repeatable.

### **029:205 Classical Mechanics**

3 s.h.

Dynamics of mass points; Lagrange multipliers, small oscillations, Hamilton's equations; canonical transformations, Hamilton-Jacobi theory; chaos. Prerequisites: 029:115.

### **029:206 Nonlinear Dynamics**

3 s.h.

Deterministic approach of turbulence and chaotic dynamical systems; qualitative theory of ordinary differential equations, perturbation in classical mechanics, ergodicity, bifurcation, universal properties of discrete maps, intermittency, fractals, quantitative characterizations of chaos.

### **029:212 Statistical Mechanics I**

3 s.h.

Probability concepts; kinetic equations; classical and quantum equilibrium statistical mechanics with applications, including ideal and imperfect gases and phase transitions, irreversible processes, fluctuation-dissipation theorems. Prerequisites: 029:118 and 029:140.

### **029:213 Classical Electrodynamics I**

3 s.h.

Advanced electromagnetostatics, boundary value problems, Green's functions, Maxwell's equations, radiation theory, physical optics, multipole expansion of radiation field. Prerequisites: 029:130.

### **029:214 Classical Electrodynamics II**

3 s.h.

Special relativity, motion of charges in fields, theories of radiation reaction, special topics. Prerequisites: 029:213.

### **029:220 Individual Critical Study**

arr.

Essay on topic chosen in consultation with faculty member. Requirements: candidacy for M.S. with critical essay.

### **029:222 Nonlinear Optics**

3 s.h.

Classical treatment of second- and third-order optical nonlinearities; phase matching, harmonic generation, three- and four-wave mixing, self-focusing, self-phase modulation, stimulated scattering of light, applications. Requirements: (for 029:222) 029:130; (for 055:276) 029:130 or 055:170. Same as 055:276.

### **029:224 Laser Principles**

3 s.h.

Laser theory, stimulated emission, dispersion theory, broadening mechanisms, rate equations, gain saturation, optical resonators, mode-locking, Q-switching techniques, survey of laser types, modes of operation. Requirements: (for 029:224) 029:130; (for 055:274) 055:170. Same as 055:274.

- 029:225 Special Topics in Physics** arr.  
Repeatable.
- 029:228 Topics in Quantum Electronics** 3 s.h.  
Quantum optics, optical properties of matter, laser science, photonics. Repeatable.
- 029:229 Semiconductor Physics** 3 s.h.  
Electronic, optical, and materials properties of semiconductors. Prerequisites: 029:193 and 029:246. Same as 055:273.
- 029:240 Medical Physics** 4 s.h.  
Characteristics of X-ray machines, nuclear accelerators, teletherapy devices; properties of X-rays and gamma rays, their interaction with matter; radiation exposure, depth dose measurements; radiation therapy. Offered spring semesters of even years. Requirements: 8 s.h. of physics. Same as 077:211.
- 029:245 Quantum Mechanics I** 3 s.h.  
Nonrelativistic quantum mechanics, Schrödinger wave mechanics, Hilbert space methods, perturbation theory, scattering, spin and angular momentum, identical particles, selected applications, introduction to relativistic theory. Prerequisites: 029:140 and 029:141.
- 029:246 Quantum Mechanics II** 3 s.h.  
Continuation of 029:245. Prerequisites: 029:245.
- 029:247 Introduction to Quantum Field Theory** 3 s.h.  
Quantization of relativistic and nonrelativistic field theories, covariant perturbation theory, theory of renormalization, dimensional regularization, renormalization group theory, introduction to gauge theories and anomalies. Prerequisites: 029:246.
- 029:248 Quantum Gauge Theories** 3 s.h.  
Gauge invariance, introductory group theory, Yang-Mills theories, electroweak theory, quantum chromodynamics, running coupling constants, operator product expansions, Ward identities, spontaneous symmetry breaking, chiral anomalies, instantons, monopoles, effective Lagrangians, supersymmetry, quantum gravity, introduction to string theory. Repeatable. Prerequisites: 029:247.
- 029:261 Seminar: Plasma Physics** arr.  
Current research. Same as 055:291.
- 029:262 Seminar: Solid State Physics** arr.  
Current research.
- 029:266 Seminar: Space Physics** arr.  
Current research.
- 029:267 Seminar: Nuclear Physics** arr.  
Current research.
- 029:268 Seminar: Elementary Particle Physics** arr.  
Current research.
- 029:271 Theoretical Solid State Physics I** 3 s.h.  
Central principles of the quantum theory of solids; lattice dynamics, electronic structure, optical properties, superconductivity, magnetism; emphasis on viewpoint of elementary excitations. Prerequisites: 029:193 and 029:246.
- 029:273 General Relativity and Cosmology** 2-3 s.h.  
Einstein's theory of gravitation; applications to astrophysics and cosmology. Repeatable.
- 029:275 Particle Physics** 3 s.h.  
Elementary particle properties and phenomenology, quark-parton models, quantum chromodynamics, unified theory of weak and electromagnetic interactions. Repeatable.



**029:276 Special Topics in Quantum Mechanics**

3 s.h.

Current topics in quantum mechanics, such as string theory, relativistic quantum mechanics, quantum gravity, axiomatic quantum field theory. Repeatable.

**029:277 Special Topics in Condensed Matter**

3 s.h.

Current topics, such as superconductivity and magnetism. Repeatable. Prerequisites: 029:271.

**029:281 Research: Physics**

arr.

**029:294 Advanced Plasma Physics I**

3 s.h.

Microscopic plasma behavior: statistical mechanics of plasmas; Liouville equation; BBGKY hierarchy; Fokker-Planck equation and relaxation processes; Balescu-Lenard equation; Vlasov equation and linearized wave motion; shocks, nonlinear plasma motions, and instabilities; fluctuations and radiation processes; topics from recent literature. Repeatable.

**Astronomy, Primarily for Undergraduates****029:050 Stars, Galaxies, and the Universe**

3-4 s.h.

Survey of stars, galaxies, and the universe; life cycles of stars, including black holes and pulsars; diversity of galaxies, including the Milky Way and distant quasars; cosmology--the history, structure, and fate of the universe; current results from recent astronomical observations; night sky observation. Recommendations: closed to physics and astronomy majors. GE: Natural Sciences.

**029:051 Introductory Astronomy Laboratory**

1 s.h.

Laboratory for 029:050. Requirements: 3 s.h. in 029:050. GE: Natural Sciences.

**029:052 Exploration of the Solar System**

3 s.h.

Survey of the solar system; physical properties of the planets, comets, and asteroids; origin of the solar system; search for extrasolar planetary systems; search for life in the universe; current results of recent planetary space missions; night sky observation. Recommendations: closed to physics and astronomy majors. GE: Natural Sciences.

**029:053 Life in the Universe**

3 s.h.

Are we alone? Scientific foundations of this question, technology behind searches for extraterrestrial life in the solar system and on extrasolar planets; evolution of life on Earth, likelihood that such conditions exist elsewhere in the universe; cultural consequences of discovering extraterrestrial life. GE: Natural Sciences.

**029:061 General Astronomy I**

4 s.h.

Qualitative and quantitative introduction to the development of astronomy, celestial mechanics, time, electromagnetic radiation, telescopes and astronomical instrumentation, planets, smaller solar system objects; laboratory emphasis on observation with telescopes. Requirements: four years of high school math. GE: Natural Sciences.

**029:062 General Astronomy II**

4 s.h.

Continuation of 029:061; qualitative and quantitative introduction to properties and evolution of sun, stars, interstellar matter, galaxies; cosmology; laboratory emphasis on observation with telescopes. Requirements: four years of high school math. GE: Natural Sciences.

**029:094 Reading in Astronomy**

arr.

Selected topics in astronomy.

**Astronomy for Undergraduate and Graduate Students****029:104 Reading in Astronomy**

arr.

**029:106 Special Topics in Astronomy**

arr.

**029:119 Introduction to Astrophysics I**

3 s.h.

Fundamentals of astrophysical processes in solar system objects, stars, nebulae, interstellar medium, galaxies, cosmology; topics include stellar spectra, binary stars, interstellar gas and dust, stellar and galactic kinematics, stellar evolution, HII regions, radiation processes in galaxies and quasars, mathematical descriptions of the universe. Prerequisites: 22M:027, 22M:028, 029:030, 029:061, and 029:062. Recommendations: computer programming experience.

**029:120 Introduction to Astrophysics II**

3 s.h.

Continuation of 029:119. Prerequisites: 029:119.

**029:137 Astronomical Laboratory**

3 s.h.

Techniques and instrumentation in optical and radio astronomy. Prerequisites: 029:030, 029:061, and 029:062.

**029:186 Radio Astronomy**

3 s.h.

Survey of radio astronomy, emphasizing technical aspects; radiation, antennas, receivers, radio spectroscopy, interferometer arrays and aperture synthesis; emission mechanisms, pulsars, supernova remnants, radio galaxies.

**Astronomy, Primarily for Graduate Students****029:232 Theoretical Astrophysics I**

3 s.h.

Momentum and energy transport in stellar interiors, stellar structure and evolution, radiative transfer, theory of stellar photospheres and continuous spectra of stars, formation of absorption and emission lines.

**029:233 Theoretical Astrophysics II**

3 s.h.

The interstellar medium: optical properties of small interstellar grains, radiative processes in interstellar gas, structure of HII regions, interstellar shock waves, supernova remnants, modification of interstellar medium by luminous stars, molecular clouds.

**029:234 Stellar Structure and Evolution**

3 s.h.

Stellar interiors, nuclear astrophysics; advanced topics.

**029:235 Special Topics in Astrophysics**

1-3 s.h.

Advanced lectures. Repeatable.

**029:263 Seminar: Astrophysics**

arr.

Current research.

**029:282 Research: Astronomy**

arr.

Original research in observational, theoretical astronomy.

## Political Science

**Chair:** Cameron Thies

**Professors:** G. Robert Boynton, John A.C. Conybeare, Vicki L. Hesli, Michael S. Lewis-Beck (F. Wendell Miller Distinguished Professor of Political Science), John S. Nelson, William M. Reisinger, Tom W. Rice, Wenfang Tang, Caroline Tolbert

**Professors emeriti:** Joel D. Barkan, Alfonso J. Damico, Chong Lim Kim, Gerhard Loewenberg, Douglas K. Madsen

**Associate professors:** Frederick J. Boehmke, Cary R. Covington, Douglas Dion, Timothy M. Hagle, Kelly M. Kadera, Brian H. Lai, Sara Mitchell, Cameron Thies

**Assistant professors:** Peter Hatemi, Christian Jensen, Kyle Mattes, Tracy Osborn, Rene Rocha, Thania Sanchez, Jae-Jae Spoon, Erica Townsend-Bell

**Undergraduate degrees:** B.A., B.S. in Political Science

**Undergraduate nondegree program:** Minor in Political Science

**Graduate degrees:** M.A., Ph.D. in Political Science

**Web site:** <http://www.polisci.uiowa.edu>

## Undergraduate Programs

The department offers a Bachelor of Arts, a Bachelor of Science, and a minor in political science.

### Bachelor of Arts

The Bachelor of Arts in political science requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all political science courses taken at The University of Iowa, and in all political science courses taken at other institutions and at the University combined. Students must complete the College of Liberal Arts and Sciences General Education Program.

Students must earn at least 12 s.h. of the 33 s.h. required for the major in political science courses at The University of Iowa. Credit earned in 030:029 First-Year Seminar and 030:191 Government Internship cannot be applied to the major, but grades in these courses become part of a student's grade-point average.

In planning course work, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. or B.S. may apply a maximum of 50 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 50 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

The B.A. major requires the following course work.

030:001 Introduction to American Politics 3 s.h.

Four of these:

030:020 Introduction to Politics 3 s.h.

030:030 Introduction to Political Thought and Political Action 3 s.h.

030:041 Introduction to the Politics of Russia and Eurasia 3 s.h.

030:043 Introduction to Politics in the Muslim World 3 s.h.

030:045 Introduction to Comparative Politics 3 s.h.

030:050 Introduction to Political Behavior 3 s.h.

030:060 Introduction to International Relations 3 s.h.

030:061 Introduction to American Foreign Policy 3 s.h.

030:070 Introduction to Political Communication 3 s.h.

Political science courses numbered 100 or above (at least 12 s.h. must be taken in regularly scheduled classroom work) 18 s.h.

Courses 030:185 Honors Research Project, 030:186 Honors Senior Thesis, 030:190 Independent Study, 030:191 Government Internship, 030:193 Undergraduate Research Tutorial, and 030:194 Senior Research Project/Paper do not count toward the 12 s.h. taken in regularly scheduled classroom work.

For more detailed descriptions of the undergraduate programs in political science, see Guide to Undergraduate Study in Political Science, available in the department's office and on its web site.

### Emphases in Political Science

Students may elect to complete one or more emphases while fulfilling the requirements for the B.A. or B.S. If a student completes an emphasis and requests recognition from the department, the emphasis is indicated on the transcript at graduation.

Each emphasis consists of four courses. Emphases are available in American institutions, American political practice, international relations, law and politics, identity politics, political communication, political economy, political processes, political theory, politics of democratization, politics of developing areas, and politics of industrial democracies. For lists of courses approved in each area, contact the Department of Political Science. For more information consult the Guide to Undergraduate Study in Political Science.

## Bachelor of Science

The Bachelor of Science in political science requires a minimum of 120 s.h., including 44 s.h. of work for the major (33 s.h. in political science courses and 11 s.h. of approved mathematics/statistics courses). Students must maintain a g.p.a. of at least 2.00 in all political science courses taken at The University of Iowa, and in all political science courses taken at other institutions and at the University combined. Students must complete the College of Liberal Arts and Sciences General Education Program.

Students must earn at least 12 s.h. of the 33 s.h. political science courses required for the major at The University of Iowa. Credit earned in 030:029 First-Year Seminar and 030:191 Government Internship cannot be applied to the major, but grades in these courses become part of a student's grade-point average.

In planning course work, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. or B.S. may apply a maximum of 50 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 50 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

The B.S. major requires the following course work.

030:001 Introduction to American Politics	3 s.h.
---	--------

Four of these:

030:020 Introduction to Politics	3 s.h.
030:030 Introduction to Political Thought and Political Action	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:045 Introduction to Comparative Politics	3 s.h.
030:050 Introduction to Political Behavior	3 s.h.
030:060 Introduction to International Relations	3 s.h.
030:061 Introduction to American Foreign Policy	3 s.h.
030:070 Introduction to Political Communication	3 s.h.

One of these:

030:185 Honors Research Project (for honors students)	3 s.h.
030:193 Undergraduate Research Tutorial	3 s.h.

All of these:

030:100 Understanding Political Research	3 s.h.
Additional political science courses at the 100 level	12 s.h.

Students must complete at least 12 s.h. of 100-level courses, including 030:100 Understanding Political Research, in regularly scheduled classroom work. The 12 s.h. may not include 030:185 Honors Research Project, 030:186 Honors Senior Thesis, 030:190 Independent Study, 030:191 Government Internship, 030:193 Undergraduate Research Tutorial, and 030:194 Senior Research Project/Paper.

One of the sets of three mathematics courses listed under "Approved Math/Statistics Courses"	11 s.h.
--	---------

Recommended but not required:

030:194 Senior Research Project/Paper	3 s.h.
---------------------------------------	--------

**APPROVED MATH/STATISTICS COURSES**

The following sets of mathematics/statistics courses are approved for the B.S. Other sets of courses may be used with written approval of the B.S. advisor.

**Set 1:**

22M:017 Calculus and Matrix Algebra for Business (22M:025 or 22M:031 can be substituted)	4 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.
22S:148 Intermediate Statistical Methods	4 s.h.

**Set 2:**

06E:071 Statistics for Strategy Problems	3 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

**Set 3:**

22M:025 Calculus I (22M:031 can be substituted)	4 s.h.
22M:026 Calculus II (22M:032 can be substituted)	4 s.h.
22S:102/07P:143 Introduction to Statistical Methods	3 s.h.

For more detailed descriptions of the undergraduate programs in political science, see Guide to Undergraduate Study in Political Science, available in the department's office and on its web site.

**Emphases in Political Science**

Students may elect to complete one or more emphases while fulfilling the requirements for the B.A. or B.S. If a student completes an emphasis and requests recognition from the department, the emphasis is indicated on the transcript at graduation.

Each emphasis consists of four courses. Emphases are available in American institutions, American political practice, international relations, law and politics, identity politics, political communication, political economy, political processes, political theory, politics of democratization, politics of developing areas, and politics of industrial democracies. For lists of courses approved in each area, contact the Department of Political Science. For more information consult the Guide to Undergraduate Study in Political Science.

**B.A. or B.S. with Teacher Licensure**

Undergraduates planning to emphasize political science in their teacher training should consult the College of Education for requirements.

The course 030:001 Introduction to American Politics fulfills the requirement for Iowa teacher licensure.

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Bachelor of Arts**

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** six courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** eight courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Bachelor of Science

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester:** eight courses in the major, including two of the three required mathematics/statistics courses and 030:100 Understanding Political Research, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 11 courses in the major, including 030:193 Undergraduate Research Tutorial

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## B.A. and B.S. with Honors

In addition to the checkpoints for the B.A. and B.S. degrees, honors candidates must complete 030:180 Honors Seminar on the Study of Politics before the seventh semester begins.

## Honors

The program leading to a B.A. or B.S. with honors is open to students with a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in political science. To graduate with honors, students must maintain a g.p.a. of at least 3.50 in political science and a cumulative UI g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). The program requires only 9 s.h. of 100-level honors course work with a grade of B or higher in each course, but students are encouraged to take 100-level honors seminars as often as possible. Students also are encouraged to take honors sections of introductory courses whenever available.

Honors students must complete 030:180 Honors Seminar on the Study of Politics, preferably as sophomores. They also must take at least one additional honors seminar (030:181 Honors Seminar on American Politics, 030:182 Honors Seminar on Political Theory, 030:183 Honors Seminar on Comparative Politics, or 030:184 Honors Seminar on International Politics). This requirement also may be met by taking a 300-level course, with the instructor's consent. The last 3 s.h. required for graduation with honors in political science may be earned by completing 030:185 Honors Research Project or 030:186 Honors Senior Thesis. For more information, see the Guide to Undergraduate Study in Political Science or contact the Department of Political Science honors advisor.

## Minor

The minor in political science requires a minimum of 15 s.h. in political science courses, including 12 s.h. in 100-level courses and 12 s.h. taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Credit by exam is not accepted. Credit from 030:029 First-Year Seminar and 030:191 Government Internship does not count toward the minor. Credit earned through a University of Iowa Regents program is considered credit in residence.

Students may complete an area emphasis (see "Emphases in Political Science"); however, emphasis areas in the minor are not recorded on the transcript. Students may request a letter from the Department of Political Science noting the completion of an emphasis area in the minor.

## National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of course work in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

## Graduate Programs

The department offers a Master of Arts and a Doctor of Philosophy in political science. The Ph.D. program is designed for students planning academic careers. The department usually offers the master's degree only as a preliminary step toward the Ph.D.

## Master of Arts

The Master of Arts in political science requires a minimum of 30 s.h. of graduate credit, with a g.p.a. of at least 3.25. No thesis is required. Each student's record is reviewed by a final examination committee, which may waive the final oral examination. If the evaluation committee convened at the end of the student's first year of courses finds that a

student's work provides sufficient evidence of the research and writing skills ordinarily demonstrated in a master's thesis, it may recommend that the student be allowed to proceed with a doctoral program.

When a first-year evaluation committee finds the quality of a student's work inadequate for recommending continuation toward the Ph.D., the committee may recommend that the student be permitted to seek the nonthesis M.A. as a terminal degree.

## Doctor of Philosophy

The Doctor of Philosophy in political science requires a minimum of 72 s.h. of graduate credit. The program is designed to prepare students for research, teaching, and scholarly endeavor in academic settings and private or governmental institutions. It produces graduates who are deeply committed to the study of politics, familiar with fundamental knowledge about political processes, well trained in methods and techniques for careful investigation of basic and applied research questions, and determined to make contributions to the discipline of political science and to society.

The department usually admits seven to ten Ph.D. students each year, so students work closely with faculty members, often collaborating on research and publication. Graduate students know one another and enjoy supportive, congenial working conditions.

Doctoral study usually lasts four to five years. The first-year curriculum for all students consists of core courses equally divided between substance and methodology. Emphasis is on basic research methods, including quantitative methods, that political scientists must understand thoroughly. Special attention is given to research design, collection of observations, and data analysis and interpretation.

The second and third years of study are spent in small seminars with focused, substantive topics. Papers written for these seminars might be submitted to journals or read at professional meetings. Students must take their qualifying examinations by the end of the third year. They take their comprehensive examination (oral defense of the dissertation proposal) by the middle of the first semester of their fourth year.

The fourth and fifth years are spent on dissertation research and writing. Students who do basic research and gather data abroad often require an additional year to complete the dissertation.

Six fields of study are available: American politics, comparative politics, international relations, political theory, formal theory, and for those who wish to go beyond the basic methodology training, research methods. Each student chooses three fields of study for qualifying examinations.

The Guide to Doctoral Study in Political Science, available from the Department of Political Science and on its web site, provides a comprehensive statement of departmental requirements.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Political Science Courses

### For Undergraduates

Courses numbered below 100 are introductory; those numbered 100 to 199 are advanced.

Courses 030:029 First-Year Seminar and 030:191 Government Internship cannot be applied toward the requirements for the major or minor in political science; 030:191 Government Internship is offered only satisfactory/fail.

**030:001 Introduction to American Politics** 3 s.h.  
Structure and processes; political institutions including Congress, presidency, Supreme Court, parties, interest groups, bureaucracy; discussion of framing and significance of the U.S. Constitution. GE: Social Sciences.

**030:020 Introduction to Politics** 3 s.h.  
Introduction to selected processes, institutions, or behaviors central to the study of politics.

**030:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**030:030 Introduction to Political Thought and Political Action** 3 s.h.

Common problems, literature, analytic techniques. GE: Humanities, Social Sciences.

**030:041 Introduction to the Politics of Russia and Eurasia** 3 s.h.

Russian politics; focus on problems of building new government institutions against backdrop of the communist legacy and the Soviet empire's history; newly independent states, their struggles with political change. GE: Social Sciences.

**030:043 Introduction to Politics in the Muslim World** 3 s.h.

Regime types and the process of categorization in political science; political culture and historical legacies; link between political and economic development; ideologies; political participation (individuals, parties, interest groups); public policy and the policy process (domestic and foreign); selected countries including Iran, Iraq, Egypt, Indonesia, Afghanistan, and Uzbekistan. GE: Social Sciences.

**030:045 Introduction to Comparative Politics** 3 s.h.

Politics worldwide, including all regions and levels of development; wide-ranging themes, including democratization, sustainability, role of interest groups, authoritarian regimes, electoral systems, parties. Recommendations: closed to students who have taken 030:040 or 030:042. GE: Social Sciences.

**030:050 Introduction to Political Behavior** 3 s.h.

Patterns and basis of political behavior; emphasis on common elements across social, organizational, institutional settings. GE: Social Sciences.

**030:060 Introduction to International Relations** 3 s.h.

Theoretical introduction to contemporary international relations; emphasis on security and military affairs, international political economy, politics of global environmental problems. GE: Social Sciences.

**030:061 Introduction to American Foreign Policy** 3 s.h.

Foreign policies: goals, basic themes and general patterns, problems encountered by policy makers, means employed in dealing with other nations and international organizations, processes by which policies are formulated, factors that influence structure of policies. GE: Social Sciences.

**030:070 Introduction to Political Communication** 3 s.h.

Institutions, dynamics, issues of political communities considered as networks of communication; representative topics include political actors, ads, films, media, myths, news, publics, regulations, rhetorics, symbols. GE: Social Sciences.

**030:100 Understanding Political Research** 3 s.h.

Focus on creating knowledgeable evaluators of current research in political science; interpretation of different quantitative techniques, with examples from current political science research.

**030:106 Research in Judicial Politics** 3 s.h.

Applied research training in courts and judicial politics. Prerequisites: 030:116 or 030:153 or 030:158.

**030:107 Women and Politics in the United States** 3 s.h.

Involvement of women in the U.S. political system; topics include political theories about women's involvement in politics and government, women and constitutional law, public policies that affect women, women's participation in politics at the mass and elite levels.

**030:108 Latino Politics and Immigration Policy** 3 s.h.

United States immigration policy and the political consequences of Latino population growth; contrast of political experiences of Latinos with groups and the ideals of democratic political systems.

**030:109 Election Reform** 3 s.h.

Election reform (what's wrong and what can be done to fix it); overview of challenges facing American democracy in the 21st century (low voter turnout and civic engagement, polarized political parties to growing inequality); ways of addressing challenges, including movement towards participatory democracy (direct democracy), election reform and new government institutions for the 21st century, politics and society online, e-government; organization around promising reforms (some in place, some in experimental form, some far reaching) of legislatures, presidential elections, voting, and voter registration. Requirements: no prior enrollment in 030:119 with the subtitle of Election Reform.

**030:111 Local Politics** 3 s.h.



Models of city government, relation to state and federal governments; rights, liabilities of municipalities; city elections, campaigns, issues; role of pressure groups.

**030:112 Minority Representation in American Politics** 3 s.h.

Effects of voting rights legislation, election laws, interest groups, and institutional constraints on minority representation in American politics.

**030:113 American State Politics** 3 s.h.

Approaches to analysis of political behavior in American state governments; emphasis on cultures, parties, actors, processes, issues.

**030:114 Racism and Politics in the U.S.** 3 s.h.

Evolution of white racial attitudes over time; political experiences of African Americans contrasted with other groups and the ideals of democratic political systems; effect of race on political participation, partisan affiliation, vote choice, and policy preferences.

**030:115 The Presidency** 3 s.h.

Development, current status of the office, powers, functions of American presidency; recruitment, multiple roles of chief executive; party, congressional, administrative, judicial relationships.

**030:116 American Constitutional Law and Politics** 3 s.h.

Role of U.S. Supreme Court in American political system; emphasis on analysis of Supreme Court cases.

**030:117 Political Decision Making** 3 s.h.

Political decision making processes, including executive, legislative, judicial, mass publics; decision theories from economics, psychology, political science, organizational behavior; normative and descriptive approaches to decisions made by political actors.

**030:118 American Political Development** 3 s.h.

Transformations in American political behavior and institutions over time.

**030:119 Problems in American Politics** 3 s.h.

Problems in studying American system; structures, functions, behavior.

**030:120 Public Administration and Bureaucratic Politics** 3 s.h.

Administrative and organizational theory and behavior; techniques of management; relations between administration and other branches in federal and state governments; administrative politics.

**030:121 Public Choice** 3 s.h.

Introduction to some of the most important topics in public choice (i.e., How do we explain what the public "wants"? Can we determine group preferences and group choices even if individual incentives run contrary to society's needs?); study of public choice theory problems in political science--how we determine society's preference among candidates, public policies, or even types of government.

**030:122 Politics of Representation** 3 s.h.

Theory and practice of representative government; theories of representative relationship, types of representative governments in the United States and abroad, the politics of representing constituents, minority representation in U.S. government.

**030:124 Executive-Legislative Relations** 3 s.h.

Conflict, cooperation between executive and legislative branches of U.S. government; budget politics, legislative veto, foreign policy.

**030:125 Interest Groups** 3 s.h.

Theory, organization, structure of interest groups; how they influence Congress, executive branch, courts, elections.

**030:126 American Public Policy** 3 s.h.

Functions and policies of national government; emphasis on domestic policy making, impact of public policy. Prerequisites: 030:001.

- 030:127 Political Campaigning** 3 s.h.  
Current state of political campaigning at all levels of government; history of campaigning, role of money and campaign finance reform, television and negative advertising, Internet campaigning.
- 030:128 Direct Legislation** 3 s.h.  
Direct democracy--lawmaking by the citizenry without legislative action; origins, historical perspectives, usage across politics, regulations; consequences of direct democracy; concerns about equality of access, tyranny of majority; United States, other countries.
- 030:129 Policy Matters: Perspective on Contemporary Problems** 3 s.h.  
Public policy issues in scholarly perspective; UI experts provide background introduction to weekly issues; presentations of new policy initiatives, roundtable on policy options; panels representing local, state, and national options and experience involving policy practitioners, legislators, and advocates. Same as 016:115.
- 030:130 Consequences of War** 3 s.h.  
War's enduring effects: war's impact on individuals, including combatants and noncombatants; war's impact on states, including states' development, economic, political, and social effects; war's effects on the international system.
- 030:131 Global Justice** 3 s.h.  
Introduction to normative issues in international politics (i.e., Under what conditions are wars just? When is intervention justified? Do wealthier nations owe anything to those elsewhere who are in need?); theoretical works on global justice by Rawls, Kant, Pogge, Walzer, and others; normative theories analyzed against background of empirical examples, such as recent humanitarian interventions, contemporary wars, current trade regime, global environmental problems; seminar. Requirements: may not enroll if already taken the course as a subtitle under 030:169.
- 030:132 Modern Political Theory** 3 s.h.  
Major writers and intellectual trends in political thought from Renaissance and Reformation to 19th century.
- 030:133 Postmodern Political Theory** 3 s.h.  
Major writers and intellectual trends, from 19th century to World War II.
- 030:134 Problems of Democracy** 3 s.h.  
Theory and practice of democracy; democratic ideals and the institutions and practices necessary for those ideals to work in everyday politics--power, equality, majority rule, participation, trust, representation.
- 030:136 Strategy in Politics** 3 s.h.  
How to isolate the most important elements in strategic political behavior, build models to understand them, recognize common scenarios, devise institutional resolutions to the Prisoners' Dilemma and coordination problems.
- 030:137 Introduction to Political Economy** 3 s.h.  
Economic reasoning applied to political issues, including evolution of institutions, voting, leadership, interest groups, bargaining tactics, federalism, bureaucracy, fairness and compensation for wrongs, legitimacy of democracy, electoral cycles in economic policy.
- 030:138 Current Political Theory** 3 s.h.  
Thinkers or schools of thought, from World War II to present.
- 030:139 Political Issues** 3 s.h.  
Representative topics include democracy, revolution, justice, obligation, technology, authority.
- 030:140 Government and Politics of Europe** 3 s.h.  
Political institutions, processes of selected European countries. Prerequisites: 030:040. GE: Social Sciences.
- 030:141 Russian/Post-Soviet Politics** 3 s.h.  
How the Soviet political system developed and functioned 1917-1985; transformations leading to 1991 break-up; emerging forms of government, politics in former Soviet republics. Prerequisites: 030:041. GE: Foreign Civilization & Culture.
- 030:142 European Integration** 3 s.h.

Politics of the European Union; institutional characteristics and major political issues of the European Union, including popular and national responses to European integration.

**030:143 Government and Politics of the Far East** 3 s.h.

Functions, institutions of government in countries of Far East; focus on social, economic, historical environments. GE: Foreign Civilization & Culture. Same as 039:178.

**030:144 Latin American Politics** 3 s.h.

Governmental institutions, major interest groups; focus on area as a whole. GE: Foreign Civilization & Culture.

**030:145 Latin American Political Parties** 3 s.h.

Challenges posed by recent democratization in Latin America; issues of representation and governance across Latin America's party systems; broad theoretical concepts linked to processes under way in the region.

**030:146 Russian Foreign Policy** 3 s.h.

External postures, policies and behaviors, what lies behind them; Russian perceptions of the world and national interest; internal political dynamics; military, economic, diplomatic capability; rival views of Russian foreign policy.

**030:147 Parties and Elections Around the World** 3 s.h.

Comparative approach and exploration of political parties and elections around the world; party formation and development, identification and voter behavior, competition and strategies; election outcomes; electoral systems and their consequences. Recommendations: 030:045.

**030:148 Government and Politics of China** 3 s.h.

Political development of China; rise to power of Mao's communist party, attempts to transform Chinese society; the Cultural Revolution; tensions and achievements of the reform era; whether partnership or conflict will define the China-U.S. relationship in the coming decades.

**030:149 Problems in Comparative Politics** 3 s.h.

Structures, functions, behaviors of different political systems.

**030:150 Public Policy Around the World** 3 s.h.

Institutional practices and issues surrounding policy implementation in democracies; comparative examination of the administrative politics of advanced democracies.

**030:151 Political Leadership** 3 s.h.

Foundations, effects of leadership in different political systems.

**030:152 The Legislative Process** 3 s.h.

Comparative legislative processes, behavior; focus on legislative systems analysis, legislative institutionalization, legislature and its environment, organizational constraints on legislative behavior, recruitment of legislators, web of legislative interactions, legislative voting behavior.

**030:153 The Judicial Process** 3 s.h.

Role of courts, lawyers, judges, interest groups in the American political system.

**030:154 Political Psychology** 3 s.h.

Political phenomena from psychological perspective; political behaviors of individuals, including decision making by elites and masses, evaluations of political candidates, mass mobilization, response to mass media; psychological concepts including stereotyping, social cognition, attitude, group identification.

**030:155 International Courts: The Intersection of Law and Politics** 3 s.h.

Introduction to important international courts including (Permanent) International Court of Justice, European Court of Justice, International Criminal Tribunal for Yugoslavia, International Criminal Tribunal for Rwanda, and International Criminal Court; the formation, design, and expansion of international courts from political and legal perspectives; states' capabilities, regime type, and war; intersection of domestic and international law, emphasizing the major legal systems in the world (civil law, common law, Islamic law).

**030:156 Ethnic and Religious Conflict in the Muslim World** 3 s.h.

Ethnic and religious conflict in the Muslim world; language rights, cultural preservation, and religious nationalism examined through case studies of ethnic and religious groups in countries such as Afghanistan and Iraq; conditions under which conflict becomes violent, protracted, and regionalized; strategies available to states and minority groups for resolving or managing conflicts.

**030:157 Voting Behavior and Elections**

3 s.h.

Determinants of voting behavior; correlates of political participation, political apathy; political socialization processes; nature and functions of elections.

**030:158 The Criminal Justice System**

3 s.h.

Role of actors, institutions that constitute and participate in the American criminal justice system.

**030:159 Politics Under Authoritarian Rule**

3 s.h.

Political dynamics in countries with authoritarian governing regimes; how those dynamics differ from their counterparts in democracies; how decisions are reached and get enforced; forms political struggles take; how interest groups pursue influence; ways individuals deal with the government; tension between regime control and societal progress.

**030:160 Women and Politics in Global Perspective**

3 s.h.

Women and politics in Europe and the global South; women's participation in political parties and social movements, women in the bureaucracy, women and the politics of intersectionality, feminism and the state, emergence of female gender identities.

**030:161 International Organization and World Order**

3 s.h.

How and why states have developed regularized patterns of interaction in the spheres of economics and security through international organizations and international regimes; regional integration processes, multilateralism.

**030:162 American Foreign Policies**

3 s.h.

Ends pursued, problems encountered, means employed by the United States in relations with other states and international organizations. Prerequisites: 030:061.

**030:163 Chinese Foreign Policy**

3 s.h.

Foreign policy of the People's Republic of China from its founding in 1949 to present; important events (China's entry into the Korean War, Sino-Soviet split in the 1960s, rapprochement between China and the United States in the 1970s, tensions with Taiwan in the 1990s, China's entry into the World Trade Organization); competing explanations for these turning points, theoretical approaches to the study of international relations.

**030:164 Race in World Politics**

3 s.h.

Fundamental questions about racial and ethnic politics; racial and ethnic identities and their intersection with other major social cleavages such as class, nationality, sexuality, religion, gender; concepts and use of race and ethnicity viewed through varied theoretical perspectives; contemporary events around the globe.

**030:165 International Conflict**

3 s.h.

International conflict as the primary ingredient of international politics; sources, causes, and effects of conflict, alliance structures, power distribution, geography, arms races, deterrence.

**030:166 Global Communication and Politics**

3 s.h.

How distance and language barriers in communication have fallen since 2000; how politics and the world are affected when such barriers to communication disappear.

**030:167 Politics and the Multinational Enterprise**

3 s.h.

Political factors affecting a firm's decision to go multinational; effects on home and host countries; political risk management; bargaining between states and corporations; regulation of multinationals by nation-states and international organizations; political implications of global mergers.

**030:168 Politics of Terrorism**

3 s.h.

Political motivations of terrorists; responses to terrorism, politics of prevention and preparation for terrorism; contemporary terrorist organizations, international responses to them.

**030:169 Problems of International Politics**

3 s.h.

Problems in studying international system, structures, functions, behavior.

**030:170 The Politics of International Economics**

3 s.h.

Political, historical dimensions; political aspects of trade, monetary systems, foreign investment, aid, dependency, global interdependence.

**030:171 Public Opinion**

3 s.h.

Role in making public policy; formation, change of political attitudes and opinions; political ideology; measurement of public opinion; how opinion polls are conducted; experience with interviewing and conducting public opinion research. Same as 034:153.

**030:172 France in the 21st Century**

3 s.h.

French politics from the end of the 20th century to beginning of the 21st century; history of France's Fifth Republic; institutional development; key events that influenced politics in France over the last 50 years; major issues that shape France today--citizenship, immigration, identity, France's role in the European Union, electoral and institutional reform, rise of the extreme right, role of women in French society, how protest still affects French politics.

**030:173 State Failure in the Developing World**

3 s.h.

Examine state failure in the developing world, including notable cases like Somalia and Zimbabwe; causes of state failure; potential policy interventions designed to address the consequences of state failure.

**030:174 Multimedia Politics**

3 s.h.

How increasingly universal access to communication affects political campaigning and advocacy; the use of blogging, video, and developing communication media by citizens and candidates to talk politics.

**030:175 Politics of Film**

3 s.h.

Issues in the popular politics of aesthetics, communication, culture, and myth, explored through analysis of films.

**030:176 Governance in the Middle East**

3 s.h.

Institutions and social systems that are affected by political behavior; ways in which Islam, oil production, and international forces shape political evolution in the region; comparative political inquiry of the operation of government institutions in the context of specific historical legacies, economic structures, and population characteristics in Iran, Iraq, Egypt, Turkey, Saudi Arabia.

**030:177 Globalization**

3 s.h.

Introduction to multidisciplinary literature on political economy and culture of globalization; major topics of debate on globalization.

**030:178 Causes, Consequences, and Management of Civil War**

3 s.h.

Causes, duration, management, and consequences of civil war; factors that create more frequent, longer civil wars (e.g., greed, grievance, ethnic conflict, state capacity); conflict management strategies for ending civil wars and minimizing long-term negative consequences.

**030:179 Human Rights and Asian Values**

3 s.h.

Challenges to the Universal Declaration of Human Rights and human rights theory by thinkers and politicians outside Western liberalism; crucial aspects of politics in Asia and the meaning of human rights, explored through debates between Asian skeptics and defenders of human rights.

**030:180 Honors Seminar on the Study of Politics**

3 s.h.

History, scope, methods; diverse issues, theories, techniques in systematic study. Requirements: honors standing in political science.

**030:181 Honors Seminar on American Politics**

3 s.h.

Ideas, issues, methods in selected area. Requirements: junior or senior honors standing in political science.

**030:182 Honors Seminar on Political Theory**

3 s.h.

Intensive study of ideas, issues, methods in an area of political theory. Requirements: junior or senior honors standing in political science.

**030:183 Honors Seminar on Comparative Politics**

3 s.h.

Ideas, issues, methods in selected area. Requirements: junior or senior honors standing in political science.

- 030:184 Honors Seminar on International Politics** 3 s.h.  
Ideas, issues, methods in selected area. Requirements: junior or senior honors standing in political science.
- 030:185 Honors Research Project** 3 s.h.  
Special research assistance to political science faculty. Requirements: junior or senior honors standing in political science.
- 030:186 Honors Senior Thesis** 3 s.h.  
Supervised research and writing. Requirements: honors standing in political science and more than one semester before graduation.
- 030:190 Independent Study** arr.  
Supervised special projects.
- 030:191 Government Internship** 1-3 s.h.  
Undergraduate internships in state or national legislative office, executive agency, or with election campaign official.
- 030:192 Special Topics in Politics** 1-2 s.h.  
Presentations by distinguished lecturers on topics in the study of politics not covered in other courses. One or two weeks.
- 030:193 Undergraduate Research Tutorial** 3 s.h.  
Individual training in applied research.
- 030:194 Senior Research Project/Paper** 3 s.h.  
Supervised research and writing. Requirements: major in political science and more than one semester before graduation.
- 030:195 International Law** 3 s.h.  
Introduction to field of international law from a political and legal perspective; history and contemporary status of international law in several areas: human rights, humanitarian (law of war), environmental law, trade; structure and areas of international law; ask if international law is or can it be an effective tool of international cooperation from a political science perspective; structure of the basic documents of international law and organizations, key cases in the field from a legal perspective. Requirements: may not enroll if already taken the course as a subtitle under 030:169.
- 030:197 Politics of International Human Rights Law** 3 s.h.  
Interaction between politics and international human rights law; international law and organizations, human rights, ratification of human rights treaties; theories of international law and cooperation, exposure to tools of international relations (diplomacy, trade, aid, shaming, sanctions), the role that international and domestic civil society groups play in advocating for states to commit to human rights laws.
- 030:198 Regional Peace and Security** 3 s.h.  
Analysis of the causes of peace and conflict between countries in various regions of the world; theories of zones of peace, security communities, regional security complexes.
- 030:199 New Media and Politics** 3 s.h.  
Blogging, microblogging, and video production as tools of new media (anyone can twitter and reach a large audience); how these technologies work, how they are being used in current politics, what they portend for the future, and what tools are next. Requirements: no prior enrollment in 030:139 with the subtitle New Media and Politics.

## For Graduate Students

Courses numbered 200 to 299 are core courses; those numbered 300 and above are advanced.

- 030:200 Introduction to Political Analysis** 4 s.h.  
Conceptual problems of political analysis; empirical research strategies, philosophy of science. Requirements: doctoral standing in political science.

- 030:201 Introductory Methodology** 4 s.h.  
Introduction to quantitative techniques in political science; set theory, probability distributions, estimation, testing; emphasis on acquiring mathematical skills for more advanced quantitative work in political science. Requirements: doctoral standing in political science.
- 030:205 Introduction to Formal Models in Political Science** 4 s.h.  
Use of formal mathematical models; current modeling techniques, applications in American politics, comparative politics, international politics. Requirements: doctoral standing in political science.
- 030:210 American Politics** 4 s.h.  
Major literature of American politics, emphasis on comparative, systemic, behavioral studies. Requirements: doctoral standing in political science.
- 030:230 Political Theory** 4 s.h.  
Methods of political theory, epistemological and moral foundations of political inquiry; terms of political discourse (e.g., power, legitimacy, equality, ideological foundations of politics); schools of thought and current controversies in political theory. Requirements: doctoral standing in political science.
- 030:240 Comparative Politics** 4 s.h.  
Current approaches, analysis of systems; emphasis on conceptual, methodological issues. Requirements: doctoral standing in political science.
- 030:242 Crossing Borders Seminar** 2-3 s.h.  
Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 035:273, 044:286, 048:247, 113:247, 129:231, 160:247, 181:247.
- 030:243 Crossing Borders Proseminar** 1 s.h.  
Same as 013:260, 016:244, 01H:330, 035:271, 044:287, 048:244, 113:248.
- 030:260 International Politics** 4 s.h.  
Approaches to study of international politics. Requirements: doctoral standing in political science.
- 030:301 Intermediate Methodology** 4 s.h.  
Techniques of data analysis; statistical models and their relationship to hypotheses tested. Requirements: doctoral standing in political science and one semester of intermediate statistics.
- 030:302 Writing Political Science** 4 s.h.  
Practice in planning and completing political inquiries, with emphasis on writing for scholarly publication; experience refining one's prior research projects for submission to disciplinary journals, and drafting dissertation proposals. Requirements: doctoral standing in political science.
- 030:303 Advanced Methodology** 4 s.h.  
Introduction to regression techniques for limited dependent and qualitative variables in political science; logit, probit, multinomial logit and probit, ordered logit and probit, event history models, event count models; emphasis on understanding how and when to apply these models.
- 030:304 Experimental Methods** 4 s.h.  
Methods, techniques used in political science experiments.
- 030:306 Topics in Methodology** 4 s.h.  
Application of advanced statistical techniques in political science; limited dependent variable regression techniques, simulation methods, missing data techniques, history/rare event analysis and maximum likelihood, and topics tailored to students' research; focus on learning how and when to apply these techniques. Repeatable.
- 030:307 Qualitative Methods** 4 s.h.  
Introduction to qualitative methods in political science research; interviewing, ethnographic research, process tracing, comparative historical analysis, content and discourse analysis, fuzzy set theory.
- 030:310 Modeling American Politics** 4 s.h.

Exploration of how well formal models explain the real world and how the fit between models and world can be improved.

**030:315 The Presidency** 4 s.h.

American chief executive: history, recruitment, behavior, roles, responsibilities, powers, relationships with other institutions.

**030:319 Problems in American Politics** 4 s.h.

Problems in study of American political system; structures, functions, behavior. Repeatable.

**030:339 Problems in Political Theory** 4 s.h.

Prescriptive and explanatory political theory. Repeatable.

**030:341 Democracy and Democratization** 4 s.h.

Competing conceptions of democratic governance and competing theoretical frameworks for the study of successful or attempted regime change from authoritarian rule toward democracy; emphasis on reading and critically analyzing diverse approaches.

**030:342 Religion, Ethnicity, and Politics** 4 s.h.

Theories and empirical work on the relationships between religions and politics; issues of law and political behavior, development of theoretical models in study of ethnicity and nationalism; religious and national identities in modern society, opportunity structures and resource mobilization in context of religious and national movements.

**030:343 Asian Political Systems** 4 s.h.

Democratic, transitional, and totalitarian types of government; emphasis on leadership recruitment, social control, political participation.

**030:344 European Union** 4 s.h.

Politics of the European Union; institutional characteristics and major political issues of the European Union, including popular and national responses to European integration.

**030:345 The State** 4 s.h.

Apparatus of government; major theoretical and empirical work of the state, drawn from comparative politics; state building, bureaucracy, "developmental" and "predatory" states, state-society relationships, failed states.

**030:346 Comparative Parties and Elections** 4 s.h.

Introduction to important questions and puzzles in the study of political parties; party formation and development, the role of parties in society, how parties are organized, party systems, electoral systems, party strategy and behavior, development of new parties, whether parties are still relevant, regeneration of communist parties in post-communist regimes, ethnic parties, failure of party consolidation.

**030:349 Problems of Comparative Politics** 4 s.h.

Problems in study of comparative political systems; structures, functions, behavior. Repeatable.

**030:352 Legislative Behavior** 4 s.h.

Institutions, processes, behavior in the United States, Europe, or developing countries. Repeatable.

**030:353 Political Psychology** 4 s.h.

Political phenomena from a psychological perspective; decision making by elites and masses, evaluations of political candidates, mass mobilization, response to mass media; psychological theories used to explain these behaviors, including stereotyping, social cognition, attitude, group identification, attribution.

**030:357 Public Opinion and Electoral Behavior** 4 s.h.

Political attitudes and beliefs in mass publics; voting behavior; how electoral systems function.

**030:361 Foreign Policy** 4 s.h.

Foreign policy making and international behavior in relation to theories, findings from selected countries.

**030:362 International Conflict and Cooperation** 4 s.h.



Recent theoretical and empirical debates in international relations literature; emphasis on formal and quantitative research.

**030:363 Dynamic Models of International Politics**

4 s.h.

Overview of several dynamic modeling techniques used to study international relations; modeling assumptions, the kinds of information models can provide, evaluation of models.

**030:367 Theories of International Political Economy**

1-4 s.h.

Theories focusing on international system, the state, bureaucracies, interest groups, international organizations, bargaining processes, distributive norms.

**030:368 International Systems and Global Governance**

4 s.h.

Literature of international systems and international organization; major schools of thought in international relations theory, their utility in explaining evolution of the international system and recent developments in international organization and global governance.

**030:369 Problems in International Politics**

4 s.h.

Issues of international politics, emphasis on problems of theoretical analysis. Repeatable.

**030:390 Readings Tutorial**

arr.

Independent study. Repeatable.

**030:393 Research Tutorial**

arr.

Individual training in applied research. Repeatable.

**030:398 Ph.D. Dissertation**

arr.

Repeatable.

# Psychology

**Chair:** Alan J. Christensen

**Professors:** Mark S. Blumberg (F. Wendell Miller Professor), Alan J. Christensen (Psychology/Internal Medicine), Steven W. Duck (Communication Studies/Psychology), John H. Freeman, Gary J. Gaeth (Marketing/Psychology), A. Kim Johnson (F. Wendell Miller Professor), John F. Knutson, Grazyna Kochanska (Stuit Professor of Developmental Psychology), Irwin P. Levin (Psychology/Marketing), Susan K. Lutgendorf, Cathleen M. Moore, Gregg C. Oden (Psychology/Computer Science), Michael W. O'Hara, Jane S. Paulsen (Psychiatry/Psychology), Jodie M. Plumert, John P. Spencer, Scott P. Stuart (Psychiatry/Psychology), Jerry M. Suls, Daniel T. Tranel (Neurology/Psychology), Shaun P. Vecera, Edward A. Wasserman (Stuit Professor of Experimental Psychology), Paul D. Windschitl

**Professors emeriti:** Robert S. Baron, Joan H. Cantor, Don C. Fowles, Isidore Gormezano, John H. Harvey, Lola L. Lopes, Peter E. Nathan, Rudolph W. Schulz, J. Richard Simon, Arnold M. Small

**Professor (clinical):** James N. Marchman

**Associate professors:** Erling A. Anderson (Anesthesiology/Psychology), Prahlad Gupta, Richard Eliot Hazeltine, Andrew R. Hollingworth, Erika Lawrence, René E. Martin (Nursing/Psychology), J. Toby Mordkoff, Amy Poremba, Larissa K. Samuelson

**Associate professor emerita:** Sue R. Rosner

**Adjunct associate professor:** Robert F. Kirby

**Assistant professors:** Jason K. Clark, Susan Wagner Cook, Julie J. Gros-Louis, Ryan T. LaLumiere, Kristian E. Markon, Robert M. McMurray, Lisa S. Segre (Nursing/Psychology)

**Adjunct assistant professors:** Martin Acerbo, Alex Casillas, Leyre Castro, Benjamin J. Chihak, Brian K. Gehl, Gregory L. Gullickson, James P. Howell, M. Bryant Howren, Debra L. Johnson, Ralph F. Johnson, Alireza Kashef, Shannon Ross-Sheehy, Robert L. Thunhorst, Gregory Tinkler

**Lecturer:** Lori J. Nelson

**Undergraduate degrees:** B.A., B.S. in Psychology

**Undergraduate nondegree program:** Minor in Psychology

**Graduate degrees:** M.A., Ph.D. in Psychology

**Web site:** <http://www.psychology.uiowa.edu>

## Undergraduate Programs

The department offers a Bachelor of Arts, a Bachelor of Science, and a minor in psychology. Both bachelor's degree programs are designed to contribute to students' general liberal arts education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines, and in areas such as business, medicine, law, and communications. Students who intend to enter the job market immediately after completing an undergraduate degree are well-advised to complement their psychology major with substantial preparation in another program more closely tied to the world of work (e.g., education, social work, business, journalism, nursing). Almost all vocational opportunities in psychology require advanced degrees.

The B.S. program is intended for students who plan to pursue advanced work in psychology or in a related discipline. It includes an admission grade-point average requirement and specific courses in statistics, experimental psychology, mathematics, and natural science. The B.A. program has fewer specific requirements and puts less emphasis on methodology. Both programs leave ample time for students to combine psychology with another discipline or program.

Students who change to a psychology major after two years of undergraduate work may find they do not have sufficient background for the B.S. program. They may wish to enrich the B.A. program with courses in experimental psychology and other advanced electives if they intend to pursue graduate work in psychology or a related field.

Students in either program begin with a general introductory course, followed by biological psychology, statistics, and methodology courses and introductory courses in several broad areas: developmental science, clinical psychology, cognitive psychology, and social psychology. These courses are followed by upper-level psychology course work selected by the student.

The department maintains excellent facilities to support teaching and research on human and animal behavior. All faculty members are directly engaged in research, and they bring to their undergraduate teaching the excitement that such activity generates. Many opportunities exist for interested and capable students to participate in current research projects in the department.

The department has an active undergraduate organization, the Iowa Students Psychology Association, which is open to all interested students. The group sponsors speakers, films, career days, and student symposia.

### Selective Admission

Admission to the B.A. program in psychology is open; admission to the B.S. program is selective.

To be eligible for admission to the B.S. program, students must have completed 30 s.h. of college course work (excluding any credit by exam) and must have a cumulative g.p.a. of 2.67 or higher. There is no limit on the number of qualified students admitted to the B.S. program. Students who do not meet the minimum admission requirements may petition the department in writing, presenting additional evidence of their qualifications.

Any University student may enter the B.A. program. Entering first-year and transfer students with fewer than 30 s.h. of course work who are interested in the B.S. program are admitted to the B.A. program until they satisfy the admission requirements for the B.S. program. New transfer students who meet the admission requirements for the B.S. program may choose to enter the B.S. or the B.A. program. Any student in the B.A. program may switch to the B.S. program if he or she meets admission requirements at the time of the request. Students may switch from the B.S. to the B.A. program at any time.

### Bachelor of Arts

The Bachelor of Arts in psychology requires a minimum of 120 s.h., including 44-45 s.h. of work for the major, with a minimum of 29 s.h. in psychology courses. The B.A. is designed for students who wish to gain considerable knowledge in psychology but do not necessarily plan a professional career in the discipline. It is appropriate for students preparing for careers in law, business, counseling, social work, or secondary school teaching; see Teaching and Learning (College of Education) in the Catalog for social science teaching certification requirements. The B.A. program requires fewer psychology courses than the B.S. program and can more easily be combined with a second major.

The 44-45 s.h. required for the B.A. in psychology includes a minimum of 29 s.h. in psychology courses, an approved statistics course (3 s.h., part of the psychology core), a cognate requirement (3-4 s.h.), and at least 9 s.h. of University of Iowa course work in a second concentration area (see "Second Concentration Area" below). Transfer students must complete at least 15 s.h. of the major at The University of Iowa. Students must complete the College of Liberal Arts and Sciences General Education Program and must satisfy all other requirements for graduation with a bachelor's degree.

Students interested in pursuing graduate study in psychology or other social sciences may wish to enrich their B.A. program by taking courses in mathematics, statistics, research methods, and the natural sciences.

The B.A. program must include the following courses or their equivalents. (Before registering each semester or summer session, students should consult Undergraduate Psychology at Iowa for changes in department requirements.)

#### **PSYCHOLOGY CORE**

Psychology—all of these:

031:001 Elementary Psychology	3 s.h.
031:002 Biological Psychology	4 s.h.
031:010 Research Methods in Psychology	4 s.h.

Statistics—one of these (3-4 s.h.):

22S:008 Statistics for Business	4 s.h.
22S:025/07P:025 Elementary Statistics and Inference	3 s.h.
22S:101 Biostatistics (recommended for B.S. students)	3 s.h.
22S:102/07P:143 Introduction to Statistical Methods (recommended for B.S. students)	3 s.h.

#### **LOWER-LEVEL PSYCHOLOGY ELECTIVES**

Students take three of these (9 s.h.) after completing 031:001 Elementary Psychology.

031:013 Introduction to Clinical Psychology	3 s.h.
031:014 Introduction to Developmental Science	3 s.h.
031:015 Introduction to Social Psychology	3 s.h.
031:016 Introduction to Cognitive Psychology	3 s.h.

#### **UPPER-LEVEL PSYCHOLOGY ELECTIVES**

Students take three upper-level psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core courses and other specified prerequisites. Prerequisites are stated in course descriptions; see "Courses" later in this section.

Electives are chosen from 100-level psychology courses. However, the following courses may not be used to fulfill the electives requirement for the B.A.

031:121 Laboratory in Psychology	4 s.h.
031:185 Research Practicum in Psychology	arr.
031:188 Advanced Research Practicum	1-3 s.h.
031:189 External Practicum in Psychology	1-3 s.h.
031:190 Psychology Seminar	3 s.h.
031:191 Individual Readings and Projects	1-3 s.h.
031:192 Teaching/Advising Practicum in Psychology	1-3 s.h.
031:195 Honors Proseminar in Psychology	1 s.h.
031:199 Honors Thesis Research	1-3 s.h.

For a list of approved upper-level courses and their prerequisites, see Undergraduate Psychology at Iowa, available from the department and on its web site. Check Iowa Student Information System (ISIS) to learn which courses are offered in a particular semester.

### COGNATE REQUIREMENT

Students complete an upper-level statistics course or a computer science course. Students who fulfill the statistics requirement (above) with 22S:101 Biostatistics or 22S:102 Introduction to Statistical Methods must use a different course to fulfill the cognate requirement.

#### Statistics

06E:071 Statistics for Strategy Problems	3 s.h.
22S:101 Biostatistics	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.
22S:120 Probability and Statistics	4 s.h.
22S:148 Intermediate Statistical Methods	4 s.h.

#### Computer Science

22C:005 Introduction to Computer Science	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
22C:080 Programming for Informatics	4 s.h.

### SECOND CONCENTRATION AREA

Students complete 9 s.h. of course work in a single department other than psychology. Courses used to fulfill this requirement must be taken at The University of Iowa and may not be used to fulfill General Education Program requirements. A second major or a minor in any discipline other than psychology can be used to fulfill the requirement.

### Bachelor of Science

The Bachelor of Science in psychology requires a minimum of 120 s.h., including 53-54 s.h. of work for the major, with a minimum of 36 s.h. in psychology courses. The B.S. emphasizes research methodology, so it may be the degree of choice for students who plan to do graduate work in psychology and related research fields. However, a B.S. is not required for graduate study in psychology. Choice of a degree program should be dictated by the student's personal career goals.

The 53-54 s.h. required for the B.S. in psychology includes a minimum of 36 s.h. in psychology courses, an approved statistics course (3 s.h., part of the psychology core), an approved pair of natural science courses, one semester of calculus, and an approved advanced course in mathematics, statistics, or computer science. Transfer students must complete at least 15 s.h. of the major at The University of Iowa. Students must complete the College of Liberal Arts and Sciences General Education Program and must satisfy all other requirements for graduation with a bachelor's degree.

The B.S. program must include the following courses or their equivalents. (Before registering each semester or summer session, students should consult Undergraduate Psychology at Iowa for changes in department requirements.)

#### PSYCHOLOGY CORE

Psychology—all of these:

031:001 Elementary Psychology	3 s.h.
031:002 Biological Psychology	4 s.h.
031:010 Research Methods in Psychology	4 s.h.

Statistics—one of these (3-4 s.h.):

22S:008 Statistics for Business	4 s.h.
22S:025/07P:025 Elementary Statistics and Inference	3 s.h.

22S:101 Biostatistics (recommended)	3 s.h.
22S:102/07P:143 Introduction to Statistical Methods (recommended)	3 s.h.

#### **LOWER-LEVEL PSYCHOLOGY ELECTIVES**

Students take three of these (9 s.h.) after completing 031:001 Elementary Psychology.

031:013 Introduction to Clinical Psychology	3 s.h.
031:014 Introduction to Developmental Science	3 s.h.
031:015 Introduction to Social Psychology	3 s.h.
031:016 Introduction to Cognitive Psychology	3 s.h.

#### **UPPER-LEVEL PSYCHOLOGY ELECTIVES**

Students take three upper-level psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core courses and other specified prerequisites. Prerequisites are stated in course descriptions; see "Courses" later in this section of the Catalog.

Electives are chosen from 100-level psychology courses. However, the following courses may not be used to fulfill the electives requirement for the B.S.

031:121 Laboratory in Psychology	4 s.h.
031:185 Research Practicum in Psychology	arr.
031:188 Advanced Research Practicum	1-3 s.h.
031:189 External Practicum in Psychology	1-3 s.h.
031:190 Psychology Seminar	3 s.h.
031:191 Individual Readings and Projects	1-3 s.h.
031:192 Teaching/Advising Practicum in Psychology	1-3 s.h.
031:195 Honors Proseminar in Psychology	1 s.h.
031:199 Honors Thesis Research	1-3 s.h.

For a list of approved upper-level courses and their prerequisites, see Undergraduate Psychology at Iowa, available from the department and on its web site. Check Iowa Student Information System (ISIS) to learn which courses are offered in a particular semester.

#### **PSYCHOLOGY TOPICS COURSES**

Students take both of these.

031:121 Laboratory in Psychology	4 s.h.
031:190 Psychology Seminar	3 s.h.

#### **NATURAL SCIENCE COURSES**

Students in the B.S. program are required to complete one of the following pairs of specified natural science courses: one semester each of chemistry and biology; two semesters of chemistry; two semesters of physics; or one semester each of chemistry and physics. All of these combinations can be used to fulfill the General Education Program natural sciences requirement. Students should consult with their advisors concerning specific courses that satisfy these requirements.

#### **CALCULUS**

Students working toward a B.S. must complete at least one semester of calculus; in most cases, students also must have completed at least one precalculus mathematics course.

One of these:

22M:016 Calculus for the Biological Sciences	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

**ADDITIONAL MATHEMATICS COURSE**

Students working toward a B.S. must complete at least one additional course in advanced mathematics, statistics, or computer science chosen from the following lists.

**Mathematics**

22M:026 Calculus II	4 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.

**Statistics**

06E:071 Statistics for Strategy Problems	3 s.h.
22S:120 Probability and Statistics	4 s.h.
22S:148 Intermediate Statistical Methods	4 s.h.

**Computer Science**

22C:005 Introduction to Computer Science	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
22C:080 Programming for Informatics	4 s.h.

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Bachelor of Arts**

In addition to courses in the major, the B.A. requires three courses in a second area.

**Before the third semester begins:** 031:001 Elementary Psychology and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 031:002 Biological Psychology, statistics, one or more lower level electives, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** four courses in the major (including 031:010 Research Methods in Psychology), one second-area course, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two additional courses in the major and an additional second-area course

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**Bachelor of Science**

Note: The B.S. is open only to students who have earned 30 s.h. in course work and have a g.p.a. of at least 2.67. Students must complete a natural science sequence, either as part of the General Education Program or in addition to it. Students also must complete a semester of calculus and an advanced math, statistics, or computer course, which may require some preliminary work.

**Before the third semester begins:** 031:001 Elementary Psychology, 031:002 Biological Psychology, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** calculus, statistics, three additional courses in the major (including 031:010 Research Methods in Psychology), and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** two more courses in the major, one course for the psychology natural science

requirement, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the advanced math/statistics/computer course and two more courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

In order to pursue honors studies in the Department of Psychology, a student must be a member of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

The department has an active honors program that includes research seminars and individual research collaboration with faculty members. Interested majors should contact the department honors advisor.

## Minor

The minor in psychology requires a minimum of 15 s.h., including 12 s.h. in psychology courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass or satisfactory/fail. Before registering for a psychology course, students must satisfy the course's prerequisites.

A minor in psychology complements majors in a variety of disciplines. Department advisors can help students identify courses for the minor that are especially appropriate for their major.

## National Honor Society

The department sponsors a chapter of Psi Chi, the national honor society in psychology and affiliate of the American Psychological Association. Students who have a g.p.a. of at least 3.00 overall and 3.10 in psychology course work and who have completed 9 s.h. of psychology may request a membership application form. Consult the department's academic coordinator for more information.

## Graduate Programs

The department offers a Master of Arts, with and without thesis, and a Doctor of Philosophy in psychology. Graduate study in psychology is designed for students seeking the Ph.D.; students enrolled in the doctoral program may elect to receive a Master of Arts when they have completed the M.A. requirements.

### Master of Arts

The Master of Arts in psychology requires 30 s.h. of graduate credit with thesis, and 37 s.h. of graduate credit without thesis. The department ordinarily offers the M.A. only to students enrolled in the Ph.D. program.

Thesis students must earn 24 of the required 30 s.h. at The University of Iowa. Course work for the thesis program must include a statistics course, courses outside the primary specialization area, and at least an additional 8 s.h. earned in Department of Psychology courses and seminars. Thesis students also must complete an acceptable scholarly thesis and conduct a successful oral defense of the thesis.

Nonthesis students must earn 30 of the required 37 s.h. at The University of Iowa. Course work for the nonthesis program must include a statistics course, courses outside the primary specialization area, and at least an additional 15 s.h. earned in Department of Psychology courses and seminars. Nonthesis students also must perform successfully on an examination covering their area of specialization.

### Doctor of Philosophy

The Doctor of Philosophy in psychology requires a minimum of 72 s.h. of graduate credit. Students entering without previous graduate work usually require at least four years to complete the program; those entering with previous graduate training usually require three to five additional years in the department, depending on the nature of the earlier preparation.

The Ph.D. program places strong emphasis on preparation for research, teaching, and scholarly endeavor, whether in academic settings or in industrial, governmental, or medical institutions. The intent is to produce graduates who are deeply committed to the study of psychology, familiar with fundamental knowledge about psychological processes, well-trained in the methods and techniques for careful investigation of basic and applied problems, and determined to

make contributions to the discipline of psychology and to society.

Graduate training is organized in six broad areas: behavioral and cognitive neuroscience, clinical psychology, cognition and perception, developmental science, health psychology, and social psychology (see "Graduate Training Areas" later in this section). Each entering student is expected to identify one of these as his or her primary area and to follow a program that develops thorough understanding of the substantive material and methods of investigation central to that subdiscipline. While pursuing specialty training, all students must meet course requirements in statistics and research methods and in content areas other than their primary one.

The training area programs are sufficiently flexible to permit students to develop substantial competence in a second training area. Individually tailored programs are possible.

### **Curriculum**

The required 72 s.h. for the Ph.D. includes at least 33 s.h. in Department of Psychology courses. All students must satisfy, through one of several options, requirements in statistics and research methods. They also must take course work outside the primary training area to develop a background in the discipline of psychology as a whole.

During each of the first two semesters, graduate students ordinarily take three courses—for example, a statistics course, a course or two in the primary training area, and/or an outside area elective. Students also begin their research under the supervision of their advisor and with the guidance of their research advisory committee.

Near the end of the fall semester of the second year, students submit a report describing their research to date. At the beginning of the following semester, they present their research at the annual graduate research symposium.

During subsequent years, students continue selected course work in their training and interest areas and continue to develop their research programs. In addition, they develop a prospectus for the dissertation research and take the comprehensive examination, which covers material in the specialty area. The final year is devoted primarily to conducting the Ph.D. study and preparing the dissertation. In the Ph.D. final examination, students present an oral defense of their dissertation and are expected to relate the dissertation work to broader issues in the discipline of psychology.

### **Graduate Training Areas**

#### **Behavioral and Cognitive Neuroscience**

The program in behavioral and cognitive neuroscience focuses on the analysis of attention, motivation, and learning, primarily in nonhuman subjects, through the application of behavioral and biological principles. Special faculty strengths are in classical and operant conditioning, motivation and emotion, developmental psychobiology, neurobiology of learning, comparative psychology, cognitive neuroscience, neuropharmacology, neuroendocrinology, and neuroanatomy. Students in this program have the opportunity to learn state-of-the-art techniques in computer-controlled experimentation and electronic instrumentation as well as advanced analytic and laboratory methods in neurosurgery, histology, and biochemical assay.

Faculty members in the behavioral and cognitive neuroscience area interact extensively with colleagues from a number of basic science and clinical departments in the Carver College of Medicine, including anatomy, anesthesiology, pharmacology, internal medicine, pediatrics, and neurology. These collaborative activities provide excellent research and training opportunities for students interested in emerging interdisciplinary fields such as behavioral medicine.

#### **Clinical Psychology**

The clinical training program, fully approved by the American Psychological Association, strongly emphasizes a scientific or clinical science approach to the study of mental and physical health. It is designed for students who intend to pursue careers in clinical research and are interested primarily in developing scholarly understanding of clinical phenomena and acquiring research skills necessary to the systematic investigation of such phenomena. Because students must become familiar with clinical material and competent in the application of clinical skills in order to pursue clinical research, the department closely integrates practicum experience in the Seashore Clinic with course work and supervised research experience. Students with a primary interest in clinical practice should apply to another program.

Students in the clinical program may develop special competence in areas such as aggression, marital and family dysfunction, eating disorders, personality and personality disorders, psychophysiology, anxiety disorders, affective disorders, behavioral and cognitive therapies, child psychopathology, and clinical health psychology. Faculty members collaborate actively with colleagues from departments such as internal medicine, microbiology, neurology, obstetrics and gynecology, otolaryngology--head and neck surgery, pediatrics, psychiatry, and surgery, and from other units, such as the Center for Health Services Research and the Iowa City Veterans Affairs Medical Center.

Advanced students have opportunities to gain additional practicum experience through placement in clinical facilities maintained by local, state, federal, and University agencies. Students in the clinical program who wish to have the designation "clinical psychology" on their official transcript must satisfactorily complete a one-year internship at an



approved agency before receiving a Ph.D. The internship ordinarily comes after completion of all course work and most, if not all, of the dissertation project.

For information about the clinical psychology program's accreditation, contact the Office of Program Consultation and Accreditation, American Psychological Association.

### **Cognition and Perception**

The cognition and perception training area is guided by the philosophy that understanding a specific cognitive process requires an understanding of how it interacts with other cognitive processes (e.g., interactions between attention and memory). The area pursues empirical rigor and theoretical development, so its research is theory driven and data tested.

Research programs of the area's laboratories overlap with each other, and most content areas are studied by multiple laboratories and with multiple methodologies. Areas of strength include categorization, computational modeling, judgment and decision making, language and language learning, learning and memory, visual cognition, attention, and working memory.

Students in perception and cognition take basic courses and seminars in specialty areas, but they devote most of their time to research activities. Students work closely with a faculty mentor at first and then become progressively independent as they gain knowledge and skills. The program encourages students to work with more than one faculty member, both in the program and across the department and the University. Students often combine basic work on cognition with work in areas such as neuroscience, psychiatry, marketing, law, social psychology, and human factors engineering.

### **Developmental Science**

Students in the developmental program are taught a broad range of developmental theory, and they acquire expertise in multiple research paradigms used in developmental psychology, such as observational research, experimentation, and field methods. Students also have the opportunity to study and collaborate with faculty members who are not primarily developmental psychologists but whose work has implications for developmental theory. This opportunity provides a unique breadth of training.

Students take courses in many areas of developmental science as well as in other areas of psychology. Currently available to students are research opportunities in cognitive development in infancy and childhood, social and emotional development, and developmental psychobiology. The developmental research group, composed of faculty members and students interested in issues related to developmental research, meets regularly to discuss ongoing research. These meetings provide both students and faculty members the opportunity to present and discuss their own research as well as to gain exposure to other developmental work being conducted in the department.

### **Health Psychology**

The health psychology program is concerned with application of psychological theory, methods, and treatment to understanding and promotion of physical health and illness. The program's perspective is based on the biopsychosocial model, which posits that biological, psychological, and social processes are integrally and interactively involved in physical health and illness.

Graduate training in health psychology emphasizes the integration of knowledge about biological, psychological, and social factors. Students are involved in research whose content and methods reflect the biopsychosocial perspective. Training in health psychology is facilitated by the faculty's longstanding collaborations with medical practitioners and researchers at the UI Carver College of Medicine and University of Iowa Hospitals and Clinics. Availability of medical populations and state-of-the-art medical technologies afford a unique opportunity for doctoral students in health psychology.

Research areas of the health psychology program include stress and illness, psychoneuroimmunology, patient adherence, animal models of hypertension and heart failure, postpartum depression, women's health issues, and psycho-oncology.

### **Social Psychology**

The social psychology program offers a variety of perspectives on interpersonal and intrapersonal processes. Examples of research foci of faculty and students are social cognition, social comparison, close relationships, social and emotional development, attitudes and persuasion, decision making, health psychology, and individual differences.

Graduate training in the social psychology program is designed primarily to prepare students for careers in psychology research and teaching. In addition to their experiences and course work in the program and in the Department of Psychology, students can benefit from opportunities in related academic units at the University, such as the Departments of Sociology, Communication Studies, and Statistics and Actuarial Sciences and the Tippie College of Business. Such experience can broaden a student's training, research opportunities, and employment prospects.

## Admission

Since the graduate program in psychology is designed primarily for students seeking the Ph.D., all applicants are considered on that basis. Occasionally, a qualified applicant who is in good standing in another UI graduate program and is interested in advanced work in psychology only through the M.A. level may be admitted to pursue a joint graduate program. Students interested in such a program should contact the department chair before filing an application.

The application deadline is December 15. For all materials to be on file by that date, applicants should take the Graduate Record Examination (GRE) General Test in October, and no later than December. The subject test in psychology is not required. Applications may be submitted any time but are considered only once each year--between December 15 and February 1--for admission the following fall. Admission decisions are based on a composite consideration of prior academic and research performance; letters of reference; scores on the verbal, quantitative, and analytic writing sections of the GRE General Test; and the applicant's statement about background and purpose. Admission materials are reviewed initially by faculty members in the applicant's primary training area.

An undergraduate major in psychology--including a laboratory course in experimental psychology, a course in statistics, and additional work in the natural sciences and in mathematics--is desirable but not required. Students who have not had such a background but are strongly qualified on other grounds may be admitted. They are expected to remedy deficiencies through special course work or independent study before embarking on the regular graduate program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

All students admitted to the Ph.D. program in psychology are guaranteed five years of financial support, as long as they make satisfactory progress and remain in good academic standing. Financial support is provided through fellowships, teaching assistantships, research assistantships, and traineeships, depending on merit and availability. No separate application for financial aid is required.

## Faculty

Faculty members of the Department of Psychology are nationally and internationally renowned leaders in a variety of subdisciplines. Their research is funded by numerous federal and private research grants, their findings are documented in many publications, and their accomplishments have won many awards.

## Facilities

The department's facilities for graduate training and research are among the finest in the country. The Kenneth W. Spence Laboratories of Psychology and adjoining space in Seashore Hall include a variety of laboratories for human and animal studies. Facilities include animal housing areas; a histology laboratory; observation suites with remote audiovisual control and recording equipment; soundproof chambers; electrophysiological recording rooms; conditioning laboratories; the Seashore Clinic; and well-equipped electronic, mechanical, and woodworking shops. Computers are widely available. Office space for graduate students and faculty members is provided in Seashore Hall.

The research and teaching activities of the department benefit greatly from the facilities and staff of other University and local agencies, including University of Iowa Hospitals and Clinics, the Iowa City Veterans Affairs Medical Center, the University Counseling Service, the Center for Disabilities and Development, the Wendell Johnson Speech and Hearing Clinic, the Center for Health Services Research, and the School of Social Work.

## Psychology Courses

### Primarily for Undergraduates

Courses 031:002 Biological Psychology, 031:013 Introduction to Clinical Psychology, 031:014 Introduction to Developmental Science, 031:015 Introduction to Social Psychology, 031:016 Introduction to Cognitive Psychology, and 031:019 Industrial/Organizational Psychology are open to first-year students who have satisfactorily completed an introductory psychology course (031:001 Elementary Psychology or equivalent).

### 031:001 Elementary Psychology

Psychology as a behavioral science. GE: Social Sciences.

3 s.h.

**031:002 Biological Psychology**

4 s.h.

Biological mechanisms of behavior; comparative study of behavior, behavioral organization, animal intelligence, social behavior, communication; behavioral neuroscience, how brain systems control sensation, movement, homeostasis, emotion, learning. Prerequisites: 031:001.

**031:010 Research Methods in Psychology**

4 s.h.

Logic of experimental and nonexperimental methods, application of methods to analysis of behavioral phenomena; skills for critical evaluation of professional and public literature dealing with scientific study of behavior: philosophy of scientific psychology, principles of research design and control, psychological testing, applications in several research areas. Prerequisites: 031:001, and 22S:008 or 22S:025 or 22S:101 or 22S:102 or 07P:025 or 07P:143 or 034:010.

**031:013 Introduction to Clinical Psychology**

3 s.h.

Introduction to abnormal psychology; scientist-practitioner model, training, ethics, research methods in clinical psychology; current approaches to intellectual, personality, behavioral assessment; theories, research on treatment of psychological disorders. Prerequisites: 031:001. GE: Social Sciences.

**031:014 Introduction to Developmental Science**

3 s.h.

Current research in developmental science; prenatal development, brain development, motor and physical development, perceptual development, language development, cognitive development, aspects of socio-emotional development; emphasis on modern theoretical approaches. Prerequisites: 031:001. GE: Social Sciences.

**031:015 Introduction to Social Psychology**

3 s.h.

Research and theories on people's thoughts, feelings, and behaviors in social situations; attitudes, attributions, person perception, aggression, stereotypes and prejudice, attraction, relationships, social influence, group processes, altruism. Prerequisites: 031:001.

**031:016 Introduction to Cognitive Psychology**

3 s.h.

Individual human cognition; perception, attention, memory, language, learning, problem solving, decision making, thought considered from viewpoint of information processing. Prerequisites: 031:001. GE: Social Sciences.

**031:019 Industrial/Organizational Psychology**

3 s.h.

Applications of psychology to problems in world of work; emphasis on personnel selection, training, attitudes, motivation, measurement of job performance. Prerequisites: 031:001.

**031:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**031:041 Loss and Trauma**

3 s.h.

How people deal with loss--personal (e.g., aging) and interpersonal (e.g., death and divorce). Prerequisites: 031:001.

**031:050 Psychology of Aging**

3 s.h.

The later years of human life viewed from perspectives of developmental psychology, biology, sociology. Prerequisites: 031:001. Same as 153:150.

**031:063 Abnormal Psychology: Health Professions**

3 s.h.

Introduction to psychological disorders; description of psychopathology; general issues in etiology and treatment; for non-psychology students in allied health professions. Prerequisites: 031:001. Requirements: non-psychology major.

**For Undergraduate and Graduate Students**

Before enrolling in any upper-level undergraduate courses, students must complete all specified lower-level prerequisites or obtain consent of instructor.

**031:103 Social and Personality Development**

3 s.h.

Emotional, social, and personality development from infancy to adolescence; major theories and empirical research; child temperament, parent-child relationship, and social context as contributors to individual differences. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014 or 031:015.

**031:105 Personality** 3 s.h.

Classic theoretical models and contemporary empirical research in personality, including influence of heredity and environment, consistency and stability of behavior. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013 or 031:015.

**031:106 Attitude Change** 3 s.h.

Current theoretical approaches; laboratory and field methods of research; basic processes of change considered within broader framework of psychology. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:015.

**031:111 Social Cognition** 3 s.h.

Research and theory on cognitive structures and processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, schemas, person perception, stereotypes, attitudes. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:015.

**031:112 Development of Mathematical Cognition** 3 s.h.

Current research on mathematical cognition, with focus on change over time; quantity and number, the mental number line, symbols, fractions, algebra, individual differences in math cognition, relationships between math and language, theories of mathematical knowledge, theories of conceptual change. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014 or 031:016.

**031:114 Cognitive Development of Children** 3 s.h.

Developmental research, theory concerning children's concepts, thinking, problem solving, memory, communication. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014.

**031:115 Theories of Developmental Psychology** 3 s.h.

Major theoretical approaches to the study of developmental change (e.g., social learning, information-processing, ethological, contextual); related topics such as perceptual development and attachment. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014.

**031:116 Psychology of Gender** 3 s.h.

Origins of gender roles, gender socialization in childhood, gender differences across lifespan; research on gender differences in cognition, emotions, behavior, physical and mental disorders, communication. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:015.

**031:118 Infant Development** 3 s.h.

Physical, motor, perceptual, cognitive, and social development during first two years of life, with focus on early mechanisms of change; locomotion, perceptual abilities, precursors of cognition, early language acquisition, social interaction. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014.

**031:119 Human Memory** 3 s.h.

Contemporary psychological theory and research on short-term and long-term memory, acquisition processes, related topics in cognition. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:016.

**031:121 Laboratory in Psychology** 4 s.h.

Laboratory study of an aspect of behavior; topics in a particular area (e.g., learning and memory, perception, social behavior, operant behavior, physiological processes). Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010.

**031:122 Language Development** 3 s.h.

Introduction to first language acquisition, with focus on infancy through five years; sound discrimination abilities, word learning, babbling and speech production, acquisition of grammar; perspectives from psychology, audiology, linguistics, speech pathology. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014 or 031:016. Same as 164:140.

- 031:123 Psychology of Learning** 3 s.h.  
Psychological science of acquired behavior; interests in experimental study of Pavlovian conditioning, operant conditioning, cognition in humans and nonhuman animals, relevance to behavioral adaptation. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002 or 031:016.
- 031:125 Comparative Psychology** 3 s.h.  
Behavioral processes in humans, animals; intelligence, memory, attention, language, consciousness; behaviorism, mentalism, evolution, neuropsychology. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002.
- 031:126 Behavioral Neuroscience** 3 s.h.  
Basic concepts and techniques in neurosciences, their application to analysis of sensory processes, arousal mechanisms, motivation, learning. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002.
- 031:128 Psychopharmacology** 3 s.h.  
How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002.
- 031:129 Neurobiology of Learning and Memory** 3 s.h.  
Major topics in the neurobiology of learning and memory; focus on anatomical, cellular, molecular bases of various learning and memory processes. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002.
- 031:130 Psychology of Thinking** 3 s.h.  
Problem solving, reasoning, judgment and decision making, language and thought, intelligence, creativity. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:016.
- 031:131 Cognitive Science** 3 s.h.  
Introduction to cognitive science, an interdisciplinary enterprise that investigates psychological processes using perspectives from psychology, computer science, linguistics, philosophy, neuroscience. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:016.
- 031:133 Sensation and Perception** 3 s.h.  
Psychological and neurophysiological examination of humans' major sensory systems, especially vision. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002 or 031:016.
- 031:134 Cognition and the Brain** 3 s.h.  
Analysis of brain systems and neuroanatomy that underlie cognitive tasks such as vision, hearing, emotion, attention, language, decision making, learning, and memory. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002 or 031:016.
- 031:137 Language Processes** 3 s.h.  
Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010, grade of C- or higher in 031:016, and psychology major; or nonmajor and 103:100 or 003:015. Same as 103:137.
- 031:138 Introduction to Clinical Behavioral Neuroscience** 3 s.h.  
Biological bases of behavior applied to understanding the nature of physical and mental pathological processes. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002 or 031:152.
- 031:140 Psychology of Interpersonal Relations** 3 s.h.  
Theories, empirical findings, speculation from social psychology and related disciplines regarding how people form, maintain, and alter close, interpersonal relationships. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013 or 031:015.
- 031:152 Health Psychology** 3 s.h.

Psychological contributions to understanding etiology, prevention, treatment of physical illness; basic and clinical research that addresses reciprocal effects of behavior and physical health. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002 or 031:013 or 031:015.

**031:163 Abnormal Psychology** 3 s.h.

Etiology, phenomenology, and treatment of child and adult DSM-IV psychological disorders (e.g., mood disorders, psychotic disorders, anxiety disorders, personality disorders). Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013.

**031:166 Childhood Psychopathology** 3 s.h.

Major forms of childhood psychopathology; current theoretical approaches and methodological issues in diagnosis, conceptualization, treatment of developmental psychopathology. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013.

**031:170 Behavior Modification** 3 s.h.

Basic approaches to modification of clinically distressing behavior; learning theory principles underlying techniques, translation into procedures, experimental evaluation of effectiveness. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013.

**031:173 Substance Use and Misuse in America** 3 s.h.

Current data on epidemiology, assessment and diagnosis, treatment, prevention of substance misuse. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013. Recommendations: 031:163. Same as 172:160.

**031:174 Mind and Behavior** 3 s.h.

Theories of what it is to act and know, of what intelligence might be in animals, humans, machines; perspectives from philosophy, psychology. Prerequisites: (for 031:174) 031:002. Requirements: (for 031:174) grade of C- or higher in 031:010, grade of C- or higher in 031:002 or 031:016, and junior or senior standing; (for 033:144) junior or senior standing. Same as 033:144.

**031:177 Field Methods: Animal Behavior Research** 3 s.h.

Observation of animal behavior, collection of behavioral data in the field; field trip and visits to varied habitats to view animals under natural conditions. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:002.

**031:185 Research Practicum in Psychology** arr.

Small-group participation in faculty research projects; literature review, study planning, data collection, analysis, interpretation, write-up.

**031:188 Advanced Research Practicum** 1-3 s.h.

Individual participation in faculty research projects; significant reading and writing. Requirements: two semesters of 031:185 or 143:100.

**031:189 External Practicum in Psychology** 1-3 s.h.

Student participation in career-related professional activities in community and University of Iowa agencies.

**031:190 Psychology Seminar** 3 s.h.

Readings from original sources, presentations, papers, student participation. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010, psychology B.S. enrollment, and senior standing.

**031:191 Individual Readings and Projects** 1-3 s.h.

Requirements: psychology major and undergraduate standing.

**031:192 Teaching/Advising Practicum in Psychology** 1-3 s.h.

Participation in faculty teaching (undergraduate teaching assistant) or the Psychology Peer Advisor Program.

**031:195 Honors Proseminar in Psychology** 1 s.h.

Research topics, psychology colloquium attendance and discussion, student presentations on honors project progress. Requirements: honors standing and psychology honors project in progress.

**031:199 Honors Thesis Research** 1-3 s.h.

Supervised original project; leads to written thesis, oral defense. Requirements: honors standing.

### **Primarily for Graduate Students**

- 031:201 Advanced Social-Personality Psychology** 3 s.h.  
Classic and contemporary theory, research, methodological issues in social-personality psychology.
- 031:202 Attitudes and Persuasion** 3 s.h.  
Classic and current theories and findings on persuasion, the formation and measurement of attitudes.
- 031:206 Advanced Social Cognition** 3 s.h.  
Research and theory on cognitive processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, counterfactual thinking, schemas, person perception, stereotypes, attitudes.
- 031:208 Psychology of Close Relationships** 3 s.h.  
Theory, general writing, empirical analysis of variables involved in initiation, maintenance, termination of close relationships; emphasis on social psychological processes, concepts.
- 031:210 Proseminar in Developmental Science** 3 s.h.  
Introduction to developmental process and developmental science; topics organized around mechanisms of development, with cross-disciplinary focus.
- 031:214 Processes of Language Acquisition** 3 s.h.  
Theoretical and computational approaches to the study of first language acquisition from infancy to five years, including prelinguistic sound discrimination, babbling, semantic development, categorization abilities, syntactic and grammatical development.
- 031:216 Dynamic Systems and Development** 3 s.h.  
Dynamical systems theory, its application to basic problems in developmental psychology; development of motor control, cognition, language; comparisons with other theoretical approaches in developmental psychology.
- 031:217 Psychobiology of Prenatal Development** 3 s.h.  
Current research on behavior before and immediately after birth; embryology and development of fetus, preterm infant, neonate; motor development, sensation, learning, adaptation to intrauterine conditions.
- 031:218 Cognitive Development** 3 s.h.  
Theoretical and empirical analyses of children's cognitive development; spatial and numerical concepts, causal reasoning, categorization, metacognition, memory. Same as 164:240.
- 031:220 Proseminar in Cognition and Perception** 3 s.h.  
Broad overview of study of cognition, including cognitive psychology, computer science and artificial intelligence, linguistics, neuroscience, philosophy of mind. Repeatable.
- 031:223 Neural Networks in Psychology** 3 s.h.  
Major techniques in neural network or connectionist modeling; specific application to issues in psychology.
- 031:226 Visual Perception** 3 s.h.  
Theoretical and empirical analyses of low- and high-level visual functions, including edge detection, surface representation, object identification.
- 031:227 Attention** 3 s.h.  
Theory and research on attention, from viewpoints of cognitive psychology and cognitive neuroscience, including historical perspectives, recent approaches.
- 031:230 Behavioral Pharmacology** 3 s.h.  
Behavioral analysis of drug action; emphasis on physiological and biological mechanisms underlying behavioral processes in experimental animals, humans.

- 031:236 Fundamentals of Clinical Behavioral Neuroscience** 3 s.h.  
Physiological basis of behavior and cognition in normal and pathological states; body and brain functions that affect psychological processes, their role in mental and somatic health and disease.
- 031:240 Judgment and Decision Making** 3 s.h.  
Models, methods used in study of human judgments and decisions; applications in areas such as clinical diagnosis, social and educational evaluations, economic judgments, consumer decisions.
- 031:241 Fundamentals of Behavioral Neuroscience** 3 s.h.  
Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of neuroscience, sensation, motivation, emotion. Same as 132:241.
- 031:242 Fundamentals of Learning and Behavior** 3 s.h.  
Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of comparative psychology, motor control, learning. Same as 132:242.
- 031:244 Behavioral Neuroscience** 3 s.h.  
Basic principles of neurochemistry, neuropharmacology, developmental neuroscience, behavioral neuroscience.
- 031:245 Quantitative Methods in Psychology** 3 s.h.  
Overview of statistical methods based on the general linear model, including ANOVA, ANCOVA, and multiple regression; how to conduct these analyses using SPSS. Requirements: first-year graduate standing in psychology.
- 031:250 Introduction to Health and Behavioral Science** 3 s.h.  
Evolution of health psychology; survey of major physiological systems in which pathology is affected by behavioral processes; review of theoretical approaches, experimental paradigms from behavioral science as they may apply to assessment of health problems; prevention, intervention, psychological adaptation to physical disease.
- 031:252 Clinical Behavioral Medicine** 3 s.h.  
Biopsychosocial framework applied to study, treatment of chronic and acute physical conditions; clinical concepts, procedures.
- 031:258 Personality and Individual Differences** 3 s.h.  
Major theoretical, empirical issues in contemporary personality research, including stability and consistency of behavior, influence of heredity and environment in personality development, nature and organization of traits, validity of trait inferences.
- 031:260 Descriptive Psychopathology** 3 s.h.  
Psychiatric syndromes, including description, etiology, experimental and clinical research; development, function of classification systems.
- 031:261 Experimental Psychopathology** 3 s.h.  
Theories of psychobiological processes underlying etiology of psychopathology; emphasis on schizophrenia, affective disorders, anxiety, psychopathy, alcoholism/drug abuse.
- 031:263 Psychological Appraisal I** 3 s.h.  
Assessment theory and basic psychometric principles in test construction, evaluation, application; ethical, social, psychological, psychometric issues and controversies in assessment.
- 031:264 Psychological Appraisal II** 3 s.h.  
Introduction to assessment with children and adults, including assessment of cognitive abilities and achievement testing, neuropsychological assessment, and psychodiagnostic/personality assessment. Prerequisites: 031:263.
- 031:265 Neuroscience Seminar** 0-1 s.h.  
Research presentations. Offered fall and spring semesters. Same as 002:265, 060:265, 072:265, 132:265.
- 031:266 Psychological Therapies** 3 s.h.  
Historical development and current status of empirically based therapies for psychological disorders, including anxiety, depression, schizophrenia, childhood disorders; emphasis on critical evaluation of therapy techniques.



**031:270 Clinical Research Methods**

3 s.h.

Scientific basis of rigorous psychological research; conceptual and methodological processes that underlie sound research; development of capacity for critical evaluation of the research process.

**031:276 Advanced Developmental Psychopathology**

3 s.h.

Psychiatric syndromes manifested in childhood and adolescence; theoretical approaches, methodology from developmental and clinical psychology as they apply to study of childhood psychopathology.

**031:278 Principles of Neuropsychology**

3 s.h.

Principles of human neuropsychology, including foundations (history, methods, approaches), major functional systems (vision, memory, language, spatial processing), executive functions (emotional processing and personality), and applications (experimental, clinical). Recommendations: prior course work in psychological assessment, psychopathology, and neuroanatomy.

**031:280 Current Topics in Psychology**

3 s.h.

Repeatable.

**031:291 Problems in Psychology**

arr.

Individual study.

**031:295 M.A. Thesis Research**

arr.

**031:296 Ph.D. Dissertation Research**

arr.

**031:297 Research Projects**

arr.

**031:302 Seminar: Personality and Social Psychology**

1 s.h.

Professional issues, current topics relevant to personality, social psychologists. Repeatable.

**031:303 Advanced Topics in Social Psychology**

arr.

Recent theory, research.

**031:315 Seminar: Social Development**

0-2 s.h.

Theoretical, methodological, and empirical issues in early social and personality development.

**031:318 Seminar: Cognitive Development**

0-3 s.h.

Theoretical, methodological issues focused on cognitive and perceptual development. Repeatable.

**031:330 Seminar: Cognitive Psychology**

2 s.h.

Repeatable.

**031:335 Seminar: Cognitive Neuroscience**

0-2 s.h.

Neurological and behavioral investigations of attention, perception, learning, memory, decision making, planning; contemporary models, theories.

**031:338 Seminar: Advanced Topics in Behavioral and Cognitive Neuroscience**

3 s.h.

Prerequisites: 031:241.

**031:360 Seminar: Orientation to Clinical Research**

0-1 s.h.

Issues in clinical research, including use of databases, advisor/advisee relationships, preparation of IRB proposals, paper presentation and publication, common early career problems, funding resources.

**031:365 Seminar: Neuropsychology and Neuroscience**

arr.

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as 064:365, 132:365.

**031:380 Ethics and Professional Concerns**

arr.

Major ethical and legal issues relevant to clinical psychologists' varied roles; understanding of legal and ethical issues encountered by psychologists in varied settings, development of personal working model for resolving ethical and professional concerns.

**031:461 Introductory Practicum**

arr.

Orientation to Department of Psychology clinic, including instruction in interviewing, observation of clinic procedures, attendance at clinic rounds under supervision of clinical psychology faculty members.

**031:462 Assessment Practicum**

arr.

Supervised practice in psychological assessment techniques.

**031:463 Therapy Practicum**

arr.

Supervised practice and clinical experience in application and evaluation of psychological therapies.

**031:464 External Practicum**

arr.

Supervised practice and clinical experience in field setting; psychological assessment techniques and/or application, evaluation of psychological therapies.

# Religious Studies

**Chair:** Raymond A. Mentzer

**Professors:** Diana Fritz Cates, Jay A. Holstein, David E. Klemm, Raymond A. Mentzer, Frederick M. Smith (Religious Studies/Asian and Slavic Languages and Literatures), Richard B. Turner (Religious Studies/African American Studies)

**Professors emeriti:** Robert D. Baird, T. Dwight Bozeman, George W. Forell, Helen T. Goldstein, J. Kenneth Kuntz, James F. McCue, George W.E. Nickelsburg, W. Pachow, George W. Paterson, Robert F. Weir

**Associate professors:** Michelene Pesantubbee (Religious Studies/American Indian and Native Studies), Morten Schlütter, Ahmed Souaiaia

**Assistant professor:** Melissa Anne-Marie Curley

**Lecturer:** Jordan A. Smith

**Undergraduate degree:** B.A. in Religious Studies

**Undergraduate nondegree program:** Minor in Religious Studies

**Graduate degrees:** M.A., Ph.D. in Religious Studies

**Web site:** <http://www.uiowa.edu/~religion>

The Department of Religious Studies recognizes that individuals and groups are inspired and guided in almost every possible way by ideas and impulses that they call religious and that demand to be taken seriously as a distinct aspect of the human experience. It holds that the dimension of experience that people consider to be connected to something absolute can be studied from varied perspectives, including that of critical interpreter. Its faculty members, as critical interpreters, offer courses across the range of academic religious studies. They help students prepare to function as 21st-century global citizens by helping them gain an understanding of contemporary religious traditions and an appreciation of how they shape people's actions and values.

The department has been a pioneer in the discipline of religious studies since the early 20th century. It is dedicated to investigating the world's major religious traditions in both their historical development and their contemporary geopolitical significance. It offers courses in the fundamental texts and thought of Western and Asian religious cultures, in how the religious and the secular have intersected over time, and in modern and contemporary movements that shape today's world. Just as religious traditions are organized and function in different ways, the department's faculty use different approaches to interpret their areas of research. Students who join the department become participants in a quest to understand profound and penetrating answers to questions about the human condition.

Each year thousands of University students enroll in courses in religious studies. Many take courses to complete the College of Liberal Arts and Sciences General Education Program. Some students choose religious studies as their major. Others choose it as a second major or as a minor to complement studies in another field. Religious studies majors acquire core skills they will need to flourish in today's world: logical thinking, writing, communicating, and working with others, as well as open-mindedness to new ideas.

## Undergraduate Programs

The department offers a Bachelor of Arts and a minor in religious studies.

### Bachelor of Arts

The Bachelor of Arts in religious studies requires a minimum of 120 s.h., including 30 s.h. in work for the major (15 s.h. of foundation studies, 12 s.h. of continuing studies, and the senior seminar). Students must complete the College of Liberal Arts and Sciences General Education Program. They may count a maximum of three religious studies courses toward General Education Program requirements. Transfer students may count a maximum of 15 s.h. of transfer credit toward the major. Transfer credit is evaluated individually.

Requirements for the major in religious studies are as follows.

#### FOUNDATION STUDIES

##### Western Religious Traditions

Two of these:

032:001 Judaism, Christianity, and Islam	3 s.h.
032:011 Introduction to the Hebrew Bible/Old Testament	3 s.h.
032:012 Introduction to the New Testament	3 s.h.
032:025/016:035 Medieval Religion and Culture	3 s.h.
032:026/016:036 Modern Religion and Culture	3 s.h.
032:030 Introduction to Islam	3 s.h.
032:034/129:050 Introduction to African American Religions	3 s.h.

**Asian Religious Traditions**

Two of these:

032:004/039:064 Living Religions of the East	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.
032:010/039:007 Chinese Religions	3 s.h.
032:014 Introduction to Indian Religions	3 s.h.
032:017/39J:017 Japanese Religions	3 s.h.

**Theoretical and Comparative Studies in Religion**

One of these:

032:002 Religion and Society	3 s.h.
032:003 Quest for Human Destiny	3 s.h.
032:016 Religion and Liberation	3 s.h.
032:020 War and Peace in Western Religious Thought	3 s.h.
032:042 Religion, Ethics, and Politics	3 s.h.

**CONTINUING STUDIES**

Students must complete 12 s.h. of course work in continuing studies for the major. This work must be chosen from courses in one of three concentration areas: Western religious traditions; Asian religious traditions; or religion, culture, and society. Courses in each area are listed below.

**Western Religious Traditions**

032:051 Religious Thinkers of the West	3 s.h.
032:054 Introduction to Catholicism	3 s.h.
032:056 Christianity and the Enduring Human Experience	3 s.h.
032:058/16E:058 Liturgy and Devotion in Christian Tradition	3 s.h.
032:061/20E:071 Middle East and Mediterranean: Alexander to Suleiman	3 s.h.
032:067 Theological Questions	3 s.h.
032:069 Kabbalah in the Marketplace: Jewish Mysticism and the American Religious Environment	3 s.h.
032:070 Judaism in the Modern World	3 s.h.
032:085 Early Modern Catholicism	3 s.h.
032:090 Women and the Bible	3 s.h.
032:092 Messianic and Apocalyptic Prophecy in the Bible	3 s.h.
032:094 Jesus and His Interpreters	3 s.h.
032:095 The Apostle Paul	3 s.h.
032:105 Biblical Israel: Its History and Environment	3 s.h.
032:107 In Search of the Good Life	3 s.h.
032:109 Suffering, Death, and the Afterlife in Christianity and Judaism	3 s.h.
032:120 Jewish Religious Thought	3 s.h.
032:121 The Bible and the Sacrifice of Animals	3 s.h.
032:132 Medieval and Reformation Religious Thought	3 s.h.
032:136 Religious Thought in Enlightenment	3 s.h.
032:137 Modern Religious Thought: 19th Century	3 s.h.
032:138 Modern Religious Thought: 20th Century	3 s.h.
032:154 Religious Conflict/Early-Modern Period	3 s.h.
032:157 Religion and Politics: The Islamic World	3 s.h.
032:192 Traditions of Religious Reform	3 s.h.

**Asian Religious Traditions**

032:008/039:018 Asian Humanities: India	3 s.h.
032:009/039:019 Asian Humanities: China	3 s.h.
032:075/039:075 Asian Religious Classics	3 s.h.
032:081 Hindu Religion and Art	3 s.h.
032:116 Japanese Religion and Thought	3 s.h.
032:156 The Karma of Words	3 s.h.
032:163/039:162 Turning East	3 s.h.
032:170 Topics in Asian Religions	3 s.h.
032:171/039:163 Indian Religious Texts	3 s.h.
032:172/039:172 Comparative Ritual	3 s.h.
032:175/026:145 Buddhist Philosophy	3 s.h.
032:177/039:136 Indian Literature	3 s.h.
032:188/039:170 Zen Buddhism	3 s.h.

**Religion, Culture, and Society**

032:052 Women in Islam and the Middle East	3 s.h.
032:060/149:060 Introduction to Native American Religions	3 s.h.
032:063 African American Islam	3 s.h.
032:066 Introduction to Religion and the Arts	3 s.h.
032:071/154:071 Sexual Ethics	3 s.h.
032:073 Nature in Religious Thought and Ethics	3 s.h.
032:076 American Indian Environmentalism	3 s.h.
032:078/149:082 American Indian Women: Myth, Ritual, and Sacred Power	3 s.h.
032:103 Biblical Archaeology	1, 3 s.h.
032:104/01H:110 Egyptian Art	3 s.h.
032:111 Religion and Women	3 s.h.
032:112 The Bible in Film: Hollywood and Moses	3 s.h.
032:125 Conceptions of the Sacred	3 s.h.
032:126/129:123 Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3 s.h.
032:127/06J:147 Nonprofit Organizational Effectiveness I	3 s.h.
032:128/06J:148 Nonprofit Organizational Effectiveness II	3 s.h.
032:130/033:139/113:139 Religion and Environmental Ethics	3 s.h.
032:139 Religion and Violence in America	3 s.h.
032:140 Religion and Literature	3 s.h.
032:141/16A:122 Varieties of American Religion	3 s.h.
032:146/026:134 Philosophy of Religion	3 s.h.
032:147 Quest II: Sex, Love, and Death	3 s.h.
032:149/033:152 Values in the Contemporary World	3 s.h.
032:150 The Bible and the Holocaust	3 s.h.
032:151 Religion and Law	3 s.h.
032:153 Religion and the Arts	3 s.h.
032:155 Human Rights and Islam	3 s.h.
032:158/131:159/149:158 Native American Women and Religious Change	3 s.h.
032:159/091:223 Comparative Islamic Law	3 s.h.
032:160 Religious Identity in the Modern Secular State	3 s.h.
032:162 Genes and the Human Condition	3 s.h.
032:164/20E:115 Greek Religion and Society	3 s.h.
032:165/113:142 Anthropology of Religion	2-3 s.h.
032:167 Islamic Ethics and Political Thought	3 s.h.
032:169 Quest III: Heroes, Lovers, and Knives	3 s.h.
032:178/039:188 East Meets West: The Western Reception of Eastern Religion	3 s.h.
032:179/035:179 Islamic Cultural Presence in Spain	3 s.h.

**SENIOR SEMINAR**

All students must complete the senior seminar.

032:196 Senior Majors Seminar

3 s.h.

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** one or two courses in the major and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** three to six courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** five to seven courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**Honors**

Students who maintain a cumulative University of Iowa g.p.a. of at least 3.33 are eligible for membership in the University of Iowa Honors Program (contact the University of Iowa Honors Program for more information). Honors majors must complete a total of 33 s.h. to fulfill the requirements for the religious studies major. Students must take 032:198 Honors Essay under the supervision of a faculty advisor. Copies of the completed and approved essay are submitted to the Department of Religious Studies and to the University of Iowa Honors Program. Honors students may apply 3 s.h. of 032:195 Individual Study: Undergraduates or 032:197 Honors Tutorial toward their 12 s.h. requirement in the concentration area.

**Minor**

The minor in religious studies requires a minimum of 15 s.h. in religious studies courses, including 12 s.h. in courses taken at The University of Iowa that satisfy the continuing studies requirement for the major in religious studies (see "Continuing Studies" above). Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. With the recommendation of the department's undergraduate committee and approval of the faculty, students may count a maximum of 3 s.h. of transfer credit toward the minor.

**Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in religious studies. The graduate programs place religion in a broad intellectual and cultural context, provide a substantial methodological dimension, and help students develop necessary research skills.

The M.A. and the Ph.D. are offered in the following four basic areas of study.

Modern religious thought: theology, philosophy, ethics, and culture

Historical religious traditions

Religion and culture in Asia

Islamic and Judaic interdisciplinary studies

A graduate degree in religious studies ordinarily leads to an academic career teaching at the college or university level, or to a career in a religious, nonprofit, or governmental organization.

**Master of Arts**

The Master of Arts in religious studies requires a minimum of 30 s.h. of graduate credit and is offered with or without thesis. The program is designed for students who wish to advance their understanding of a particular area of religious studies.

Students must complete 24 of the required 30 s.h. at The University of Iowa and must maintain a cumulative g.p.a. of

at least 3.00. Requirements for languages and other research tools vary according to the focus of study. M.A. students are supervised by a three-person faculty committee.

All M.A. students complete the following four courses.

032:202 Asian Religious Traditions	3 s.h.
032:203 Western Religious Traditions	3 s.h.
032:205 Methods and Theories in the Study of Religion	3 s.h.
One graduate seminar	

The following course is optional for M.A. students.

032:201 Teaching Religious Studies	3 s.h.
------------------------------------	--------

Students select remaining course work depending on their interest area and in consultation with their faculty advisor.

In the M.A. thesis, students demonstrate and refine their research and writing skills. They may count a maximum of 6 s.h. of thesis credit toward the degree. Students who do not write a thesis must pass an M.A. examination that tests their competence in completed course work.

## Doctor of Philosophy

The Doctor of Philosophy in religious studies requires a minimum of 72 s.h. of graduate credit. Students may transfer up to 24 s.h. of credit from another accredited graduate school.

The Ph.D. program prepares students to become specialists in the study and teaching of religion. Students are trained in the research skills and methods they will need to become productive scholars in their chosen fields of study. They also are trained to teach religious studies across a broad range of traditions.

Course requirements for the Ph.D. vary according to concentration area. However, all students must complete the following four required courses.

032:201 Teaching Religious Studies	3 s.h.
032:202 Asian Religious Traditions	3 s.h.
032:203 Western Religious Traditions	3 s.h.
032:205 Methods and Theories in the Study of Religion	3 s.h.

All Ph.D. students also must complete four graduate seminars.

Formal admission to Ph.D. candidacy occurs during the student's fourth semester of residency, providing the following conditions are met:

completion of three of the four courses required for all Ph.D. students, with the fourth in progress (see the course list above);

evidence of the ability to write scholarly papers;

a cumulative University of Iowa g.p.a. of at least 3.40;

satisfactory progress toward fulfillment of the language requirements of the student's program; and

submission of a plan of study.

Students must pass a comprehensive examination based on a bibliography that covers their concentration area. They also must write a dissertation based on original research and defend it in an oral examination. They may count a maximum of 12 s.h. of dissertation credit toward the degree.

Students working toward a Ph.D. may receive an M.A. upon completing at least 30 s.h. of course work and successfully passing the comprehensive examination.

For more detailed information on graduate programs in religious studies, contact the Department of Religious Studies or the University's Office of Admissions.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants to the M.A. program ordinarily must have a combined verbal and quantitative score of at least 1050 on the

Graduate Record Examination (GRE) General Test and a g.p.a. of at least 3.00. Applicants to the Ph.D. program ordinarily must have a combined verbal and quantitative score of at least 1150 on the GRE General Test and a g.p.a. of at least 3.40.

Application materials must include an application form; a transcript of all undergraduate and graduate work (one copy must be sent to the University's Office of Admissions and a second copy must be sent to the Department of Religious Studies); an application or waiver of consideration form for graduate assistantships (see the web page for admission to graduate study in religious studies); three letters of recommendation; and a writing sample that demonstrates the applicant's ability to engage in critical thinking. Applicants also must submit a brief personal essay that explains their objectives for graduate study and states which area of graduate study in religion will suit their objectives best (see "Graduate Programs" above).

All application materials must be received by February 1 for fall admission.

## Financial Support

Financial aid awards are made annually on a competitive basis. Preference is given to Ph.D. applicants.

The Department of Religious Studies offers financial support for graduate students in the form of teaching assistantships. The department may nominate eligible applicants for the Presidential Graduate Fellowship or for the Dean's Graduate Fellowship, which promotes recruitment of students from underrepresented groups.

The Gilmore Scholarship, for doctoral students interested in the relationships among religion, the visual arts, and humanistic values, pays up to full tuition for one year. It is awarded every few years.

## Language Study at the University

The University offers a variety of modern European languages (see French and Italian, German, and Spanish and Portuguese in the Catalog) as well as Greek and Latin (see Classics in the Catalog); Arabic and Swahili (see French and Italian in the Catalog); and Chinese, Croatian, Czech, Hindi, Japanese, Korean, Russian, Sanskrit, and Uzbek (see Asian and Slavic Languages and Literatures in the Catalog).

## Religious Studies Courses

### 032:001 Judaism, Christianity, and Islam

3 s.h.

Introduction to Judaism, Christianity, and Islam; focus on the scriptural foundation and historical development of these related traditions; texts and other forms of religious expression, especially in art, music, literature, law, and philosophy; readings from the Hebrew Bible, New Testament, and the Qur'an; other materials from selected Jewish, Christian, and Muslim thinkers. GE: Historical Perspectives.

### 032:002 Religion and Society

3 s.h.

Meaning of religious questions and answers in traditional and modern social contexts in the West. GE: Humanities.

### 032:003 Quest for Human Destiny

3 s.h.

Quests for destiny in terms of perceived options/goals and ability to recognize, pursue, achieve them. GE: Humanities.

### 032:004 Living Religions of the East

3 s.h.

Religious beliefs, practices in India, China, Japan. GE: Foreign Civilization & Culture, Historical Perspectives. Same as 039:064.

### 032:006 Introduction to Buddhism

3 s.h.

Basic tenets, religious paradigms, historical phases important in the development of Buddhism; from the Buddha's life to evolution of Mahāyāna Buddhism; readings from India, Tibet, China, Japan, Korea, Southeast Asia. GE: Foreign Civilization & Culture, Humanities. Same as 039:006.

### 032:008 Asian Humanities: India

3 s.h.

Introduction to four thousand years of South Asian civilization, through popular stories. GE: Foreign Civilization & Culture, Humanities. Same as 039:018.

### 032:009 Asian Humanities: China

3 s.h.



Literary and philosophical texts of China in English translation. GE: Foreign Civilization & Culture, Humanities. Same as 039:019.

**032:010 Chinese Religions**

3 s.h.

Survey of Chinese religions; Chinese traditional religious beliefs and practices among the elite and the general population; recent developments in mainland China, Taiwan, and the West; religious ideas of Confucianism, Daoism, aspects of Buddhism, ancestor worship, cults of deities, practices such as spirit possession, faith healing, ghost marriages. Same as 039:007.

**032:011 Introduction to the Hebrew Bible/Old Testament**

3 s.h.

History, religion, and thought of ancient Jews as recorded in their scripture. GE: Humanities.

**032:012 Introduction to the New Testament**

3 s.h.

History, religion, and thought of early Christians as recorded in the New Testament. GE: Humanities.

**032:014 Introduction to Indian Religions**

3 s.h.

Religions with origins in the South Asian geographic region (e.g., Vedas in mid-second millennium BCE, Jainism and Buddhism from sixth to fourth centuries BCE, Sikhism in 15th century, Indian Christianity, Islam); focus on Hinduism and Buddhism; rise of varied literary forms, ritual, rise of devotional religion, Tantra, how religious practices affect indigenous medical traditions, how these traditions developed in different South Asian regions; broad changes in South Asian religion in 20th and early 21st centuries, current politicization of religion.

**032:016 Religion and Liberation**

3 s.h.

Reflections on the life stories of Black Elk, Maya Angelou, and the Dalai Lama. GE: Cultural Diversity, Humanities.

**032:017 Japanese Religions**

3 s.h.

Religions of Japan from ancient times to the present day; elite and popular Japanese interpretations of Chinese Buddhist and Daoist traditions; the parallel development of an indigenous kami tradition; contemporary new religious movements; focus on the codification of a variety of religious (and sometimes quasi-religious) paths, including the way of tea, the way of the brush, and the way of the samurai. Same as 39J:017.

**032:020 War and Peace in Western Religious Thought**

3 s.h.

History, major themes, and contemporary applications of western religious traditions regarding proper use of armed force; Christian just war and pacifist traditions, Islamic traditions of jihad, debates of issues such as humanitarian intervention, terrorism, nuclear weapons.

**032:025 Medieval Religion and Culture**

3 s.h.

Religion in Europe from classical antiquity to dawn of the Reformation; the religious element in traditions such as art, architecture, literature. GE: Historical Perspectives. Same as 016:035.

**032:026 Modern Religion and Culture**

3 s.h.

European and American religious life from Renaissance to 21st century; focus on specific themes, such as secularism, regionalism, pluralism. GE: Historical Perspectives. Same as 016:036.

**032:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**032:030 Introduction to Islam**

3 s.h.

Major areas of Islamic religious tradition: Qur'an, traditions of the Prophet, development and character of Islamic law, theology. GE: Foreign Civilization & Culture, Historical Perspectives.

**032:034 Introduction to African American Religions**

3 s.h.

GE: Cultural Diversity, Humanities. Same as 129:050.

**032:042 Religion, Ethics, and Politics**

3 s.h.

**032:051 Religious Thinkers of the West**

3 s.h.

Augustine, Bonaventure, Fichte, Kierkegaard, Heidegger. GE: Humanities.

- 032:052 Women in Islam and the Middle East** 3 s.h.  
Women in the Islamic community and in non-Muslim Middle Eastern cultures; early rise of Islam to modern times; references to women in the Qur'an and Sunnah, stories from Islamic history; women and gender issues. GE: Foreign Civilization & Culture, Humanities. Same as 131:060.
- 032:054 Introduction to Catholicism** 3 s.h.  
Catholic doctrine, liturgy, moral teaching.
- 032:056 Christianity and the Enduring Human Experience** 3 s.h.  
Topics in Christian history and thought; emphasis on the relationship between communities of belief and Christian traditions.
- 032:058 Liturgy and Devotion in Christian Tradition** 3 s.h.  
Liturgical traditions and devotional practices in western Christianity; Medieval Christian tradition, changes in liturgy and devotion that occurred with reformations of the 16th and 17th centuries; overview of modern developments. Same as 16E:058.
- 032:060 Introduction to Native American Religions** 3 s.h.  
GE: Cultural Diversity. Same as 149:060.
- 032:061 Middle East and Mediterranean: Alexander to Suleiman** 3 s.h.  
GE: Foreign Civilization & Culture. Same as 016:045, 20E:071.
- 032:063 African American Islam** 3 s.h.  
Same as 129:063.
- 032:066 Introduction to Religion and the Arts** 3 s.h.  
Religion in different art genres, including visual, performing, and literary.
- 032:067 Theological Questions** 3 s.h.  
Treatment of basic religious questions, such as the meaning of "God," nature of religious symbols, phenomena of skepticism and atheism.
- 032:069 Kabbalah in the Marketplace: Jewish Mysticism and the American Religious Environment** 3 s.h.  
Main ideas of Kabbalah and Jewish mysticism from a scholarly perspective; how and in what form these ideas were incorporated into American pop culture and American religious culture.
- 032:070 Judaism in the Modern World** 3 s.h.  
Judaism in the modern period; Jewish religion, influence of major historical events (enlightenment, emancipation, Holocaust, the establishment of the State of Israel); questions of Jewish identity, theology, thought.
- 032:071 Sexual Ethics** 3 s.h.  
Introduction to religion and ethics; examination of a range of secular, Jewish, and Christian perspectives on sexuality and sexual activity; perspectives of homosexuality and abortion that remain controversial in many cultures. Same as 154:071.
- 032:073 Nature in Religious Thought and Ethics** 3 s.h.  
Diverse religious perspectives on the natural environment; corresponding ethical implications for individual and collective human behavior.
- 032:075 Asian Religious Classics** 3 s.h.  
Works of South and East Asia; may include *Bhagavad Gita*, *Life of Milarepa*, *Mencius*, *Great Learning*, *Chuang-tzu*, *Lotus Sutra*, *Platform Sutra*, selected Korean and Japanese works. Same as 039:075.
- 032:076 American Indian Environmentalism** 3 s.h.  
Same as 149:076.
- 032:078 American Indian Women: Myth, Ritual, and Sacred Power** 3 s.h.

Participation of women and girls in native religious traditions; obstacles to knowing and understanding native women's religious roles and experiences. Same as 149:082.

**032:081 Hindu Religion and Art** 3 s.h.

Hinduism's mystery dispelled through examination of its basic concepts, using art works, sacred texts, myths, devotional poetry; what divine power is, what sculpted and painted images of gods and goddesses mean, how Hindu devotees relate to these awesome personages today.

**032:085 Early Modern Catholicism** 3 s.h.

Same as 16E:085.

**032:090 Women and the Bible** 3 s.h.

Construction of women's characters and roles in the Jewish and Christian canonical texts; modern feminist biblical interpretations.

**032:092 Messianic and Apocalyptic Prophecy in the Bible** 3 s.h.

Literary, historical, and theological analysis of biblical prophecies and their impact.

**032:094 Jesus and His Interpreters** 3 s.h.

How Jesus was depicted in the writings of the early church; reasons for the different portrayals.

**032:095 The Apostle Paul** 3 s.h.

Paul, as seen through his letters; social, historical, and religious environments in which the apostle lived and wrote.

**032:100 Biblical Hebrew I** 4 s.h.

**032:101 Biblical Hebrew II** 4 s.h.

**032:102 Biblical Hebrew III** 3 s.h.

Continuation of 032:101. Prerequisites: 032:100 and 032:101.

**032:103 Biblical Archaeology** 1-3 s.h.

Contributions of Syro-Palestinian archaeological research to understanding historical, cultural backgrounds of biblical period.

**032:104 Egyptian Art** 3 s.h.

Sculpture, painting, architecture, and luxury arts from Pyramid Age to Death of Cleopatra. Prerequisites: 01H:005. Same as 01H:110.

**032:105 Biblical Israel: Its History and Environment** 3 s.h.

Historical, intellectual background; focus on patterns of thought, religion in Near East, relation to Israelite religion.

**032:107 In Search of the Good Life** 3 s.h.

Works from Greco-Roman, Jewish, and Christian cultures to analyze various beliefs on how humans can live the good life and examine how these solutions are intimately connected to the specific conceptions of the divine world. Same as 20E:107.

**032:108 Malcolm X, King, and Human Rights** 3 s.h.

Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as 129:108.

**032:109 Suffering, Death, and the Afterlife in Christianity and Judaism** 3 s.h.

Development of afterlife ideology in Jewish and Christian traditions and ideas that influenced this development, particularly as it relates to the problem of suffering. Same as 20E:104.

**032:111 Religion and Women** 3 s.h.

Sexism and its disavowal in biblical narrative, law, wisdom texts, Gospels, epistles; contemporary impact. GE: Humanities.

**032:112 The Bible in Film: Hollywood and Moses** 3 s.h.

How Hollywood has interpreted the Biblical stories of Adam and Eve, Moses, and David the King.

**032:116 Japanese Religion and Thought** 3 s.h.

Same as 39J:109.

**032:120 Jewish Religious Thought** 3 s.h.

Medieval and modern theological tradition of Judaism: Maimonides, Spinoza, Buber, others; historical contexts, modern interpretations.

**032:121 The Bible and the Sacrifice of Animals** 3 s.h.

Why the biblical God permits humans to eat other animals' flesh; fundamental dietary differences between humans and the beasts.

**032:122 Classical and Hellenistic Periods I** 3 s.h.

Readings in Greek literature of the Classical and Hellenistic periods. Prerequisites: 20G:012. Same as 20G:122.

**032:125 Conceptions of the Sacred** 3 s.h.

How the holy has been experienced and described in Western religion; manifestations of the divine in the ordinary; Christian visionary spirituality, kabbalah, tension between deism and theism in the Enlightenment and beyond.

**032:126 Twentieth-Century African American Religion: Civil Rights to Hip-Hop** 3 s.h.

Twentieth-century African American religious history; major political and cultural movements, such as civil rights, black power, black feminism/womanism, hip-hop. Same as 129:123.

**032:127 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 024:147, 042:157, 06J:147, 06T:144, 096:168.

**032:128 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as 024:148, 042:158, 06J:148, 096:169.

**032:130 Religion and Environmental Ethics** 3 s.h.

How humans conceptualize the biophysical environment through religious beliefs and practices; how images of the environment influence people's activities, how they are used by grassroots environmental movements. Requirements: junior or senior standing. Same as 033:139, 113:139.

**032:131 Gender and Sexuality in East Asia** 3 s.h.

Conceptions of sex, gender, and sexuality in the religions of China, Korea, and Japan; asceticism and celibacy; sexual alchemy; the difference between male and female bodies and souls; intersexed persons; female saints and immortals; transgressive sexuality; gender and sexuality in colonial Asia; East Asian religions and postcolonial feminism. Same as 131:131, 154:131.

**032:132 Medieval and Reformation Religious Thought** 3 s.h.

Classics of patristic, scholastic, reformation theology; special attention to relationships among authors, periods, genres.

**032:135 Religious Readers and Their Books** 3 s.h.

Close study of content and form of religious books and their interplay with individual and communal reading habits; examination of the way written and printed matter circulate in religious contexts; analysis of the meaning of sacred texts in various settings. Same as 108:135.

**032:136 Religious Thought in Enlightenment** 3 s.h.

Religious thought (1680-1790) that challenged the legitimacy of tradition and attempted to base all of life, including religion, on nature and reason; readings from Spinoza to Lessing, Kant.

- 032:137 Modern Religious Thought: 19th Century** 3 s.h.
- 032:138 Modern Religious Thought: 20th Century** 3 s.h.
- 032:139 Religion and Violence in America** 3 s.h.  
Movements in North American history marked by violence (i.e., Peoples Temple, Lakota Ghost Dance, Branch Davidians, Shawnee Movement); the role of violence in expressing and shaping some religious movements.
- 032:140 Religion and Literature** 3 s.h.  
Religious themes in great works of literature.
- 032:141 Varieties of American Religion** 3 s.h.  
World views of religious groups (e.g., Mormon, Scientology, Jehovah's Witness, Black Muslim, Unification Church of Sun Myung Moon). Same as 16A:122.
- 032:146 Philosophy of Religion** 3 s.h.  
Medieval to contemporary treatments of central issues: the nature of faith; the existence and nature of God; religion and ethics; the interpretation of religious texts. Same as 026:134.
- 032:147 Quest II: Sex, Love, and Death** 3 s.h.  
Readings from the Hebrew Bible, Sophocles' *Antigone*, Melville's *Billy Budd*, Hemingway's *The Sun Also Rises*, Salinger's *A Perfect Day for Banana Fish*, the film *From Here to Eternity*.
- 032:149 Values in the Contemporary World** 3 s.h.  
Modern problems in definition and choice of values; writings of contemporary ethical theorists, novelists. Same as 033:152.
- 032:150 The Bible and the Holocaust** 3 s.h.  
Religious and philosophic implications of the Holocaust viewed through survivors' writings.
- 032:151 Religion and Law** 3 s.h.  
Why do we follow religious and secular laws—to avoid divine wrath or civil punishment? Does obedience to law express or degrade ethical meaning? How Jewish and Christian thinkers have answered these questions; how historical debates in the Jewish and Christian religious traditions have shaped contemporary Anglo-American legal history.
- 032:153 Religion and the Arts** 3 s.h.  
Analysis, interpretation of religious themes in literature, film, painting.
- 032:154 Religious Conflict/Early-Modern Period** 3 s.h.  
Reformation of 16th century—Lutheran, Calvinist, Radical, English; readings from major representatives of each. Same as 16E:123.
- 032:155 Human Rights and Islam** 3 s.h.  
Human rights in religious and secular discourse, seventh century to present; Islamic law, human rights law, religion, politics. GE: Humanities.
- 032:156 The Karma of Words** 3 s.h.  
Key issues in the relationship between Buddhism and the literary arts. Same as 039:156.
- 032:157 Religion and Politics: The Islamic World** 3 s.h.  
Major trends in Islamic religious thought since the colonial period, focusing on encounters between Islamic and the modern world; Ibn Khaldun; renewal movements; varieties of religious reform and accommodation; nationalism, socialism, and so forth. Recommendations: prior Islamic course work.
- 032:158 Native American Women and Religious Change** 3 s.h.

Native women's diverse experiences and their roles in native societies, examined through contact experiences between native and nonnative peoples; changes in women's roles in context of interactions between native people, missionaries, European colonists, and Americans; approaches to re-imaging women's early contact roles presented in cultural narratives, archaeology, history, ethnography, and missionary records. Same as 131:159, 149:158.

### **032:159 Comparative Islamic Law**

3 s.h.

Sources of Islamic law; origins and functions of varied schools of jurisprudence; Islamic legal philosophy and Islamic legal rulings in contexts of five major schools of law; major legal topics covered by the Ottoman Legal Code. Same as 091:223.

### **032:160 Religious Identity in the Modern Secular State**

3 s.h.

Shifting relations between organized religions and political institutions, between private piety and public life, in the West since the Enlightenment; rise of nationalism and the altered role of churches since the Revolutionary era; challenges of science and philology to traditional understandings of revelation, rise of fundamentalism in the wake of those challenges; Christian responses to the social effects of the Industrial Revolution; intertwining of ethnic, religious, and political identities in the late 20th and early 21st centuries.

### **032:162 Genes and the Human Condition**

3 s.h.

Ethical, legal, and social implications of the new genetics, with focus on the Human Genome Project.

### **032:163 Turning East**

3 s.h.

The global nature of pilgrimage, primarily religious travel in or to Asia; journeys to single sacred sites, travel circuits to multiple destinations, internal or metaphorical pilgrimages. Same as 039:162.

### **032:164 Greek Religion and Society**

3 s.h.

From Bronze Age to the Hellenistic period, in context of Mediterranean culture; evidence such as choral hymn, inscribed prayers, magical curses inscribed on lead, architecture, sculpted offerings to the gods. GE: Humanities. Same as 20E:115.

### **032:165 Anthropology of Religion**

2-3 s.h.

Approaches; religious roles; shamanism, witchcraft, curing; mythology; place of religion in social and cultural change. Same as 113:142.

### **032:167 Islamic Ethics and Political Thought**

3 s.h.

Islamic ethics and political movements from seventh century CE to modern times. Taught in English. Recommendations: Islamic course work.

### **032:169 Quest III: Heroes, Lovers, and Knives**

3 s.h.

Tension between Paganism and the Bible regarding heroism and eroticism; the Song of Songs, stories of Rachel, Samson, Saul, Bathsheba; Plato's *Symposium*, Hemingway's *The Snows of Kilimanjaro*, Salinger's *For Esmé with Love and Squalor*, *The Highlander*, *The Matrix*, *Bridget Jones' Diary*; unmasking knaves to truly appreciate heroes and lovers.

### **032:170 Topics in Asian Religions**

3 s.h.

Same as 039:168.

### **032:171 Indian Religious Texts**

3 s.h.

Same as 039:163.

### **032:172 Comparative Ritual**

3 s.h.

Practice and theory; rituals from religions, including Hinduism, Buddhism, Christianity, Indian religions; theories of interpretation. Same as 039:172.

### **032:175 Buddhist Philosophy**

3 s.h.

Introduction to main ideas. Same as 026:145.

### **032:177 Indian Literature**

3 s.h.

Readings from medieval and modern periods in English translation. Same as 039:136.

### **032:178 East Meets West: The Western Reception of Eastern Religion**

3 s.h.

Introduction of religious ideas and forms from India, China, and Japan into Europe and America to late 20th century, from Greeks to New Age. Same as 039:188.

**032:179 Islamic Cultural Presence in Spain** 3 s.h.  
Islamic history and culture in the Iberian Peninsula from Middle Ages to present. Taught in Spanish. Requirements: one Spanish literature or culture course numbered 035:130 or above. Same as 035:179.

**032:180 Religion and Healing** 3 s.h.  
Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as 113:145.

**032:186 The Literature of Daoism** 3 s.h.  
Texts of philosophical, religious Daoism; Daoism in traditional Chinese political theory, literature, the arts, alchemy and medicine, sexual custom, combat. Taught in English. Same as 039:140.

**032:188 Zen Buddhism** 3 s.h.  
Prerequisites: 032:004 or 032:006 or 032:010. Same as 039:170.

**032:192 Traditions of Religious Reform** 3 s.h.  
Same as 016:192.

**032:195 Individual Study: Undergraduates** arr.

**032:196 Senior Majors Seminar** 3 s.h.  
Issues central to academic study of religion.

**032:197 Honors Tutorial** 2-3 s.h.

**032:198 Honors Essay** 2-4 s.h.

**032:201 Teaching Religious Studies** 3 s.h.  
Teaching methods, course development, examination construction.

**032:202 Asian Religious Traditions** 3 s.h.

**032:203 Western Religious Traditions** 3 s.h.

**032:205 Methods and Theories in the Study of Religion** 3 s.h.  
Principal methods, theories in academic study of religion.

**032:208 Asian Religions Colloquium** 3 s.h.

**032:218 Seminar: Religion in America** 3 s.h.  
Religious experience in America; topics.

**032:220 Seminar: Topics in Western Religious Thought** 3 s.h.  
In-depth reading of original sources and modern scholarship on selected problems in the modern study of Western religious thought.

**032:222 Seminar in Historical Theology** 3 s.h.

**032:223 Seminar: Reformation Culture and Theology** arr.  
Culture and theology of 16th-century Europe. Same as 016:223.

**032:224 Seminar: Contemporary Theology** arr.  
Ricoeur's hermeneutics.

**032:225 Seminar on Islamic Law and Government** 3 s.h.

Islamic legal and political legacy from the formative period until modern time; critical analysis of the logic and context of development; development of jurisprudential, legal, and political literature; overview of theories and practices of governance in Islam beginning with the Caliphate system and ending with the modern nation-state models. Same as 091:636.

**032:226 Seminar: Religious Ethics** 3 s.h.

**032:227 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 024:247, 028:257, 042:247, 06J:247, 091:320, 102:278, 174:247.

**032:228 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 024:248, 028:258, 042:248, 06J:248, 091:322, 102:279, 174:248.

**032:229 High Empire** arr.

Authors and topics from the first and second centuries C.E. Repeatable. Same as 20L:229.

**032:231 Seminar: Religion and Society** 3 s.h.

**032:235 Seminar: South Asian Religion** 3 s.h.

Topics in South Asian religions. Same as 039:235.

**032:237 Seminar: East Asian Religion** 3 s.h.

Emphasis on China and/or Japan. Same as 039:237.

**032:240 Seminar: Religion and Law** 3-4 s.h.

The role of law in ongoing conflicts over the relationship between religion, morality, and society in the United States. Same as 091:685.

**032:243 Religion and the Arts** 3 s.h.

Repeatable.

**032:261 Readings in American Religions** arr.

**032:262 Readings in History of Christianity** arr.

Repeatable.

**032:263 Readings in Theology and Religious Thought** arr.

Repeatable.

**032:264 Readings in Religious Ethics** arr.

Repeatable.

**032:265 Readings in Asian Religions** arr.

Repeatable.

**032:266 Readings in Classical Arabic** 3 s.h.

Repeatable.

**032:267 Readings in Islamic Studies** arr.

Current scholarship in the field of Islamic studies; major works in areas such as modern Islamic thought, Islamic legal and philosophical traditions, religion and politics.

**032:290 Individual Study: Graduates** arr.

Repeatable.



**032:291 Thesis**  
Repeatable.

arr.

# Rhetoric

**Chair:** Steve Duck

**Professors emeriti:** Donovan J. Ochs, Douglas M. Trank

**Associate professors:** Aimee Carrillo Rowe, Takis Poulakos, Carol Severino, Mary Trachsel

**Associate professors emeriti:** Lou Kelly, Gene H. Krupa, Dennis M. Moore, Lois B. Muehl

**Assistant professors:** Naomi Greyser, Bridget Harris Tsemo

**Lecturers:** Cinda Coggins Mosher, Patrick Dolan, Will Jennings, Megan Knight

**Web site:** <http://www.uiowa.edu/~rhetoric>

The Department of Rhetoric offers courses that fulfill the College of Liberal Arts and Sciences General Education Program rhetoric requirement and provides individual instruction in its Writing Center and Speaking Center. It also offers other undergraduate courses and graduate seminars.

Students interested in continued study of rhetoric once they have fulfilled the rhetoric requirement of the General Education Program may enroll in upper-division rhetoric courses. Many of these are cross-referenced with other University departments and may count toward certain undergraduate majors.

Graduate students in many disciplines, including American studies, anthropology, communication studies, comparative literature, classics, English, history, journalism, political science, and others, may find rhetoric courses valuable to their programs of study.

## General Education Courses

General Education courses in rhetoric help students

- use writing and speaking to discover and explain and to question and justify positions in a controversy;
- use reading and listening to comprehend and consider arguments, both as separate constructs and in conversation with one another;
- understand basic rhetorical concepts such as purpose and audience and to use them in composing effective spoken and written communication;
- understand and use research as responsible inquiry.

Rhetoric courses approved for General Education are sometimes organized around a special topic, but the primary emphasis is always on rhetorical practice and analysis. Some sections also involve special activities, such as service-learning components, but the workload across all sections is comparable, with a fixed number of major assignments and a departmentally approved set of readings.

During their first year at the University, students enroll in the rhetoric course indicated on their degree audit (unless a delay is required). Students must enroll in a rhetoric course during their first year and each semester thereafter until the rhetoric requirement noted on the degree audit has been satisfied.

Students planning to transfer to The University of Iowa should discuss course equivalencies as soon as possible with an advisor or with the University of Iowa Office of Admissions. For additional information on the General Education Program rhetoric requirement and transfer equivalencies, see the CLAS Academic Handbook General Education page.

Students required to enroll in English as a Second Language (ESL) courses as a result of their English proficiency evaluation must complete all ESL courses before they may register for any rhetoric course or use the services of the Writing Center or the Speaking Center. Required ESL courses are prerequisites to rhetoric courses.

Students who have undergone formal evaluation by Student Disability Services and are found to be learning disabled in reading, writing, or speaking should request reasonable accommodations in order to complete rhetoric. Accommodations may be arranged by Student Disability Services in consultation with the Department of Rhetoric and individual instructors.

## Rhetoric Courses

### For Undergraduates

#### General Education

#### 010:002 Rhetoric II

4 s.h.

Second of a two-course sequence begun in 010:001. GE: Rhetoric - Speech, Rhetoric Level II.

#### 010:003 Rhetoric

4 s.h.

Use of writing and speaking to discover, question, explain, and justify positions in a controversy; reading and listening to comprehend and consider arguments; employment of basic rhetorical concepts (e.g., purpose, audience); understanding research as responsible inquiry; special topics, activities (e.g., a service-learning component). GE: Rhetoric - Speech, Rhetoric Level II.

#### **010:004 Writing and Reading**

3 s.h.

Writing portion of the accelerated course 010:003; introductory course in writing required of students who have completed a college-level public speaking course and writing course but have not satisfied the 8 s.h. rhetoric requirement. Requirements: completion of speaking requirement. GE: Rhetoric Level II.

#### **010:006 Speaking and Reading**

3 s.h.

Speaking portion of the accelerated course 010:003; introductory course in speaking required of students who have completed 6 s.h. of college writing instruction but have not completed a 3 s.h. college-level speaking course; intended to improve speaking, listening, critical, analytical, and advocacy skills. Requirements: completion of writing requirement. GE: Rhetoric - Speech.

### **Other Courses**

#### **010:010 Writing for Academic Success**

0 s.h.

Individualized instruction in the Writing Center; in conjunction with General Education rhetoric courses.

#### **010:020 Academic Seminar I**

3 s.h.

IowaLink seminar. Requirements: first-year standing.

#### **010:021 Academic Seminar II**

3 s.h.

IowaLink seminar. Requirements: first-year standing.

#### **010:029 First-Year Seminar**

1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **010:030 The Art of Persuading Others**

3 s.h.

Basic theoretical concepts of effective public communication; employ knowledge of concepts in analyzing texts; definition and influence of the rhetorical situation, different elements of persuasion (message logic, appeal to feelings, character of the speaker), ability of speakers to invent arguments; issues of judgment, public discourse, identity, and agency. Communication studies majors may apply this course to the following area requirement. AREA: Practice. Same as 036:030.

### **For Undergraduate and Graduate Students**

#### **010:128 Racial Narrative and American Performance**

3 s.h.

Same as 048:128, 129:128.

#### **010:130 Performing Culture, Language, and Literature**

3 s.h.

Performance of self in everyday life; performance in/of literature; performance as an aesthetic act; performance as a way to understand and represent identities, languages and cultures; students participate in performance as a mode of literary and rhetorical interpretation, cultural and political intervention, and artistic-embodied public presentation. Requirements: (for 036:130) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 036:130, 049:160, 160:130.

#### **010:131 Classical Rhetoric and Greek Culture**

3 s.h.

Origins, development of the art of rhetoric from Sophists to Aristotle; significance to Greek culture from fifth to fourth century B.C. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:143) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 036:143.

**010:141 Rhetoric and Past Public Controversy**

3 s.h.

Role of rhetoric in public controversy in particular historical time periods; focus on various perspectives, diverse voices, and multiple arguments informing particular movements/issues. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:158) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 036:158.

**010:160 Issues in Rhetoric and Culture**

3 s.h.

Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:146) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 036:146, 048:160, 160:160.

**010:161 Rhetorical Issues in Health Care**

3 s.h.

Role of rhetoric in health care practice, decisions, and ethics; rhetorical production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Requirements: satisfactory completion of rhetoric General Education requirement. Same as 153:161, 160:161.

**010:170 Rhetoric of Sustainability**

3 s.h.

How sustainable development and related concepts have been used to shape public opinion on a range of topics, from environmental protection to economic globalization; role in discourse of public policy. Requirements: fulfillment of rhetoric requirement.

**010:198 Special Projects for Undergraduates**

arr.

**For Graduate Students****010:230 Rhetorical Criticism**

3 s.h.

Approaches to rhetorical analysis of communicative artifacts, acts, events; rhetorical-critical essay writing. Same as 036:220.

**010:243 Feminist Cultural Studies**

3 s.h.

Same as 008:243, 036:222, 131:243, 160:243.

**010:264 Postcolonial Feminist Theory**

3 s.h.

Role of colonial histories and postcolonial legacies on past and contemporary relations of power in varied geographical contexts, through interdisciplinary feminist perspective; processes of gender and racialization relative to uneven global flows of media, capital, people. Requirements: 131:151 or cultural studies course. Same as 131:264, 160:280.

**010:271 Studies in Sentimentalism**

3 s.h.

Readings in sentimentalism as literary genre, rhetorical practice, cultural mode, and psycho-social phenomenon; focus on attendant theories of affect; integration of literature and culture with work on the politics of affect in postcolonial and transnational studies, critical race and ethnic studies, American studies, and gender and sexuality studies. Same as 008:271.

**010:275 Topics in Second Language Acquisition: Writing**

3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as 035:227, 164:227.

**010:301 Classical Rhetoric**

3 s.h.

Discourse in the ancient world. Same as 036:310, 20E:230.

**010:332 Critical Ethnography**

3 s.h.

How power relations constitute the work of ethnographic research; ethnography as a rhetorical form--how ethnographic inscription renders self, other, culture, and the world intelligible in ways that reinscribe and/or challenge dominant social relations; axes of power such as race, class, gender, sexuality, and nation within postcolonial, feminist, and antiracist approaches to ethnographic/autoethnographic theory and praxis; negotiating researcher privilege and epistemic violence; crisis of representation. Same as 036:378, 160:332.

**010:340 Current Issues in Rhetoric**

3 s.h.

Ethical, social, or cultural issues; rhetoric's role in their contemporary significance; traditional aspects of rhetoric, their pertinence to present concerns. Same as 036:317, 160:340.

**010:350 Colloquium: Teaching Rhetoric**

3 s.h.

**010:360 Issues in Rhetoric and Culture**

3 s.h.

Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Repeatable. Same as 160:360.

**010:375 Teaching in a Writing Center**

3 s.h.

Seminar/practicum to prepare graduate students to teach in the University of Iowa Writing Center or similar settings; seminar component on writing and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in the Writing Center. Same as 08N:375.

**010:550 Special Project for Graduate Students**

arr.

**010:600 Seminar in Rhetorical Theory**

1-4 s.h.

Topics in history and development of rhetorical theory; theory construction and application to critical practice. Same as 036:336.

## Science Education

**Coordinator:** Brian Hand

**Professor:** Brian Hand

**Professors emeriti:** Edward L. Pizzini, Robert E. Yager

**Associate professor:** Richard Cary

**Associate professors emeriti:** George W. Cossman, Darrell G. Phillips, Daniel S. Sheldon, John T. Wilson

**Clinical associate professor:** John Dunkhase

**Assistant professors:** Cory Forbes, Soonhye Park

**Undergraduate degree:** B.S. in Science Education

**Graduate degrees:** M.A.T.; M.S.; Ph.D. in Science Education

**Web site:** <http://www.education.uiowa.edu/scied/>

The Science Education Program provides preparation in more than one discipline of science; a consideration of science from a philosophical, historical, and sociological perspective; an introduction to applied science (technology); and an education sequence.

Program planning in science education requires the cooperation and involvement of a variety of University departments and colleges. Most of the program's requirements are drawn from courses offered by these varied academic units.

## Undergraduate Program

The program offers a Bachelor of Science in science education. The transdisciplinary major in science is intended for students interested in education.

The science education major is not intended to prepare students for advanced study in one area of science. When graduates of the Science Education Program elect to pursue graduate studies in a single area of science, they often must complete additional courses in that discipline after they are admitted to the Graduate College.

All of the emphasis areas in science education have the following characteristics in common.

- Depth in a general area of science equivalent to three years or six semesters of sequential study
- Preparation in a second area of science equivalent to two years or four semesters of sequential study
- Introduction to two other fields of science
- A specified proficiency in mathematics as a tool of science (with more mathematics study required for the physical science emphases than for the biological ones)
- A view of science from a historical/philosophical/cultural perspective
- Experience with the application of scientific knowledge

### Special Rules

Since the Science Education Program may involve many faculty advisors and several colleges and departments, some special rules and regulations apply to science education students. They include the following.

- At least 10 s.h. of graded credit in science must be earned at The University of Iowa.
- No credit from the CLEP Natural Science General Examination may be used toward the major in science education.
- Courses used for the major may not be taken pass/nonpass; grades from all courses used for the science education major are used in computing a student's grade-point average in the major, both at The University of Iowa and overall.
- Since mathematics forms an integral part of so many aspects of modern science, all science education students are urged to complete appropriate advanced courses in both pure and applied mathematics (including statistics and computer science) so that they may be qualified to do graduate work and quantitative research later.

### Bachelor of Science

The Bachelor of Science in science education requires a minimum of 120 s.h., including 57-61 s.h. of work for the major. Students choose one of four primary emphasis areas: biological sciences, earth science, chemistry, and physics. They take selected courses offered by science departments in the College of Liberal Arts and Sciences, science applications courses, and courses in the history, philosophy, and sociology of science. Students also must complete the College of Liberal Arts and Sciences General Education Program.

The major in science education requires 24-28 s.h. in a primary emphasis area (amount of credit depends on the area chosen), 15 s.h. in a secondary emphasis area (may include a science applications course), the broad field science block, and at least 6 s.h. of additional credit from one or more other emphasis areas (excluding applications courses).

Students who wish to be certified to teach science must complete the 44 s.h. professional education sequence; see "B.S. with Teacher Licensure" later in this section.

**BIOLOGY EMPHASIS AREA**

Primary emphasis area total of 28 s.h.

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
002:022 Ecology and Evolution	3 s.h.
002:081 Human Genetics in the Twenty-First Century	3 s.h.
002:134 Ecology	3-4 s.h.
099:110 Biochemistry	3 s.h.
097:103 Societal and Educational Applications of Biological Sciences	3 s.h.

One of these:

002:124 Animal Physiology	3 s.h.
027:130 Human Physiology	3 s.h.

**CHEMISTRY EMPHASIS AREA**

Primary emphasis area total of 25 s.h.

All of these:

004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:121 Organic Chemistry I	3 s.h.
004:122 Organic Chemistry II	3 s.h.
004:125 Inorganic Chemistry (spring)	2 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.
097:106 Societal and Educational Applications of Chemical Concepts	3 s.h.

One of these:

004:111 Analytical Chemistry I (fall)	3 s.h.
004:131 Physical Chemistry I	3 s.h.
099:110 Biochemistry (spring)	3 s.h.

**EARTH SCIENCE EMPHASIS AREA**

Primary emphasis area total of 27 s.h.

All of these:

012:004 Evolution and the History of Life	4 s.h.
012:005 Introduction to Geology	4 s.h.
012:008 Introduction to Environmental Science	4 s.h.
012:041 Mineralogy	4 s.h.
012:108 Introduction to Oceanography	2 s.h.
012:114 Energy and the Environment	3 s.h.
097:102 Societal and Educational Applications of Earth Science and Environmental Science	3 s.h.

One of these:

012:102 Earth Surface Processes	3 s.h.
012:104 Climatology	3 s.h.
012:121 Principles of Paleontology	3 s.h.
012:136 Soil Genesis and Geomorphology	3 s.h.

**PHYSICS EMPHASIS AREA**

Primary emphasis area total of 23-27 s.h.

097:105 Societal and Educational Applications of Physical Sciences	3 s.h.
--	--------

One of these sequences:

029:011-029:012 College Physics I-II (if physics is a secondary emphasis area)	8 s.h.
029:027-029:028 Physics I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.

One of these:

029:029 Physics III	4 s.h.
029:115 Intermediate Mechanics	3 s.h.

One of these:

029:050 Stars, Galaxies, and the Universe (if physics is a secondary emphasis area)	3-4 s.h.
029:052 Exploration of the Solar System (if physics is a secondary emphasis area)	3 s.h.
029:061 General Astronomy I	4 s.h.

One of these:

029:128 Electronics	4 s.h.
029:129 Electricity and Magnetism I	3 s.h.

One of these:

029:006 Physics of Everyday Experience (if physics is a secondary emphasis area)	3 s.h.
029:044 Physics of Sound	3-4 s.h.

#### **BROAD FIELD SCIENCE BLOCK**

097:102 Societal and Educational Applications of Earth Science and Environmental Science	3 s.h.
097:103 Societal and Educational Applications of Biological Sciences	3 s.h.
097:105 Societal and Educational Applications of Physical Sciences	3 s.h.
097:106 Societal and Educational Applications of Chemical Concepts	3 s.h.
097:128 Meaning of Science	2 s.h.
097:130 Science in Historical Perspective	2 s.h.

### **B.S. with Teacher Licensure**

Candidates for a bachelor's degree in science education may, but are not required to, be admitted to the Teacher Education Program (TEP) in the College of Education. In order to be considered for admission to the TEP, students must have completed a minimum of 33 s.h. of course work with a cumulative g.p.a. of at least 2.70. A limited number of applicants are accepted to the TEP, so having the required grade-point average does not ensure admission. Admission decisions are based on grade-point averages in science courses and other criteria relevant to teaching.

For procedures and deadlines for TEP applications, see Teaching and Learning (College of Education) in the Catalog. Interested students must apply to the College of Education for admission to the Teacher Education Program.

TEP students must complete the College of Liberal Arts and Sciences General Education Program, the requirements for a science education major, and the following professional education courses, which total 44 s.h.

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom	2-3 s.h.
07P:075 Educational Psychology and Measurement	3 s.h.
07S:151 Science Teaching and Practice with Early Learners	3 s.h.
07S:152 Methods of Teaching Science	3 s.h.
07S:153 Instructional Issues in Teaching Science (taken with 07S:179)	3 s.h.
07S:171 Secondary Classroom Management	2 s.h.
07S:179 Secondary School Science Practicum (taken with 07S:153)	2 s.h.



07S:190 Orientation to Secondary Education	1 s.h.
07S:195 Teaching Reading in Secondary Content Areas	1 s.h.
07U:100 Foundations of Special Education	3 s.h.

These three taken concurrently:

07S:187 Seminar: Curriculum and Student Teaching (section 91)	3 s.h.
07S:191 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:192 Observation and Laboratory Practice in the Secondary School	6 s.h.

One college-level math course (excluding 22M:001 Basic Algebra I, 22M:008 Intermediate Algebra, and 22M:003 Basic Geometry) also is required.

## Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in science education.

## Honors

To graduate with honors, students must maintain a University of Iowa g.p.a. of at least 3.33, in addition to other science education requirements. Contact the University of Iowa Honors Program for more information.

## Graduate Programs

The Science Education Program offers graduate studies leading to the Master of Arts in Teaching, Master of Science, and Doctor of Philosophy. For information about science education graduate programs, see Teaching and Learning (College of Education) in the Catalog. The M.A.T., M.S., and Ph.D. are described under "Secondary Education."

## Research

Each faculty member in science education is responsible for one or more areas of research. Major interests include studies of effective teaching and learning, science through writing, philosophy and sociology of science, individualized learning, social issues in science and technology, curriculum planning and development, professional development, intellectual development related to teaching and learning science, studies of effective use of hands-on activities, and evaluation and assessment of science instruction and programs.

## Programs and Projects

A wide range of funded programs provides ample opportunity for students to be involved in innovative development and research in science education.

Science education faculty members collaborate on a number of international research projects in many countries. Activities include faculty exchanges and cross-national studies.

International students enrich the opportunities for graduate studies in Science Education. New international collaborative efforts are under way each year.

## Science Education Courses

<b>097:102 Societal and Educational Applications of Earth Science and Environmental Science</b>	arr.
Major ideas and principles of earth and environmental sciences; emphasis on common applications in today's world.	
<b>097:103 Societal and Educational Applications of Biological Sciences</b>	arr.
Basic conceptual themes of biology, how they have been derived; emphasis on a current social issue related to biology.	
<b>097:105 Societal and Educational Applications of Physical Sciences</b>	arr.
Major ideas of physics and how they have been derived; emphasis on how such ideas affect modern society.	
<b>097:106 Societal and Educational Applications of Chemical Concepts</b>	arr.

Principles of chemistry as applied in industry, communication, daily living.

**097:107 Textile Science**

3 s.h.

Fiber, yarn, and fabric science; fabric painting, dyeing, and other laboratories. Same as 049:142.

**097:115 Introduction to Museology**

3 s.h.

Overview of museum history, function, philosophy, collection and curatorial practices, governance and funding issues, exhibition evaluation, audience studies; American cultural institutions. GE: Humanities. Same as 024:102, 07S:112, 113:103.

**097:119 Directed Study**

arr.

**097:128 Meaning of Science**

2-3 s.h.

Scientific enterprise from social, ethical, cultural, epistemological viewpoints.

**097:130 Science in Historical Perspective**

2-3 s.h.

Science and its related contemporary social issues from historical development perspective. Prerequisites: 097:128.

**097:140 Problems in Integrating the Teaching of Environmental Science**

2-3 s.h.

Environmental education resources in the community--human, governmental, natural; environmental education in K-12 teaching.

# Sexuality Studies

**Chair:** Jennifer Glass

**Coordinator:** Lisa Heineman

**Undergraduate nondegree program:** Certificate in Sexuality Studies

**Web site:** <http://www.uiowa.edu/~women/index2.html>

The Certificate in Sexuality Studies is closing. Students who began working toward the certificate and were enrolled in certificate courses before the beginning of fall semester 2010 may complete the program. Some courses required by the program may be dropped, so students are urged to finish the certificate as quickly as possible. Certificate students should consult with their advisors.

To learn more about the study of sexuality, see Gender, Women's, and Sexuality Studies in the Catalog.

## Certificate

The Certificate in Sexuality Studies requires 21 s.h. of course work. Students who complete the program gain a better understanding of human sexuality. They also acquire valuable background knowledge applicable to a wide variety of humanities and social science fields and to careers in education, counseling, law, medicine, nursing, and other health professions.

Students may declare their intention to complete the certificate at the CLAS Academic Programs & Services office.

Students plan their programs in close cooperation with sexuality studies advisors, choosing course work from the list of required and elective courses approved for the certificate. Students must maintain a g.p.a. of at least 2.00 in course work for the certificate.

All students complete the following two courses.

154:010 Introduction to Gender, Women's, and Sexuality Studies

3 s.h.

Capstone seminar

3 s.h.

Students who began the certificate program before fall 2009 may substitute 154:110 Frameworks for the Study of Sexuality (formerly Introduction to Sexuality Studies) for 154:010 Introduction to Gender, Women's, and Sexuality Studies.

The capstone seminar changes from year to year and typically is offered only in spring semester. Each year's capstone seminar is announced on the Sexuality Studies Program web site before spring preregistration. Contact the sexuality studies advisor for information about the course.

The remaining 15 s.h. of credit is earned in courses chosen from those offered by the Sexuality Studies Program or from the list of approved associated courses, which varies from year to year. Students may petition to include a course that is not on the list of approved courses; they should discuss this option with their advisors. In keeping with the interdisciplinary nature of sexuality studies, students are encouraged to choose these electives from different disciplines.

Courses applied toward the sexuality studies certificate also may be used to complete the College of Liberal Arts and Sciences General Education Program or to satisfy requirements of a major or minor.

Of the 21 s.h. required for the certificate, at least 12 s.h. must be earned at The University of Iowa. Transfer work is evaluated by the program coordinator.

The certificate is awarded upon completion of a bachelor's degree. Holders of Iowa bachelor's degrees also may return to complete the requirements for a certificate. Holders of baccalaureate degrees from other institutions who are not enrolled in a graduate or professional program at The University of Iowa may apply for admission to the College of Liberal Arts and Sciences and are awarded the certificate upon completion of the requirements.

## Associated Courses

The following courses are approved for the Certificate in Sexuality Studies. Additional courses may be approved. Students should discuss course selection with their advisors.

### AMERICAN STUDIES

045:060/154:060 Sex and Popular Culture in the Postwar U.S.

3 s.h.

**ANTHROPOLOGY**

113:127 South Asian Sexual Cultures	3 s.h.
113:140 Politics of Reproduction	3 s.h.

**ART AND ART HISTORY**

01H:199 Topics in Art History	3 s.h.
-------------------------------	--------

**CLASSICS**

20E:150/131:152/154:121 Gender and Sexuality in the Ancient World	3 s.h.
---	--------

**COMMUNICATION STUDIES**

036:075 Gender, Sexuality, and Media	3 s.h.
036:095 Queer Rhetorics	3 s.h.

**EDUCATION**

07C:130 Human Sexuality	3 s.h.
-------------------------	--------

**ENGLISH**

08G:011 Literature and Sexualities	3 s.h.
008:179 Literature and Society (when content is appropriate)	3 s.h.

**FRENCH AND ITALIAN**

009:148 Gender and Sexuality in French Cinema	3 s.h.
---	--------

**HEALTH AND SPORT STUDIES**

028:078 Women, Sport, and Culture	3 s.h.
-----------------------------------	--------

**HISTORY**

16A:154 Sexuality in the United States	3 s.h.
16A:184 Black Global Metropolis: Sexual History	3 s.h.

**NURSING**

096:112/042:112 Human Sexuality, Diversity, and Society	3 s.h.
---	--------

**RELIGIOUS STUDIES**

032:052 Women in Islam and the Middle East	3 s.h.
032:071 Sexual Ethics	3 s.h.

**SOCIAL WORK**

042:112/096:112 Human Sexuality, Diversity, and Society	3 s.h.
042:199 Selected Aspects of Social Work and Social Welfare (when topic is social work practice with gays, lesbians, bisexuals)	arr.

**SOCIOLOGY**

034:061 The American Family	3 s.h.
034:135/154:145 Sociology of Sexuality	3 s.h.

**THEATRE ARTS**

049:118 American Women Playwrights: 1776-Present	3 s.h.
--	--------

**Sexuality Studies Courses**

<b>154:010 Introduction to Gender, Women's, and Sexuality Studies</b>	3 s.h.
Introduction to feminist interdisciplinary study of women's lives, with emphasis on race, class, sexual orientation; work, family, culture, political and social change. GE: Cultural Diversity. Same as 131:010.	

<b>154:060 Sex and Popular Culture in the Postwar U.S.</b>	3 s.h.
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. GE: Cultural Diversity. Same as 045:060, 131:061.	

<b>154:069 Topics in Sexuality Studies</b>	1-3 s.h.
Focus on a specific aspect of human sexuality; topics vary.	

<b>154:071 Sexual Ethics</b>	3 s.h.
Introduction to religion and ethics; examination of a range of secular, Jewish, and Christian perspectives on sexuality and sexual activity; perspectives of homosexuality and abortion that remain controversial in many cultures. Same as 032:071.	

<b>154:075 Fertility and Reproduction</b>	3 s.h.
Exploration of when, why, how, and with whom Americans bear children, comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as 034:075, 131:075.	

<b>154:095 Queer Rhetorics</b>	3 s.h.
--------------------------------	--------

Overview of queer theory and its application to different communicative situations including television, film, and everyday life; development of critical thinking skills in relation to cultural constructions of gender, sexuality, race, and other identity categories. Communication studies majors may apply this course to the following area requirement. AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 036:095, 131:095.

**154:110 Frameworks for the Study of Sexuality** 3 s.h.

Theoretical perspectives on human sexualities drawn from medicine, law, social sciences, the humanities; cultural meanings of heterosexual, lesbian, gay, bisexual, transgender identities.

**154:120 Lesbian, Gay, Bisexual, and Transgender Identities** 3 s.h.

Historical and contemporary experiences of sexual minorities; identity, community, culture, art, politics, representation, diversity, assimilation.

**154:121 Gender and Sexuality in the Ancient World** 3 s.h.

Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of rhetoric requirement and sophomore standing. GE: Foreign Civilization & Culture. Same as 131:152, 20E:150.

**154:131 Gender and Sexuality in East Asia** 3 s.h.

Conceptions of sex, gender, and sexuality in the religions of China, Korea, and Japan; asceticism and celibacy; sexual alchemy; the difference between male and female bodies and souls; intersexed persons; female saints and immortals; transgressive sexuality; gender and sexuality in colonial Asia; East Asian religions and postcolonial feminism. Same as 032:131, 131:131.

**154:145 Sociology of Sexuality** 3 s.h.

Sociological perspectives on sexuality, including theoretical and conceptual developments, empirical regularities, and social implications; sexual expression in the United States. Prerequisites: 034:001 or 034:002. Same as 034:135.

**154:157 Gender, Sexuality, and Human Rights** 3 s.h.

History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as 131:157, 16W:157.

**154:182 Anthropology of Sexual Minorities** 3 s.h.

Ethnographic studies of sexual minorities and anthropological approaches to lesbian, gay, bisexual, and transgendered persons and communities; behavior, identity, performativity, kinship, globalization, the HIV/AIDS pandemic. Requirements: junior, senior, or graduate standing. Same as 113:154, 131:154.

**154:184 Black Global Metropolis: Sexual History** 3 s.h.

Dispersion of people of African descent into the global metropolis, from expansion of port cities in the slave trade to industrialization of European and American cities, decolonization of the Third World, and proliferation of spatial cultures in contemporary geography; readings cover prostitution in colonial New York, sexual danger in Victorian London, jazz age Chicago, sexual psyches in Algiers, black gay expatriates in Paris, social science in Harlem and Puerto Rico ghettos, black/white sex in Johannesburg, transsexuals in Rio de Janeiro, Black Panther sexual politics in urban America, global hip-hop sexualities. Same as 129:184, 16A:184.

**154:192 Culturally Diverse Theatre** 3 s.h.

Same as 049:192, 131:192.

**154:199 Independent Study** 1-3 s.h.

Directed readings, artistic or creative endeavors, research projects. Prerequisites: 154:110.

## Social Work

**Director:** Edward J. Saunders

**Professor:** Lorraine Dorfman

**Professors emeriti:** Patricia L. Kelley, Thomas H. Walz

**Associate professors:** Amy C. Butler, Carol Coohey, Carolyn Hartley, Miriam Landsman, Susan Murty, Edward J. Saunders, Jeanne Saunders

**Associate professor emeritus:** William M. Theisen

**Adjunct associate professors:** Earl Kelley, Rita Melissano, Brad Richardson

**Clinical associate professors:** Robert Jackson, Julia Kleinschmit Rembert, Judith Rinehart

**Assistant professors:** Mercedes Bern-Klug, Lynette Renner, Sara Sanders

**Assistant professor emerita:** B. Eleanor Anstey

**Adjunct assistant professors:** Larry Allen, Mike Bandstra, Margaret Cretzmeyer, April Dirks, Patricia Gilbaugh, Greg Jensen, Stephen Trefz, Julie Williams

**Clinical assistant professors:** Yvonne Farley, Motier Haskins, M. Billie Marchik, Robert Vander Beek

**Adjunct instructors:** Ed Barnes, Margaret Bessman-Quintero, Susan Bixenman, Joan Black, Nancee Blum, Varetta Braden, Lois Buntz, Jim Clark, Lance Clemens, Amy Correia, Melissa Cross-Ohden, Stephen Cummings, Raygena Curry, Suzanne Dell, Monique DiCarlo, Schael Engel, Sr. Shirley Fineran, Diane Finnerty, Romaine Foege, Judy Foote, Joel Fry, Brenda Geisinger, Barbara Hirsch-Giller, William Hood, Kathleen Kemp, Brandy Koller, Chris Martin, Joanne McCracken-Young, Sandra McGee, Barbara Mechtenberg-Ruffinot, Lynn Meincke-Wohlers, Ron Mirr, Pam Moore, Karen Mullin, Mary Newcomb, Greg Nooney, Sarah Oliver, Jennifer Lock Omann, Joelle Osterhaus, Elizabeth Rembold, Kathleen Ruyle, Kathleen Shey, Elizabeth Smith, Tiffany Smith, Diane Sonnevile, Eileen Swoboda, Ellen Szabo, Michael Thompson, Diane Tonkyn, Molly Twohig, Kristine Warford, Ross Wilburn, Carol Winetroub, Sue Witte, Joel Wulf, Stu Zisman

**Undergraduate degree:** B.A. in Social Work

**Undergraduate nondegree program:** Minor in Social Work

**Graduate degrees:** M.S.W., Ph.D.

**Web site:** <http://www.uiowa.edu/~socialwk>

The mission of the University of Iowa School of Social Work is to develop, disseminate, and integrate excellent and compelling research-based knowledge, practice, and policy, particularly that related to children, families, and older adults. The school operates from strengths-based and systems perspectives to educate its graduates to be culturally competent scholars and practitioners who are committed to social justice and social work values and ethics, and who are prepared to serve in and have a positive impact on a broad range of family-centered and community-based practice settings throughout the State of Iowa and beyond.

The school provides a program of professional training accredited by the Council on Social Work Education at the baccalaureate and master's levels, aimed at developing effective intervention in multiple systems and using professional social work values and ethics. It also offers a Ph.D. program, which prepares students to conduct research that contributes to the knowledge base of social work, to be leaders in setting policy and practice, and to teach in colleges and universities.

## Undergraduate Programs

The school offers a Bachelor of Arts and a minor in social work. The undergraduate program in social work has been accredited continuously by the Council on Social Work Education (CSWE) since 1974.

The school also administers the undergraduate Certificate in Critical Cultural Competence; see Critical Cultural Competence in the Catalog.

The goals of the Bachelor of Arts major in social work are to prepare students for culturally competent generalist social work practice with individuals, families, small groups, organizations, and communities; to provide students with a base for continuing graduate education in social work and for lifelong learning; and to prepare students for active engagement with issues of social justice, oppression, and social welfare in local, state, regional, national, and global goals.

The Bachelor of Arts program is designed to be consistent with the 2008 CSWE Educational Policy Statement competencies and practice behaviors.

The program draws on a liberal arts perspective; social and behavioral science theory; social research; social policy development, analysis, and implementation; culturally competent intervention and prevention approaches in working with individuals, families, small groups, organizations, and communities; social integration; multiple systems assessment and evaluation; and knowledge pertaining to diversity. Consistent with CSWE standards, the program views dimensions of diversity as intersections of multiple factors, including age, class, color, culture, disability, ethnicity, gender, gender-identity and expression, immigration status, political ideology, race, religion, sex, and sexual orientation. Students learn that, as a consequence of difference, a person's life experiences may include oppression, poverty, marginalization, and alienation as well as privilege, power, and acclaim.

Knowledge and practice in social work values and ethics is also an integral part of students' education. Knowledge and skill related to the evaluation of practice are integrated throughout the curriculum, beginning in 042:022 Introduction to Social Work, continuing through practice and research courses, and culminating in self-evaluation of practice exercise in a field seminar.

### Selective Admission

The School of Social Work seeks to maintain a heterogeneous student body by enrolling students who represent diverse backgrounds and cultural perspectives.

A limited number of students are admitted to the major each year. The application deadline is March 1. Admission to the undergraduate program in social work requires:

- completion of 042:022 Introduction to Social Work with a grade of C or higher (should be taken the sophomore year);
- a cumulative g.p.a. of at least 2.50 (exceptions may be made for persons who do not meet the grade-point average requirement if they are strong candidates on the basis of other criteria); and
- completion of application forms and statement.

Meeting these requirements does not guarantee admission. Admission often is limited by available instructional resources and opportunities for field placement. The school does not grant academic credit for life experience or previous work experience.

For more information about admission policies, contact the School of Social Work undergraduate director or admissions director.

### **Social Work Courses in Des Moines**

In addition to its on-campus undergraduate program in Iowa City, the School of Social Work offers social work courses for the Bachelor of Arts through its program in Des Moines. Students in the Des Moines program take courses in sequence, completing the social work courses required for the degree in two years. Course are offered in a classroom setting. Students may complete other requirements for the Bachelor of Arts in online and/or classroom course work. The Des Moines program is approved by the Council on Social Work Education. For more information about the social work program in Des Moines, contact the University of Iowa School of Social Work admissions director.

### **Bachelor of Arts**

The Bachelor of Arts in social work requires a minimum of 120 s.h., including at least 64-66 s.h. of work for the major (a minimum of 36 s.h. in social work courses, 16-18 s.h. in cognate areas, and 12 s.h. in a concentration area). Students must complete 042:022 Introduction to Social Work (4 s.h.) before enrolling in the remaining social work courses required for the major.

Students must complete the College of Liberal Arts and Sciences General Education Program. Many students complete the required course 002:021 Human Biology as part of the General Education Program.

Requirements for the major in social work are as follows.

002:021 Human Biology	4 s.h.
Social work courses, beginning with 042:022 Introduction to Social Work and culminating in a field experience	36 s.h.
Concentration area courses; see "Concentration Area" below	12 s.h.

Social science courses (9-10 s.h.):

030:001 Introduction to American Politics	3 s.h.
031:001 Elementary Psychology	3 s.h.
034:001 Introduction to Sociology Principles	3-4 s.h.

One of these social science or quantitative studies elective courses (3-4 s.h.):

06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.
22S:002 Statistics and Society	3 s.h.
22S:025 Elementary Statistics and Inference	3 s.h.
113:003 Introduction to the Study of Culture and Society	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.

### **CONCENTRATION AREA**

The undergraduate program requires a minimum of 12 s.h. of course work in one of the concentration areas listed below. Most students choose either sociology or psychology as their concentration. Students who wish to meet this requirement in an area not listed must present a written request and rationale to the faculty advisor and undergraduate coordinator. Courses used to complete the General Education Program do not count toward the 12 s.h., nor do courses used to satisfy other requirements of the B.A. in social work.

African American studies



Aging studies  
 American studies  
 Anthropology  
 Business  
 Communication studies  
 Critical cultural competence  
 Economics  
 Education  
 English  
 Health and sport studies  
 History  
 Journalism and mass communication  
 Leisure studies  
 Political science  
 Psychology  
 Religious studies  
 Sociology  
 Spanish  
 Women's studies

### Recommended Course Sequence

The school recommends that required course work be taken in the following sequence. Most social work courses are offered only once each year.

#### FIRST AND SECOND YEARS

002:021 Human Biology	4 s.h.
030:001 Introduction to American Politics	3 s.h.
031:001 Elementary Psychology	3 s.h.
034:001 Introduction to Sociology Principles	3-4 s.h.
042:022 Introduction to Social Work	4 s.h.
One social science or quantitative elective course	3-4 s.h.

#### THIRD YEAR

042:140 Human Behavior in the Social Environment	4 s.h.
042:144 Introduction to Social Work Research	4 s.h.
042:147 Discrimination, Oppression, and Diversity	3 s.h.
042:171 Social Work Processes	4 s.h.

#### FOURTH YEAR

042:141 Fundamentals of Social Work Practice	3 s.h.
042:142 Interpersonal Skills Laboratory	2 s.h.
042:143 Social Welfare Policy and Practice	3 s.h.
042:189 Field Experience Seminar	1 s.h.
042:193 Field Experience	8-11 s.h.

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Admission to the major in social work is selective. The four-year graduation plan applies only to students who are admitted by the beginning of their fifth semester.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 042:022 Introduction to Social Work, four courses that can be applied to the major (may include concentration area courses), admission to the major, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** six more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** four or five more courses in the major and finalized field placement

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

The School of Social Work has an honors program leading to a Bachelor of Arts with honors in social work. A cumulative University of Iowa g.p.a. of at least 3.33 is required for participation in the program, which enables students to do in-depth study in subjects that interest them.

Contact the University of Iowa Honors Program for more information on honors study at Iowa.

## Minor

The minor in social work requires a minimum of 15 s.h. in social work courses, including 12 s.h. in 100-level courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor must include 042:022 Introduction to Social Work (or for transfer students, an equivalent course from another institution). Contact the School of Social Work B.A. coordinator for more information.

## Graduate Programs

The school offers the Master of Social Work and a Doctor of Philosophy in social work. The M.S.W. program has been accredited continuously by the Council on Social Work Education since 1951.

### Licensure for Work in Iowa

Licensure is mandatory for master's-level social workers in Iowa. For more information, see the Iowa Department of Public Health web site.

### Master of Social Work

The Master of Social Work requires 60 s.h. of graduate credit; the requirement is 48 s.h. for students who hold an undergraduate degree in social work from a program accredited by the Council on Social Work Education. Students may elect a thesis or a nonthesis option. A specialization in end-of-life care is available.

The goals of the M.S.W. program are to:

- prepare students to shape the profession's future by providing education in family-based, community-based, and culturally competent practice approaches using the person-in-environment framework; and
- prepare competent professionals for autonomous practice and leadership within the professional community; autonomous practice and leadership include advanced interventions at multiple system levels, supervision, program development, program administration, training, evaluation of practice, dissemination of new models of practice, and policy development.

The school offers the M.S.W. program on the University's Iowa City campus and at three off-campus sites: Des Moines and Sioux City, Iowa, and the Quad Cities area of Iowa and Illinois (see "M.S.W. off Campus" later in this Catalog section). Each site provides the required structured sequence of courses and includes opportunities for students to individualize their plans of study. All sites give students access to the resources of a Research 1 University.

Requirements for the M.S.W. include 25 s.h. in foundation-level courses and 35 s.h. in advanced courses. All students must earn a minimum of 36 s.h. after admission to the M.S.W. program. Students may count a maximum of 9-12 s.h. of credit from previous graduate work toward the M.S.W.

All M.S.W. students follow a structured sequence of courses. They must obtain permission to revise their plan, and they must complete the degree within a maximum of four years. All students must maintain a cumulative g.p.a. of at least 3.00 and must be promoted each semester in compliance with the school's student advancement policy.

The full-time M.S.W. program must be completed in five semesters, beginning in fall and including summer session. Full-time students complete the degree in the spring semester of their second year. Students whose degree requirement is 48 s.h. may enroll full-time or part-time their first semester, following the sequenced plan.

Full-time study and a four-year part-time program are available in Iowa City and Des Moines. A three-year sequence of courses is available at all sites, although the Sioux City and Quad Cities sites admit new entering classes only on a three-year cycle.

Following is an outline of the full-time 60 s.h. program. For information about the three-year and four-year part-time sequences, contact the School of Social Work.

#### **FIRST-YEAR: FOUNDATION**

##### **Fall Semester**

042:140 Human Behavior in the Social Environment	3 s.h.
042:143 Social Welfare Policy and Practice	3 s.h.
042:146 Computer Laboratory	1 s.h.
042:147 Discrimination, Oppression, and Diversity	3 s.h.
042:148 Social Work Research Methods	3 s.h.

##### **Spring Semester**

042:150 Social Work Practice with Individuals, Families, and Groups	3 s.h.
042:151 Social Work Practice Skills Laboratory	1 s.h.
042:145 Organization and Community Practice	3 s.h.
042:270 Advanced Research	3 s.h.
042:290 Foundation Practicum in Social Work	3 s.h.
042:291 Foundation Practicum Seminar	1 s.h.

##### **Summer Session**

Electives (including preplacement field practice courses)	4-10 s.h.
---	-----------

#### **SECOND-YEAR: CONCENTRATION**

##### **Fall Semester**

Elective	3 s.h.
----------	--------

One of these:

042:250 Family-Centered Theory and Practice I	3 s.h.
042:260 Integrated Social Work Theory and Practice I	3 s.h.

One of these:

042:292 Advanced Practicum in Family-Centered Practice I and II	5-6 s.h.
042:295 Advanced Practicum in Integrated Practice	5-6 s.h.

One of these:

042:293 Advanced Practicum Seminar in Family-Centered Practice I	1 s.h.
042:297 Advanced Practicum Seminar in Integrated Practice I	1 s.h.

**Spring Semester**

One of these:

042:251 Family-Centered Theory and Practice II	3 s.h.
042:261 Integrated Social Work Theory and Practice II	3 s.h.

One of these:

042:252 Advanced Social Policy for Family Practice	3 s.h.
042:262 Advanced Social Policy for Integrated Practice	3 s.h.

One of these:

042:292 Advanced Practicum in Family-Centered Practice I and II	5-6 s.h.
042:295 Advanced Practicum in Integrated Practice	5-6 s.h.

One of these:

042:294 Advanced Practicum Seminar in Family-Centered Practice II	1 s.h.
042:298 Advanced Practicum Seminar in Integrated Practice II	1 s.h.

**Concentrations**

In the advanced year of the master's program, students choose one of two concentrations: family-centered practice or integrated practice. These advanced specialized curricula build on the school's liberal arts perspective and on the professional foundation. Both are based on a comprehensive eco-systemic theoretical perspective, and both apply the principles that are part of the school's mission statement, with a focus on culturally competent family-centered and community-based approaches.

**FAMILY-CENTERED PRACTICE**

The family-centered practice concentration teaches knowledge and skills necessary for advanced social work practice with individuals and families. These include clinical practice methods that mobilize and develop clients' coping skills, empowering them to manage difficult situations, and culturally sensitive methods for collaborating with clients, their families, and other professionals in planning interventions. Students also learn about advocating for clients, facilitating client self-advocacy, coordinating services to meet multiple needs, and influencing social policy on behalf of clients.

The concentration prepares students to work with individuals and families at appropriate levels of intensity, mobilize existing strengths, and enhance coping skills. Using principles of family-centered practice, students learn to take community and larger systems into account while working in partnership with individuals and families in all aspects of assessment and intervention planning. The concentration emphasizes sensitivity to a variety of family forms and to cultural diversity within family forms. "Family" is broadly defined to include step families, single-parent families, same-sex-couple families, grandparent-as-parent families, adult parent-adult child families, and traditional forms of families.

**INTEGRATED PRACTICE**

The integrated practice concentration teaches methods of advanced practice that empower organizational and community change at multiple system levels. Students learn skills for assessment, planning, and direct intervention in larger systems such as neighborhoods, social support networks, and service delivery systems, and for policy making. They develop skills for a broad range of interventions, including direct practice, case management, community education, community development and practice, management and administration, organizational and interorganizational planning and program development, team building, organization and program evaluation, and social policy advocacy. They also learn culturally sensitive methods to collaborate with families and communities; identify strengths, assets, and challenges; and develop services and programs that will meet clients' needs.

Building on strengths and assets of organizations and communities, students learn how to mobilize community members in advocacy and change efforts--skills useful for case managers, service coordinators, supervisors, program planners and developers, and administrators. Students also learn how to apply advanced skills to advocacy, community assessment, planning and mobilizing resources, and influencing social policy.

The concentration prepares students for practice in varied settings, including hospitals and community health programs, schools, mental health centers, neighborhood and family resource centers, community- and family-based community service agencies, correctional facilities, and programs that serve the elderly, both in the community and in care facilities. In many of these settings, social workers work as interdisciplinary team members and team leaders within organizations. They also collaborate with community organizations, community residents, and service providers. Many social workers are involved in staff supervision, program development, and agency administration. Content areas include grant writing; intervention in multiple systems, including team and network building; policy practice; and design of evaluation methods for client assessment and program evaluation.

### **Admission**

The school seeks to maintain a heterogeneous student body by enrolling students who represent diverse backgrounds and cultural perspectives. Previous experience in human services and cross-cultural experiences is desirable. The school does not grant academic credit for life experience or previous work experience.

Admission to the M.S.W. program requires a bachelor's degree from an accredited college or university, with a reasonable distribution of courses in the liberal arts and sciences (the humanities and the social, behavioral, and biological sciences). Applicants should have an undergraduate g.p.a. of 3.00 or higher, or a g.p.a. of 3.00 or higher on 12 s.h. of letter-graded graduate course work; consult the Office of Admissions for help in calculating grade-point average. Competence with word processing and spreadsheet application on personal computers is required.

Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Applicants must submit three letters of recommendation, including one regarding academic abilities and one from the applicant's most recent employer (if the employment was social work-related); and a personal statement addressing criteria specified by the School of Social Work.

Applications are accepted beginning September 1 and must be completed by February 1 to be considered for the next academic year.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

For a complete statement of graduate admission policies, contact the School of Social Work.

### **Financial Support**

Students seeking financial assistance should apply for aid through The University of Iowa Office of Student Financial Aid. Students may apply for a limited number of research and teaching assistantships available from the School of Social Work. Application materials for research or teaching assistantships are available from the school each spring, or as positions become available. Aid received through the Office of Student Financial Aid does not preclude students from consideration for aid through the School of Social Work.

### **M.S.W. off Campus**

The School of Social Work delivers the M.S.W. curriculum to three off-campus sites: Des Moines and Sioux City, Iowa, and the Quad Cities area of Iowa and Illinois. Each site is administered by the School of Social Work in cooperation with the Division of Continuing Education. Social work faculty members teach required courses at each center and are available for student advising. The off-campus programs have been evaluated by the Council on Social Work Education and The University of Iowa Graduate Council as providing a program comparable to that available on the Iowa City campus.

Courses at each off-campus site are taught in classrooms by tenure-track, clinical, visiting, and adjunct faculty members. Instructional connections between sites are maintained through varied technologies, including computer-based instruction.

For program entry and application dates, contact the School of Social Work.

#### **Des Moines Center**

The Des Moines Education Center is located in the state's largest metropolitan area, in central Iowa. It offers courses sequenced to accommodate both part-time and full-time study. Students may complete the entire degree program at the Des Moines center, although they may travel to Iowa City for selected elective courses offered during the summer.

#### **Quad Cities Center**

The Quad Cities Graduate Study Center (QCGC) is located on the campus of Augustana College in Rock Island, Illinois, on the Iowa-Illinois border. The center offers a part-time program for a cohort admitted once every three years. Students in the Quad Cities part-time program can complete their degree entirely off-campus with the exception of

some electives, which they can take during summer sessions in Iowa City or at other area colleges and universities. In addition to the part-time cohort students, there are some full- or part-time students from Iowa City in practicum in the Quad Cities.

### **Sioux City Center**

The Tri-State Graduate Study Center is located in Sioux City, on Iowa's western border. The Sioux City part-time program is nearly identical to the Quad Cities part-time program.

### **Joint M.S.W./Ph.D.**

The school offers a joint Master of Social Work/Doctor of Philosophy in social work for students who have completed course work in research and statistics and have postbaccalaureate experience related to social work practice. The joint program permits students to apply a limited amount of credit toward both graduate degrees, reducing the time required to graduate. Individuals interested in the joint program must apply to the M.S.W. program and the Ph.D. program; applications are reviewed by the admissions panels of both programs. For more information, contact the School of Social Work.

### **Joint M.S.W./J.D., and M.S.W./M.A. or M.S. in Planning**

The School of Social Work collaborates with the College of Law to offer the joint Juris Doctor/Master of Social Work. It also collaborates with the Urban and Regional Planning Program to offer the joint Master of Social Work/Master of Arts or Master of Science in planning. Each program permits students to apply up to 12 s.h. of graduate credit toward both degrees, reducing the time required to graduate. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. For more information, see Juris Doctor (College of Law) or Urban and Regional Planning (Graduate College) in the Catalog.

Similar arrangements may be made with other departments. Academic units in which social work students have pursued joint degrees include the Tippie College of Business, the College of Education, the Department of American Studies, the Department of Religious Studies, and the School of Journalism and Mass Communication. Students are encouraged to take courses in other departments whether or not they are pursuing joint degrees.

### **Certificate in Aging Studies**

The School of Social Work participates in the Aging Studies Program (see Aging Studies in the Catalog). Students may earn the Certificate in Aging Studies concurrently with the M.S.W.; separate application to the Aging Studies Program is required.

### **School Social Work Endorsement**

The school cooperates with the College of Education and the State Department of Education to provide curricula that meet requirements for school social work endorsement in Iowa.

### **Professional Association**

Graduates of accredited M.S.W. programs may be eligible for associate membership in the American Association for Marriage and Family Therapy (AAMFT) upon fulfilling certain curriculum requirements at the graduate level. Courses are not automatically accepted; graduates need to demonstrate that specific courses meet the AAMFT's requirements, usually by sending course outlines.

### **Doctor of Philosophy**

The Doctor of Philosophy in social work requires a minimum of 86 s.h. of graduate credit. The program prepares students to conduct research that contributes to the knowledge base of social work, to become leaders in the profession, and to teach social work in postsecondary education institutions.

Doctoral students develop close working relationships with faculty members who have achieved national recognition in areas such as child welfare, diversity and cultural competence, gerontology, social policy, and substance abuse.

The Ph.D. offers students a coherent program of study with opportunities to pursue their own scholarly interests. Requirements include course work, research and teaching practicums, and dissertation work. Students take courses in one of three outside disciplines: sociology, psychology, or public health. This course work prepares them for the comprehensive examination and dissertation defense.

Students who enter the program with an M.S.W. are granted credit for 30 s.h. and must complete an additional 56 s.h. for the degree. Individuals with master's degrees in related disciplines (e.g., psychology, sociology) may choose to earn a Ph.D. in social work without first earning the M.S.W. Credit from a related master's degree may be applied to

the Ph.D., as determined case-by-case by the School of Social Work.

To become Ph.D. candidates, students must satisfy the program's course work requirements, pass a comprehensive examination, and write a dissertation and defend it in an oral examination.

Each student's program of study must be approved by his or her doctoral committee.

Course requirements for the Ph.D. in social work are as follows.

#### **FOUNDATION COURSES**

Doctoral students without the M.S.W. must take the following four foundation courses during their first year of study. Students may waive one or more of these courses if they can show that they have completed comparable courses and can pass an applicable exam.

042:140 Human Behavior in the Social Environment	3-4 s.h.
042:143 Social Welfare Policy and Practice	3 s.h.
042:147 Discrimination, Oppression, and Diversity	3 s.h.
042:148 Social Work Research Methods	3 s.h.

#### **CORE COURSES**

All Ph.D. students must complete the following core courses.

042:300 Social Work Proseminar	1 s.h.
042:301 Knowledge Building in Social Work Practice	3 s.h.
042:302 Social Policy and Poverty in the U.S.	3 s.h.
042:303 Social Work Research Practicum	4 s.h.
042:304 Thesis Seminar	3 s.h.
042:306 Social Work Teaching Practicum	3 s.h.

#### **RESEARCH METHODS, STATISTICS, DATA ANALYSIS**

Students earn 9 s.h. in research methods, statistics, and data analysis course work.

#### **OUTSIDE DISCIPLINE REQUIREMENT**

Students earn 12 s.h. in one outside discipline (psychology, sociology, or public health), as follows.

One methods course	3 s.h.
One theory course	3 s.h.
Two electives	6 s.h.

#### **ADDITIONAL ELECTIVES**

Students earn 6 s.h. in elective course work offered by a department or program other than social work (in addition to the electives in the outside discipline).

#### **Admission**

Students are admitted only for full-time study. Admission to the Ph.D. program requires a master's degree in social work from a program accredited by the Council on Social Work Education (CSWE) or a master's degree in a related field. Prospective students also may apply to the M.S.W./Ph.D. program.

The school makes special efforts to recruit students from underrepresented minorities, especially Iowa residents. The program accepts four or five students each year.

Applicants should have an undergraduate g.p.a. of at least 3.00 and a composite score (verbal and quantitative) of at least 1100 on the Graduate Record Examination (GRE) General Test and must have completed an introductory statistics course. All applicants must submit a completed Graduate College application form, undergraduate and graduate transcripts, Graduate Record Examination scores, a personal statement of professional goals, including area of interest and reason for pursuing the Ph.D. (two to three pages), a résumé, a sample of scholarly writing (scholarly publication or research or theoretical paper), and four letters of recommendation (two must be academic references). International applicants whose first language is not English must submit scores on the Test of English as a Foreign Language (TOEFL).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants must submit the application form, fee, and other materials to the Office of Admissions. An application packet and list of guidelines are available from the office. The application is due February 1 for the following academic year.

### **Financial Support**

Doctoral students are guaranteed up to three years of financial support from the School of Social Work, including research or teaching assistantships and fellowships. Students whose first language is not English must take the SPEAK test in order to be considered for teaching assistantships. Assistants who hold appointments of one-quarter-time or more are assessed Iowa resident tuition, for which they receive a scholarship, and their computer fees and health insurance premiums are waived for each semester they hold an appointment during the academic year. For more information, see Cost of Attendance on the Office of Student Financial Aid web site.

## **Projects, Seminars**

Students may become involved in special projects such as the National Resource Center for Family-Centered Practice and the School of Social Work's programs in gerontology and in end-of-life care.

The school also offers students the opportunity to participate in travel/study seminars. Urban, rural, national, and international seminars are available.

## **Continuing Education**

Nondegree students may enroll for selected courses and workshops through Saturday & Evening Classes in Iowa City and the School of Social Work's off-campus programs. There are limits on the amount of graduate course work that may be applied to the master's requirements for students who later enroll in the program.

## **Social Work Courses**

### **Primarily for Undergraduates**

#### **042:022 Introduction to Social Work** 4 s.h.

Social welfare as a social institution; settings, methodologies of social work, practice; profession of social work; historical development of American social welfare, social work; a minimum of 45 hours volunteer work. Requirements: sophomore or higher standing. Same as 034:022.

#### **042:029 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **042:042 Intercultural Communication** 3 s.h.

Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Communication studies majors may apply this course to the following area requirement.

AREA: Context. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074.

Requirements: g.p.a. of at least 2.50 and completion of Foundations of Communication requirement. Same as 036:042, 187:042.

#### **042:141 Fundamentals of Social Work Practice** 3 s.h.

Professional practice: functions, roles, skills, conceptual frameworks, values, ethics; focus on integrated approach to practice, including assessment, intervention, evaluation of interventions, termination with individuals, families, groups; emphasis on empirically based practice. Corequisites: 042:140, if not taken as a prerequisite. Requirements: admission to social work B.A. program.

#### **042:142 Interpersonal Skills Laboratory** 2 s.h.



Practice of interpersonal skills required in the helping relationship. Corequisites: 042:141, if not taken as a prerequisite. Requirements: admission to social work B.A. program.

**042:144 Introduction to Social Work Research** 4 s.h.

Scientific approach to knowledge building, with emphasis on critical use of research; quantitative and qualitative methods, evaluation of practice, computerized data analysis, ethics and diversity in social work research. Requirements: admission to social work B.A. program.

**042:157 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 024:147, 032:127, 06J:147, 06T:144, 096:168.

**042:158 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as 024:148, 032:128, 06J:148, 096:169.

**042:171 Social Work Processes** 4 s.h.

Context of practice examined to understand structural factors that affect clients and communities; culturally competent practice using empowerment perspective. Corequisites: 042:140, if not taken as a prerequisite. Requirements: admission to social work B.A. program.

**042:189 Field Experience Seminar** 1 s.h.

Opportunity for students to recount their experiences from generalist practice in agencies; application of knowledge, skills, and values of culturally competent social work. Corequisites: 042:193. Requirements: completion of course work in the major.

**042:191 Individual Study** arr.

Project related to student interest carried out under direction of faculty member.

**042:192 Honors in Social Work** arr.

Supervised individual research. Requirements: honors standing.

**042:193 Field Experience** arr.

Supervised experience in selected social welfare organizations; application of knowledge and skill common to generalist practice in an agency setting. Corequisites: 042:189. Requirements: completion of course work in the major and social work senior standing.

## For Undergraduate and Graduate Students

**042:108 Basic Aspects of Aging** 3 s.h.

Social, psychological, and biological aspects; demographics of aging, health, economic issues, primary relationships, social services. GE: Social Sciences. Same as 096:108, 153:108, 169:108.

**042:112 Human Sexuality, Diversity, and Society** 1-3 s.h.

Physiological, psychological aspects; parameters defined by students, instructor. Same as 096:112.

**042:120 Service Learning and Social Welfare** 1-3 s.h.

Experiential learning in areas such as social justice, child welfare, community organizing, early intervention.

**042:129 Substance Use and Abuse** 3 s.h.

Chemical dependency for helping professions; etiological, physiological, psychological, legal, sociological aspects; treatment methods. Requirements: junior or higher standing.

**042:130 Family Development Specialist Model** 3 s.h.

Use of family development specialist model of family-centered practice to facilitate improved family functioning, economic independence; relationship building, systems theory, family-centered case management, conflict management, empowerment strategies. Requirements: completion of family development specialist certification course.

**042:135 Global Aging: Cultural Comparisons** 3 s.h.

Social construction of older adulthood across cultures; social privilege, with emphasis on age privilege and ageism. Same as 153:135.

**042:140 Human Behavior in the Social Environment** 3-4 s.h.

Behavior and development in context of social, ecological systems and human diversity; overview of biopsychosocial dimensions, individual behavior, and development throughout lifespan; contexts of diverse family, group, community, organization, and cultural systems.

**042:143 Social Welfare Policy and Practice** 3 s.h.

Basic social welfare policies and programs; economic, social, ideological, and political conditions that have influenced formation and implementation of social policy, current structure of major social welfare policies. Requirements: admission to social work B.A. or M.S.W. program.

**042:147 Discrimination, Oppression, and Diversity** 3 s.h.

Theoretical and historical perspectives on racism, sexism, other forms of discrimination; applications to social work, culturally competent practice, change strategies. Requirements: admission to social work B.A. or M.S.W. program.

**042:185 Social Policy and the Elderly** 3 s.h.

Public social policies, their affect on well-being of elderly, including women and minorities; U.S. and other nations' policies. Prerequisites: 042:143. Requirements: an introductory course on aging, and junior or higher standing. Same as 153:185.

**042:186 Death/Dying: Issues Across the Life Span** 3 s.h.

Introduction to death and dying; historical, cultural, societal, personal perspectives. Requirements: admission to School of Social Work or Aging Studies Program. Same as 153:186.

**042:190 Field Work in Gerontology** arr.

Opportunities for students in various disciplines to relate their areas of study to elderly and aging; interdisciplinary relationships, approaches to meeting needs of elderly. Same as 153:190.

**042:194 Social Work Practice in Health Care Settings** 2 s.h.

Introduction to organization, provision of social work services in health care settings; practice issues such as models of intervention, ethical questions, impact of cultural diversity on health care. Prerequisites: 042:141 or 042:150.

**042:195 Introduction to Nursing Homes** 3 s.h.

Overview of nursing home roles in context of long-term care system, characteristics of nursing home residents. Same as 153:195.

**042:196 Family Violence** 2-3 s.h.

Child abuse and neglect, domestic violence, elder abuse; causes, policy aspects, identification, reporting, treatment, prevention.

**042:197 Child Welfare Policy and Practice** 3 s.h.

Public and private child welfare practice and organizations in the United States; historical and legal aspects, co-occurring issues, foster care, adoption, family preservation.

**042:199 Selected Aspects of Social Work and Social Welfare** arr.

Human behavior, practice, social welfare policy.

**Primarily for Graduate Students**

**042:145 Organization and Community Practice** 3 s.h.

Models that underlie theories of organization, community practice; principles of macro social work and skill development in relationship building, needs assessment, decision making, planning, implementing, ethics, program and self-evaluation. Requirements: admission to M.S.W. program.

**042:146 Computer Laboratory**

1 s.h.

Use of microcomputers in social work practice; user skill, software for a variety of applications in social service settings. Requirements: admission to M.S.W. program.

**042:148 Social Work Research Methods**

3 s.h.

Knowledge and skills for evaluating practice and carrying out social work research; formulation of research questions; research design and methodology; sampling techniques; protection of human subjects; descriptive statistics; computerized data analysis. Requirements: admission to M.S.W. program.

**042:150 Social Work Practice with Individuals, Families, and Groups**

3 s.h.

Models and underlying theories of empirically based direct social work practice; emphasis on an ecosystem strengths perspective; phases of helping relationship, strengths-based assessment, change process in interpersonal helping relationships. Prerequisites: 042:140. Requirements: admission to M.S.W. program; concurrent enrollment in 042:151, 042:290, and 042:291 for students who have completed 60 s.h.

**042:151 Social Work Practice Skills Laboratory**

1 s.h.

Interpersonal skills practice in the helping relationship; small-group format. Corequisites: 042:150, 042:291, and 042:290, if not taken as prerequisites. Requirements: admission to M.S.W. program.

**042:153 Programs and Services for Aging Adults**

3 s.h.

Major gerontological programs and services, practitioners' need for basic aging-practice competence; aging network; income, employment, health maintenance programs; continuum of care (preventive and well-elderly services, in-home services, community-based services, institutional care); assessment; major elder health issues, informal care; end-of-life care. Same as 153:153.

**042:204 Human Services Administration**

2 s.h.

Effects of organizational structures/processes on individual performance; models of management, communication patterns, leadership styles; skill in technical writing, decision making, personnel and financial management, applied professional ethics. Requirements: completion of foundation courses.

**042:211 Individual and Family Development: Life Span**

3 s.h.

Infancy through senescence; families from their beginnings through their later years; theoretical, methodological issues. Same as 153:211.

**042:216 Group Facilitation in Human Sexuality**

0-3 s.h.

Principles of group dynamics, group process; leadership skills for small, task-oriented discussion groups on human sexuality. Prerequisites: 042:112. Same as 096:216.

**042:219 Aging and the Family**

2-3 s.h.

Research related to aging and the family; intergenerational relations, marital status in later life, diversity of older families, caregiving, elder abuse, policy issues. Same as 153:219.

**042:220 Family Law**

3 s.h.

Legal systems, rights, processes related to families; marriage, divorce, custody, protective services, reproductive rights, adoption, commitment, delinquency, education, poverty, discrimination; roles of lawyers, social workers in legal system. Prerequisites: 042:143.

**042:224 Spirituality and Ethics in Social Work**

2-3 s.h.

Knowledge, values, and skills that provide a framework for spiritually sensitive social work practice; preparation for responding competently and ethically to diverse spiritual perspectives, for recognizing and reflecting on one's own spiritual beliefs, and for identifying appropriate ways to apply personal beliefs to practice with varied populations while safeguarding client autonomy and self-determination.

**042:228 Theories of Personality and Psychopathology**

2 s.h.

Theories and their relevance to social work practice with diverse populations. Prerequisites: 042:140. Requirements: social work graduate standing.

- 042:229 Working with Groups** 2 s.h.  
Theory and practice of group work, group process, leadership styles and skills; fundamental theory, skills necessary to form and facilitate a small group. Requirements: completion of foundation courses.
- 042:232 Therapy with Couples** 2 s.h.  
Married and other couples as social systems; theories of functional, dysfunctional systems; techniques of intervention. Prerequisite: completion of foundation courses or consent of instructor.
- 042:233 School Social Work Practice** 2 s.h.  
School as a social institution; activities of school social worker; theoretical, practice issues; current issues in field.
- 042:234 Social Work Practice and Use of the Diagnostic and Statistical Manual of Mental Disorders** 3 s.h.  
Major categories of psychopathology, DSM-IV system of classification; individual behavior and presentation of symptoms considered through DSM-IV multi-axial approach to diagnosis; effects of culture, developmental stage, and gender on presentation of mental disorders.
- 042:236 Interventions with Individuals** 2 s.h.  
Comparison of two or more intervention theories and approaches used in social work practice with individuals; attention to diverse populations and across life span. Requirements: completion of foundation courses.
- 042:237 Social Work Practice with Children, Youth, and Families** 2 s.h.  
Preparation for practice in child welfare, family service agencies; family life cycle, child development, child maltreatment, problems of adolescence, social services for families and children, legal issues. Requirements: completion of foundation courses.
- 042:238 Introduction to Play Therapy** 2 s.h.  
Major theories and techniques of play therapy, relevance to social work practice. Prerequisites: 042:150.
- 042:247 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 024:247, 028:257, 032:227, 06J:247, 091:320, 102:278, 174:247.
- 042:248 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 024:248, 028:258, 032:228, 06J:248, 091:322, 102:279, 174:248.
- 042:250 Family-Centered Theory and Practice I** 3 s.h.  
Theoretical bases for family-centered practice; comparison and analysis; skill development in analyzing problem situations, implementing change strategies. Requirements: completion of M.S.W. foundation courses.
- 042:251 Family-Centered Theory and Practice II** 3 s.h.  
Techniques for assessment, intervention in family-centered practice; evaluation of practice; theoretical and clinical bases for intervention. Prerequisites: 042:250.
- 042:252 Advanced Social Policy for Family Practice** 3 s.h.  
Systematic basis for examining social, economic, and political factors that influence formation of social policies; social policy implementation, impact of social policies on vulnerable individuals and families. Requirements: completion of M.S.W. foundation courses.
- 042:254 Introductory Seminar: End-Of-Life Services in Rural Communities** 2-3 s.h.  
Basic principles of hospice and palliative care, rural service delivery, community assessment.
- 042:255 Integrative Seminar in End-of-Life Care** 1 s.h.  
Integration of students' knowledge, skills, and values for practice in end-of-life care and bereavement; application to case studies and advanced practicum setting. Corequisites: 042:292 or 042:295. Requirements: admission to end-of-life care area.

- 042:260 Integrated Social Work Theory and Practice I** 3 s.h.  
Theories, skill development, evaluation, ethical issues in integrated social work practice; intermediate group work for culturally competent intervention; small task groups. Requirements: completion of foundation courses.
- 042:261 Integrated Social Work Theory and Practice II** 3 s.h.  
Continuation of 042:260; theories, skills evaluation, ethical issues; advanced group work for culturally competent intervention; case management, program development, funding evaluation, large task groups. Prerequisites: 042:260.
- 042:262 Advanced Social Policy for Integrated Practice** 3 s.h.  
Systematic basis for critical examination of social, economic, and political factors that influence formation of social policies; social policy implementation, impact of social policies on vulnerable populations, service providers, communities. Requirements: completion of M.S.W. foundation courses.
- 042:270 Advanced Research** 2-3 s.h.  
Research project relevant to social work practice that builds on knowledge and skills developed in 042:148; data analysis, report of results; ethical principles applied to research. Prerequisites: 042:148. Requirements: admission to M.S.W. program.
- 042:271 Individual Study** arr.  
Project related to student interest; directed by faculty member.
- 042:272 Thesis** arr.
- 042:281 Social Work Practice: Selected Aspects** arr.  
Topics not covered in another course; diversity, social justice and ethics issues related to a social work practice area. Repeatable.
- 042:285 Travel/Study Seminar** arr.  
Opportunity for cross-cultural learning through U.S. or international travel; focus on social welfare issues. Repeatable. Prerequisites: 042:143.
- 042:290 Foundation Practicum in Social Work** 3 s.h.  
Generalist practice experience with individuals, families, small groups, organizations, communities; communication skills, change process, professional values and ethics applied at multiple system levels; students evaluate their own practice using a learning contract in an agency setting. Corequisites: 042:140, 042:143, 042:145, 042:146, 042:147, 042:150, 042:151, and 042:291, if not taken as prerequisites. Requirements: admission to M.S.W. program.
- 042:291 Foundation Practicum Seminar** 1 s.h.  
Integration of academic, experiential learning; self-assessment, peer feedback to promote model of professional accountability. Corequisites: 042:140, 042:143, 042:145, 042:146, 042:147, 042:150, 042:151, and 042:290, if not taken as prerequisites. Requirements: admission to M.S.W. program.
- 042:292 Advanced Practicum in Family-Centered Practice I and II** arr.  
Two-semester field course; family-centered practice theory and skills implemented in interventions with individuals, families. Repeatable. Corequisites: 042:250, 042:251, 042:252, and 042:270, if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses, and concurrent enrollment in 042:293 (fall) or 042:294 (spring).
- 042:293 Advanced Practicum Seminar in Family-Centered Practice I** 1 s.h.  
Two-semester field course; family-centered practice theory and skills implemented in interventions with individuals, families. Corequisites: 042:292. Requirements: completion of M.S.W. foundation courses.
- 042:294 Advanced Practicum Seminar in Family-Centered Practice II** 1 s.h.  
Continuation of 042:293. Prerequisites: 042:293. Corequisites: 042:292.
- 042:295 Advanced Practicum in Integrated Practice** arr.

Two-semester field course; integrated social work theories and interventions implemented in work with individuals, families, organizations, formal and informal networks. Repeatable. Corequisites: 042:260, 042:261, 042:262, and 042:270, if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses, and concurrent enrollment in 042:297 (fall) or 042:298 (spring).

**042:296 Advanced Practicum in School Social Work**

arr.

Field course; social work theories and interventions implemented in schools. Repeatable. Corequisites: 042:250 or 042:260, 042:251 or 042:261, and 042:252 or 042:262, if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses.

**042:297 Advanced Practicum Seminar in Integrated Practice I**

1 s.h.

Two-semester course; social work knowledge, skills, values, and professional identity integrated in context of advanced practice and direct multisystemic interventions. Corequisites: 042:295 or 042:296.

**042:298 Advanced Practicum Seminar in Integrated Practice II**

1 s.h.

Continuation of 042:297. Prerequisites: 042:297. Corequisites: 042:295 or 042:296.

**042:300 Social Work Proseminar**

1 s.h.

Faculty research related to families, children, and elderly theory, research designs, methodologies, findings, dissemination. Requirements: admission to Ph.D. program.

**042:301 Knowledge Building in Social Work Practice**

3 s.h.

Epistemology of social work practice theories, importance for knowledge building; practice theories of personal and interpersonal change, family life cycle development, empowerment. Requirements: admission to Ph.D. program.

**042:302 Social Policy and Poverty in the U.S.**

3 s.h.

Causes of poverty in the U.S., public policies for low-income families; arguments and evidence offered for and against a particular explanation for poverty in the U.S. or approach to anti-poverty policy; how authors construct their arguments, underlying theory, evidence the authors bring to bear, ways they explore consequences of policy proposals; role of social science theory in advancing knowledge in social policy and research interests. Requirements: admission to a doctoral program.

**042:303 Social Work Research Practicum**

1-6 s.h.

Joint research with faculty; development of research design, choice or construction of measurement tools, selection of sample, collection and analysis of data, writing of a research report. Requirements: admission to Ph.D. program.

**042:304 Thesis Seminar**

3 s.h.

Intensive faculty supervision and peer consultation for preparing thesis proposals; topics include literature synthesis, theory, critical and analytic thinking skills, logical argument, research design, and expectations and standards for scholarly discourse. Requirements: admission to Ph.D. program.

**042:306 Social Work Teaching Practicum**

3 s.h.

Development of knowledge, values; skills essential for effective, culturally competent social work educators; applied teaching experience and seminar. Requirements: admission to Ph.D. program.

**042:330 Ph.D. Dissertation**

arr.

# Sociology

**Chair:** Celesta Albonetti

**Professors:** Celesta Albonetti (Sociology/Law), Jennifer Glass (Sociology/Community and Behavioral Health), Karen V. Heimer, Jae-On Kim (Distinguished Service Professor), Kevin Leicht, Michael Lovaglia

**Professor emeritus:** Charles W. Mueller

**Associate professors:** Robert Baller, Jennifer Glanville, Mary Noonan

**Associate professors emeriti:** John R. Stratton, Stephen G. Wieting

**Assistant professors:** Alison Bianchi, Mary Campbell, Steve Hitlin, Freda Lynn, Anthony Paik, Michael Sauder

**Visiting assistant professor:** Paul Sturgis

**Undergraduate degrees:** B.A., B.S. in Sociology

**Undergraduate nondegree program:** Minor in Sociology

**Graduate degrees:** M.A., Ph.D. in Sociology

**Web site:** <http://www.uiowa.edu/~soc>

## Undergraduate Programs

The department offers a Bachelor of Arts, a Bachelor of Science, and a minor in sociology.

It also partners with the Departments of Economics and Philosophy to offer a Bachelor of Arts in ethics and public policy, an interdisciplinary major administered by the Department of Philosophy in the College of Liberal Arts and Sciences; see Ethics and Public Policy in the Catalog.

A bachelor's degree with a major in sociology provides a liberal arts and sciences education. Although it does not prepare students for a specific career, it provides background for employment in fields such as human services, criminal justice, corrections, sales, public relations, advertising, personnel, applied social research, community organization, and teaching social science in secondary schools. It also provides a foundation for graduate or professional study in social work, urban planning, law, criminal justice, social policy, and similar areas. Finally, the B.A. and B.S. prepare students to work toward advanced degrees in sociology, which qualify them for college or university teaching and work in academic, private, and governmental research.

### Bachelor of Arts

The Bachelor of Arts in sociology requires a minimum of 120 s.h., including at least 34-35 s.h. of work for the major. Several courses required for the major have specific prerequisites, and in some cases, students must earn a minimum grade in a prerequisite course. In planning to complete the major, students must be careful to take courses in the proper sequence.

The following sociology courses may not be used to complete requirements for the major: 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study.

In addition to specific courses required for the degree, students are advised to take 6 s.h. of course work in at least one of these departments: anthropology, economics, geography, political science, or psychology. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Transfer students majoring in sociology must meet the same requirements as other sociology students. They must take at least 12 s.h. in sociology at The University of Iowa and must have transfer course work approved for credit toward the major by a sociology advisor.

### INTRODUCTORY COURSES

These courses should be taken early. They lay the foundation for all other work in the major and are prerequisites for the required theory and methods courses.

034:001 Introduction to Sociology Principles	3-4 s.h.
22M:009 Elementary Functions (or a more advanced mathematics course)	4 s.h.

### THEORY AND METHODS COURSES

The three theory and methods courses required for the B.A. should be completed as early as possible. Students must earn a grade of C or higher in 034:009 Sociological Theory, 034:010 Quantitative Data Analysis, and 034:011 Research Methods in order to complete the major. They may take 034:009, 034:010, and 034:011 in the same session, but they may not take 034:010 or 034:011 before 034:009, nor may they take 034:011 before 034:010.

034:009 Sociological Theory	3 s.h.
034:010 Quantitative Data Analysis	3 s.h.
034:011 Research Methods	3 s.h.

**ELECTIVES**

Students complete 15 s.h. of elective course work in sociology, chosen from all the courses offered by the department (except 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study). Two electives must be taken after completing 034:011 Research Methods (except 034:002 Social Problems, 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study).

**CAPSTONE COURSE**

The capstone course illustrates the student's accomplishments in the major. It is usually taken during the student's last semester of course work for the major. In order to enroll in the capstone course, students must complete 034:011 with a grade of C or higher.

034:195 Capstone Course in Sociology 3 s.h.

**SOCIOLOGY MAJOR PORTFOLIO**

When each student graduates, he or she is required to provide the department with documents that will constitute his or her Sociology Major Portfolio. The portfolio provides a record of the student's development in the department. It also is an attractive set of materials that can serve as evidence of interests and work for prospective employers and graduate schools.

The portfolio should include at least three documents: a paper from the first two years of sociology classes, such as a book review or statement comparing competing theories; a research paper that reports the findings of original research; and a statement summarizing an experience in which the student applied sociological knowledge, such as a report on an internship, a consideration of contributions that sociological information made to a summer job, or a reflection on a period of study abroad.

Together, the materials should display development toward technical correctness in citing others' work, accurate use of sociological concepts, technical proficiency in using research methods, and the ability to explain implications of research findings.

The portfolio may be submitted electronically. Contact the department for more information.

**Bachelor of Science**

The Bachelor of Science in sociology requires a minimum of 120 s.h., including at least 45 s.h. of work for the major, with a minimum of 30 s.h. in sociology. Several courses required for the major have specific prerequisites, and in some cases, students must earn a minimum grade in a prerequisite course. In planning to complete the major, students must be careful to take courses in the proper sequence.

The following sociology courses may not be used to complete requirements for the major: 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study.

In addition to the specific courses required for the degree, students are advised to take 6 s.h. of course work in at least one of these departments: anthropology, economics, geography, political science, or psychology. Students also must complete the College of Liberal Arts and Sciences General Education Program.

Transfer students majoring in sociology must meet the same requirements as other sociology students. They must take at least 12 s.h. in sociology at The University of Iowa and must have transfer course work approved for credit toward the major by a sociology advisor.

**INTRODUCTORY COURSES**

These courses should be taken early. They lay the foundation for all other work in the major and are prerequisites for the required theory and methods courses.

034:001 Introduction to Sociology Principles 3-4 s.h.

One of these sequences:

22M:025-22M:026 Calculus I-II 8 s.h.

22M:031-22M:032 Engineering Mathematics I: Single Variable Calculus - Engineering Mathematics II: Multivariable Calculus 8 s.h.



**THEORY AND METHODS COURSES**

The five theory and methods courses required for the B.S. should be completed as early as possible. Students must earn a grade of C or higher in 034:009 Sociological Theory, 034:010 Quantitative Data Analysis, and 034:011 Research Methods in order to complete the major. They may take 034:009, 034:010, and 034:011 in the same session, but they may not take 034:010 or 034:011 before 034:009, nor may they take 034:011 before 034:010.

034:009 Sociological Theory	3 s.h.
034:010 Quantitative Data Analysis	3 s.h.
034:011 Research Methods	3 s.h.
22S:120 Probability and Statistics	4 s.h.

One of these:

026:103 Introduction to Symbolic Logic	3 s.h.
026:104 Introduction to Philosophy of Science	3 s.h.

**ELECTIVES**

Students complete 15 s.h. of elective course work in sociology, chosen from all the courses offered by the department (except 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study). Two of the electives must be taken after completing 034:011 Research Methods (except 034:002 Social Problems, 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study).

**CAPSTONE COURSE**

The capstone course illustrates the student's accomplishments in the major. It is taken during the student's last semester of course work for the major. In order to enroll in the capstone course, students must complete 034:011 Research Methods with a grade of C or higher.

034:195 Capstone Course in Sociology	3 s.h.
--------------------------------------	--------

**SOCIOLOGY MAJOR PORTFOLIO**

When each student graduates, he or she is required to provide the department with documents that will constitute his or her Sociology Major Portfolio. The portfolio provides a record of the student's development in the department. It also is an attractive set of materials that can serve as evidence of interests and work for prospective employers and graduate schools.

The portfolio should include at least three documents: a paper from the first two years of sociology classes, such as a book review or statement comparing competing theories; a research paper that reports the findings of original research; and a statement summarizing an experience in which the student applied sociological knowledge, such as a report on an internship, a consideration of contributions that sociological information made to a summer job, or a reflection on a period of study abroad.

Together, the materials should display development toward technical correctness in citing others' work, accurate use of sociological concepts, technical proficiency in using research methods, and the ability to explain implications of research findings.

The portfolio may be submitted electronically. Contact the department for more information.

**B.A. or B.S. with Teacher Licensure**

Students who wish to obtain teacher licensure in the social sciences while majoring in sociology should contact the Department of Teaching and Learning in the College of Education.

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Note: Sequencing of course work is important in meeting the four-year plan.

### **Bachelor of Arts**

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 034:001 Introduction to Sociology Principles or equivalent, and at least half of the semester hours required for graduation

**Before the seventh semester begins:** a college-level math course numbered 22M:009 Elementary Functions or above, 034:009 Sociological Theory, 034:010 Quantitative Data Analysis, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 034:011 Research Methods

**During the eighth semester:** enrollment in all remaining course work in the major, including the capstone course and two electives in the major (excluding 034:002 Social Problems, 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study), all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Bachelor of Science**

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 034:001 Introduction to Sociology Principles or equivalent, 034:009 Sociological Theory, one sociology elective, and at least half of the semester hours required to graduate

**Before the seventh semester begins:** 034:010 Quantitative Data Analysis, 034:011 Research Methods, calculus I-II, one more sociology elective, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 22S:120 Probability and Statistics and one more sociology elective

**During the eighth semester:** enrollment in all remaining course work in the major, including the capstone course and two electives in the major (excluding 034:002 Social Problems, 034:029 First-Year Seminar, 034:197 Teaching Internship, and 034:198 Directed Individual Study), all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

The University of Iowa Honors Program provides a stimulating and integrative educational experience for undergraduate majors who perform at a high level. Membership in the honors program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

To qualify for the honors program in sociology, students must have a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in the major in sociology courses.

To earn a degree with honors in sociology, students complete the following:

034:100 Honors Proseminar, taken spring semester of the junior year

At least one advanced undergraduate course numbered above 034:100, or a graduate course (instructor's permission to enroll for honors designation is required)

034:199 Honors Research, the senior honors thesis

The honors thesis is conducted under faculty supervision; it gives students an opportunity to conduct sociological research in close consultation with a faculty member of the student's choice.

### **Minor**

The minor in sociology requires a minimum of 15 s.h. in sociology courses, including 12 s.h. in courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor must include 034:009 Sociological Theory.

A minor in sociology is a good complement to a number of majors, particularly other social sciences, business, elementary education, or nursing.

### **National Honor Society**

The department sponsors a chapter of Alpha Kappa Delta International Sociology Honor Society. Students who have a cumulative and sociology g.p.a. of 3.00 or higher and have attained junior or higher standing are considered for

membership. Consult the Alpha Kappa Delta faculty advisor for details.

## Graduate Programs

The department offers a Master of Arts and a Doctor of Philosophy in sociology. Graduate study in sociology focuses on the Ph.D. Students are awarded the M.A. as they fulfill requirements for the Ph.D.

The Doctor of Philosophy emphasizes research and aims primarily to prepare sociologists for academic positions in colleges and universities or for research positions in academic, private, and government institutions. Opportunities for research using survey, experimental, and observational methods are readily available in the department.

### Master of Arts

The Master of Arts in sociology requires 30 s.h. of graduate credit with thesis or research paper, and 38 s.h. of graduate credit without. The program without thesis is intended for students seeking a terminal degree and for whom a wider range of course content in sociology is appropriate.

All M.A. students must complete the following with grades of B-minus or higher.

034:201 History of Sociological Theory	3 s.h.
034:214 Introduction to Sociological Data Analysis	3 s.h.
034:215 Sampling, Measurement, and Observation Techniques	3 s.h.
034:216 Linear Models in Sociological Research	3 s.h.

### Doctor of Philosophy

The Doctor of Philosophy in sociology requires a minimum of 72 s.h. of graduate credit. In addition to 034:214 Introduction to Sociological Data Analysis and 034:216 Linear Models in Sociological Research, which are required for the M.A., students must complete two 200-level elective courses in methods/statistics, and an advanced theory course (such as 034:202 Theory Construction and Analysis). Most courses for the Ph.D. are taken in the student's two areas of interest. Candidates also must pass two area examinations, write and defend a dissertation prospectus, and write and successfully defend a dissertation.

Doctoral students take two area exams—one from list A, the other from list A or B. List A has five standing committees: crime, law, and deviance; family; political sociology; social psychology; and stratification. For the list B exam, a student may propose any area that is not covered under List A and for which there is adequate faculty support.

For a detailed statement of graduate study regulations, contact the Department of Sociology. Prospective doctoral students should examine this document carefully.

### Joint Ph.D./J.D.

The Department of Sociology and the College of Law offer the joint Juris Doctor/Doctor of Philosophy. The program is highly individualized, allowing students to explore varied aspects of the relationship between law and society. Joint Ph.D./J.D students may count up to 12 s.h. of graduate credit toward both degrees, with approval from the Department of Sociology and the College of Law.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. For information about the J.D., see Juris Doctor (College of Law) in the Catalog.

### Teaching Assistantship Training

All new graduate students are expected to attend a three-day orientation for teaching assistants before classes begin. In addition, 034:382 Teaching Sociology is required for students who wish to teach their own courses.

### Admission

Admission to graduate study in sociology usually requires an undergraduate g.p.a. of at least 3.25 and a score of 1100 or higher (quantitative and verbal) on the Graduate Record Examination (GRE) General Test. Students whose first language is not English should submit scores on the Test of English as a Foreign Language (TOEFL).

Applicants must meet the admission requirements of the Graduate College; see Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Applicants also must complete the sociology department application and use the department's personal reference forms to obtain three letters of recommendation; forms can be printed from the Department of Sociology web page.

All application materials for fall admission must be received by January 1. The deadline for applying for departmental financial support is January 1. Evaluation of applications begins in early January.

Admission decisions are based on consideration of prior academic performance, personal reference letters, scores on the GRE General Test, and the applicant's statement of reasons for pursuing advanced work in sociology at The University of Iowa. The department has no specific undergraduate course requirements for admission, but a background in the social sciences with some mathematical training is useful. A foreign language is not required for admission, and there is no foreign language requirement for a graduate degree in sociology. To inquire about admission, consult the chair of the admissions committee, Department of Sociology.

## **Financial Support**

The Department of Sociology offers teaching assistantships and research assistantships for graduate students. Students who receive one-half-time teaching or research assistantships work 20 hours each week for faculty members on either teaching or research assignments. Out-of-state students who hold assistantships are assessed tuition at the resident rate. Graduate students also may be eligible for fellowships offered by the Graduate College.

## **Research Centers and Facilities**

### **Center for Asian and Pacific Studies**

The Center for Asian and Pacific Studies provides excellent opportunities for studying Asia from a social science perspective. It supports related Asia studies and offers a monthly seminar that features lively discussions by scholars from many different disciplines.

### **Center for Criminology and Sociolegal Studies**

The Center for Criminology and Sociolegal Studies is an interdisciplinary research and teaching program for the study of crime, law, deviance, social control, and mental health. It sponsors a colloquium series in crime, law, and social control, in which affiliates, graduate students, and outside speakers present their ongoing research, and a working-paper series in which members disseminate research papers to the academic community. The center also provides research support and a research infrastructure for faculty and graduate students and offers graduate research assistantships for interested students. Internship in Criminal Justice and Corrections (034:148) is administered through the center.

### **Center for the Study of Group Processes**

The Center for the Study of Group Processes has an 18-room small-group laboratory with eight computer-controlled subject rooms that provide audiovisual and psychophysiological recording capabilities, two large-group rooms with an adjoining observation room, an audiovisual control room, a sociophysiological instrumentation lab, a virtual social environment lab, and other flexible research office spaces.

### **Institute for Inequality Studies**

The Institute for Inequality Studies (IIS) promotes research on the causes and consequences of social inequality's many forms--class, gender, race, ethnicity, age, sexual orientation, religion, and disability. The institute's mission is to stimulate interdisciplinary exchange; encourage scholarly engagement in research through seminars highlighting current policy-relevant research and methodology; train the next generation of demography and inequality scholars; provide technical and administrative support to researchers working with survey and population data; and facilitate development of collaborative proposals for external funding. IIS also promotes the visibility of social inequality scholarship by sponsoring symposia on inequality research issues that attract community interest.

## **Sociology Courses**

### **For Undergraduates**

The following courses are open only to undergraduates. Courses without prerequisites open to first-year students are 034:001 Introduction to Sociology Principles, 034:002 Social Problems, 034:018 Gender and Society, 034:020 Principles of Social Psychology, 034:029 First-Year Seminar, 034:066 Social Inequality, and 034:158 Economy and Society. All other undergraduate courses are open to first-year students with stated prerequisites.

#### **034:001 Introduction to Sociology Principles**

3-4 s.h.

How individuals are organized into social groups, ranging from intimate groups to bureaucracies, and how these influence individual behavior; nature and interrelationships of basic social institutions, such as family, education, religion, economy. GE: Social Sciences.

**034:002 Social Problems**

3-4 s.h.

Emergence and distribution of selected social problems; alternative solutions; may include population, inequality, female-male relationships, racism, crime. GE: Social Sciences.

**034:009 Sociological Theory**

3 s.h.

Theoretical perspectives in sociology; construction, evaluation of sociological explanations. Prerequisites: 034:001.

**034:010 Quantitative Data Analysis**

3 s.h.

Applied statistics for sociology majors: frequency distributions, graphic presentation, measures of central tendency, measures of variability, elementary probability, populations and samples, sampling distributions, estimation and confidence intervals, hypothesis testing, chi-square test, regression and correlation, analysis of variance; computer software used in data analysis; emphasis on appropriate use and interpretation of statistics in the study of sociological topics. Prerequisites: 034:001. Requirements: sociology major, and 22M:009 or a higher-level math course.

**034:011 Research Methods**

3 s.h.

Basic scientific concepts; emphasis on theoretical thinking, statement of researchable propositions, logic and meaning of proof operant in the research process; general issues in designing social research, including problems of sampling and measurement, analysis, presenting research data, interpreting research findings. Prerequisites: 034:001. Requirements: sociology major, and 22M:009 or a higher-level math course.

**034:029 First-Year Seminar**

1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**034:100 Honors Proseminar**

2 s.h.

Topic development for senior honors projects. Offered spring semesters. Requirements: sociology honors standing.

**034:190 Selected Topics in Sociology**

3 s.h.

Topics vary.

**034:195 Capstone Course in Sociology**

3 s.h.

Senior project illustrating student's accomplishments during his or her undergraduate career; prepared in collaboration with sociology faculty member or other experts in the student's area of sociological interest; record for student's own reflection, information for potential employers and graduate programs. Requirements: grade of C or higher in 034:011.

**034:196 Field Experience**

arr.

Supervised field experience in sociology; primarily for students participating in Washington Center internship. Requirements: sociology major and junior standing.

**034:197 Teaching Internship**

3 s.h.

Experience providing supervised support for instructors teaching basic courses in sociology. Requirements: appointment as sociology undergraduate teaching aide.

**034:198 Directed Individual Study**

arr.

**034:199 Honors Research**

arr.

Research projects under faculty supervision.

**Advanced Courses****Social Theory****034:200 Graduate Proseminar**

2 s.h.

General introduction to department and discipline for entering graduate students; departmental and graduate college requirements, program and career planning, interaction with faculty members, consideration of student interests and concerns. Two semesters beginning in fall. Requirements: sociology graduate standing.

- 034:201 History of Sociological Theory** 3 s.h.  
Ideas of major 19th- and 20th-century social thinkers (e.g., Marx, Weber, Durkheim, Simmel, Mead).
- 034:202 Theory Construction and Analysis** 3 s.h.  
Contemporary theoretical issues and nature of theory, theory's place in research, strategies of theory construction.  
Requirements: sociology graduate standing.
- 034:203 Seminar: Selected Topics in Sociological Theory** 3 s.h.  
Repeatable.
- 034:205 Seminar: Selected Topics in Sociology** 3 s.h.  
Current theoretical and methodological issues. Requirements: sociology graduate standing.
- 034:213 Qualitative Methods** 3 s.h.  
Logic of qualitative research; basic skills necessary for a qualitative research project. Requirements: sociology graduate standing.
- 034:214 Introduction to Sociological Data Analysis** 3 s.h.  
Statistical measures for descriptive methods and association; logic of statistical inference, hypothesis testing; background essential to understanding linear models, models for categorical data analysis. Requirements: introductory statistics or graduate standing.
- 034:215 Sampling, Measurement, and Observation Techniques** 3 s.h.  
Research designs; sampling designs and techniques; questionnaire construction, interviewing techniques; participant and nonparticipant observation; coding and preparation of data for analysis; measurement techniques, reliability, and validity. Requirements: 034:214 or graduate standing.
- 034:216 Linear Models in Sociological Research** 3 s.h.  
Statistical techniques associated with general linear model; emphasis on multiple regression, its generalizations; corresponding computer programs. Requirements: 034:214 or graduate standing.
- 034:218 Advanced Statistical Modeling of Data** 3 s.h.  
Models for analysis of categorical data, including loglinear, logit, related discrete data models. Requirements: advanced graduate standing.
- 034:219 Structural Equation Modeling** 3 s.h.  
Overview of structural equation models (SEMs), also known as LISREL models, covariance structure models; specific types of SEMs, such as simultaneous equations and confirmatory factor analysis; intermediate topics.

## **Social Psychology**

- 034:020 Principles of Social Psychology** 3-4 s.h.  
Introduction to theory and research in small groups; interpersonal and intergroup processes. GE: Social Sciences.
- 034:023 The Social Psychology of Leadership** 3 s.h.  
Techniques, proven by research, that enhance students' ability to know, work with, and lead people; recent research in social psychology, how it applies to practical leadership problems.
- 034:125 Small Group Analysis** 3 s.h.  
Internal processes governing small groups (e.g., friendship cliques, families, the president's cabinet, committees); how small groups relate to the larger social environment; groups' impact on their members. Prerequisites: 034:001 or 034:002.
- 034:128 Sociology of Mental Illness** 3 s.h.  
The socially constructed nature of mental illness; theoretical perspectives and research on social antecedents and social consequences of mental health. Prerequisites: 034:001 or 034:002 or 034:020.
- 034:220 Contemporary Approaches to Social Psychology** 3 s.h.

Review and critical analysis of current theoretical approaches to and systems of social psychological analysis.

**034:221 Seminar: Selected Topics in Social Psychology** 3 s.h.  
Selected theoretical and methodological issues. Repeatable.

## **Deviance, Delinquency, Crime, and Law**

**034:040 Criminology** 3 s.h.  
Nature and causes of crime; the criminal justice process, correctional treatment, crime prevention. Prerequisites: 034:001 or 034:002.

**034:045 Global Criminology** 3 s.h.  
Crime and the control of crime at the transnational and sub-national levels of analysis; focus on non-U.S. societies; consequences of economic, political, and cultural globalization.

**034:141 Juvenile Delinquency** 3 s.h.  
Delinquency as an individual and social problem; theories of the causes of juvenile delinquency; law enforcement and the juvenile court; methods of correction and prevention. Prerequisites: 034:001 or 034:002.

**034:143 Gender and Violence** 3 s.h.  
Extent and nature of gendered violence, interpretation of patterns using feminist theory and perspectives on masculinities and heterosexism; examination of interpersonal violence, including criminal violence committed by women and men, violence against women and men (victimization), spousal/intimate partner abuse, youth gangs, bullying in schools, sexual violence, femicide, and genocide. Same as 131:161.

**034:146 Deviance and Control** 3 s.h.  
Norm violation or deviant behavior; behaviors that, while deviant, do not violate legal norms, and ways of controlling these behaviors that do not involve the criminal justice system; ways of explaining deviance, consequences of deviant behavior for the deviant actor. Prerequisites: 034:001 or 034:002.

**034:148 Internship in Criminal Justice and Corrections** 1-5 s.h.  
Supervised field work in a criminal justice or correctional agency. Prerequisites: 034:040 or 034:141. Requirements: sociology major, junior standing, and consent of director of the Center for Criminology and Socio-Legal Studies.

**034:149 Sociology of Criminal Punishment** 3 s.h.  
Sociological theories and research on criminal punishment; classical and contemporary theories; research on imprisonment and capital punishment. Prerequisites: 034:009.

**034:182 Sociology of Law** 3 s.h.  
Conceptual, historical, and theoretical issues of law and operation of the criminal justice system; theory and research on law and the criminal justice system. Prerequisites: 034:001 or 034:002.

**034:186 Criminal Legal System** 3 s.h.  
Discretionary decision making in the U.S. criminal courts, from arrest through sentencing; legal and sociolegal issues relevant to each stage of felony adjudication; sociological and social-psychological theories of decision making in adjudication, empirical research testing these theories. Prerequisites: 034:001 or 034:002.

**034:240 Seminar: Criminological Theories** 3 s.h.  
Theories of crime causation and their relationships to the cultures in which they have functioned.

**034:242 Communities and Crime** 3 s.h.  
Distribution of crime as rooted in community-level conditions such as concentrated affluence or poverty, racial residential segregation, unemployment, family disruption, and immigration. Requirements: sociology graduate standing.

**034:246 Morals, Markets, and Crime** 3 s.h.  
Impact of markets on the moral and social order of advanced capitalist societies; market conditions that promote or suppress crime. Requirements: sociology graduate standing.

**034:282 Sociology of Law Seminar**

3 s.h.

Relationship between law and society explored through writings and research of classical and contemporary sociologists and legal scholars. Requirements: sociology graduate standing.

**Family, Life-Style, Children, Aging****034:018 Gender and Society**

3-4 s.h.

Role and status of women in society; sex differences, sex role socialization, theories about origin and maintenance of sexual inequalities, changes in social life cycle of women, implications for social institutions and processes; focus on contemporary United States. GE: Cultural Diversity. Same as 131:018.

**034:061 The American Family**

3 s.h.

Structure and process; change over the life cycle; interrelations with other institutions; historical changes; variations by social class and ethnic group. Prerequisites: 034:001. GE: Cultural Diversity.

**034:075 Fertility and Reproduction**

3 s.h.

Exploration of when, why, how, and with whom Americans bear children, comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as 131:075, 154:075.

**034:159 Families in Comparative Perspective**

3 s.h.

Prerequisites: 034:001 or 034:061.

**034:162 Work and Family Institutions**

3 s.h.

Contemporary problems in the integration of work and family life; origins of work-family conflict in process of industrialization; effects of job-family conflicts on mothers, fathers, children; cross-cultural differences in dealing with work-family conflict. Prerequisites: 034:001 or 034:002. Same as 131:160.

**034:266 Gender Inequalities**

3 s.h.

Current sociological research on public policies that affect family life and well-being; divorce and child custody policies, teen pregnancy and abortion, family poverty, child care and work-family policies. Same as 131:266.

**034:269 Seminar: Selected Topics in Family Sociology**

3 s.h.

Selected theoretical and methodological issues. Repeatable. Requirements: social science graduate standing.

**Social Institutions, Social Change****034:022 Introduction to Social Work**

4 s.h.

Social welfare as a social institution; settings, methodologies of social work, practice; profession of social work; historical development of American social welfare, social work; a minimum of 45 hours volunteer work. Requirements: sophomore or higher standing. Same as 042:022.

**034:126 Social Movements in the U.S.**

3 s.h.

Social unrest; crowd behavior; social movements treated as a form of social change. Prerequisites: 034:001 or 034:002.

**034:153 Public Opinion**

3 s.h.

Role in making public policy; formation, change of political attitudes and opinions; political ideology; measurement of public opinion; how opinion polls are conducted; experience with interviewing and conducting public opinion research. Same as 030:171.

**034:179 Sociology of Education**

3 s.h.

Overview of the sociology of education; historical and current sociological perspectives on education; race, class, gender inequality in schooling; higher education; contemporary debates in education, such as affirmative action, school choice; service-learning component. Prerequisites: 034:001 or 034:002.



**034:285 Complex Organizations**

3 s.h.

**034:310 Education and Social Change**

2-3 s.h.

Role of educational institutions, in connection with political and economic structures, in the process of social change; illumination of theories of social change through case studies of educational systems in both less-developed and industrialized nations. Same as 07B:210.

**Social Class, Inequality, Race, Organizations, Politics****034:066 Social Inequality**

3 s.h.

Major theoretical perspectives for understanding inequality in economics, power, prestige; the magnitude of social inequality in the United States; sex and race inequality; trends in and causes of social mobility; selected consequences of social inequality. GE: Cultural Diversity.

**034:135 Sociology of Sexuality**

3 s.h.

Sociological perspectives on sexuality, including theoretical and conceptual developments, empirical regularities, and social implications; sexual expression in the United States. Prerequisites: 034:001 or 034:002. Same as 154:145.

**034:150 Political Sociology**

3 s.h.

Sociological analysis of political behavior and belief, group conflict and political process, group consensus, political institutions, power and policy-making systems; relationship of the political system to the social system. Prerequisites: 034:001.

**034:155 Comparative Studies in Race and Ethnicity**

3 s.h.

Multidisciplinary study of intergroup relations, with emphasis on historical, sociological, and social psychological issues in the study of American minority groups. GE: Cultural Diversity.

**034:156 Gender Inequality**

3 s.h.

Gender issues in major social institutions such as family, education, workplace, culture; marriage, family care, childhood gender socialization, occupational segregation, wage gap, household division of labor, and so forth. Prerequisites: 034:001 or 034:002.

**034:158 Economy and Society**

3 s.h.

Economic debates that faced advanced market economies in the 20th century with extensions to the developing world; development and maintenance of investment elites and labor markets, development and extension of state activity.

**034:164 Organizations and Modern Society**

3 s.h.

Approaches to the sociological study of economic and noneconomic organizations; the role of power and authority within the organization, and between the organization and its environment. Prerequisites: 034:001 or 034:020.

**034:165 Sociology of Work and Occupations**

3 s.h.

Work commitment; prestige of occupations; occupational and professional careers; occupational groups and organizations; alienation; women, minorities, and occupational structures; capitalism and occupations. Prerequisites: 034:001 or 034:020.

**034:170 The Connected Age: A Sociological Introduction to Social Networks**

3 s.h.

Introduction to the basic properties of network structure (e.g., density, mutuality, cliques); substantive insights regarding the role and consequences of networks in social life; the role of networks in job searching/hiring processes; how innovations diffuse through networks; and relationships as social resources. Prerequisites: 034:001 or 034:002.

**034:175 Community and Urban Sociology**

3 s.h.

Impact of urbanization on social life, social networks; how social forces shape patterns of urban growth; racial segregation, gentrification; consequences of the growth of suburbs; urban crises, including concentrated poverty and crime. Prerequisites: 034:001 or 034:002.

**034:253 Social Stratification**

3 s.h.

Classical and contemporary theories; current research on the causes and magnitude of inequality in economics, power, and prestige; social mobility; critical issues in stratification.

**034:254 Seminar: Selected Topics in Social Stratification**

3 s.h.

Requirements: social science graduate standing.

**034:256 Gender Stratification Seminar**

3 s.h.

Occupational gender segregation; gender gap in pay; role of family caregiving in women's lower pay; devaluation of caregiving work; comparable worth. Same as 131:256.

**034:257 Seminar: Sociology of Labor Markets**

3 s.h.

Sociological and economic theories and research concerning area/regional/local labor markets, industrial sectors and the dual labor market, occupational/internal labor markets; other structural explanations of inequality.

**034:258 Seminar: Economy and Society**

3 s.h.

Relationships between social classes and nation-states in capitalist societies; historical experience of the United States; comparative perspective, especially regarding Western Europe.

**034:259 Social Network Analysis**

3 s.h.

Relational, data-oriented approach to representing linkages or relationships among social units, and to examine the relevance of these social structures in social processes. Requirements: basic multiple regression.

**Teaching****034:382 Teaching Sociology**

2-3 s.h.

Supervised preparation for teaching sociology courses; literature on teaching; course objectives, alternative teaching techniques; preparation of course syllabus, lectures, discussions, exams. Requirements: advanced sociology graduate standing.

**Independent Reading and Research****034:381 Summer Research Practicum**

2 s.h.

Students discuss their participation in ongoing research, review and critique each other's projects, write research reports describing their work. Requirements: sociology graduate standing.

**034:383 Readings and Research Tutorial**

arr.

Repeatable.

**034:385 Master's Thesis**

arr.

Repeatable.

**034:386 Ph.D. Dissertation**

arr.

Repeatable.

# Spanish and Portuguese

**Chair:** Mercedes Niño-Murcia

**Professors:** Thomas E. Lewis, Adriana Méndez Rodenas

**Associate professors:** María José Barbosa, María A. Duarte, Denise K. Filios, Brian Gollnick, Paula M. Kempchinsky, Philip W. Klein, Judith E. Liskin-Gasparro, Ana Merino, Kathleen Newman (Spanish and Portuguese/Cinema and Comparative Literature), Mercedes Niño-Murcia, Diana Vélez

**Adjunct associate professor:** Sue E. Otto

**Assistant professors:** Roberto Ampuero, Amber Brian, Luis Martín-Estudillo, Ana Rodríguez, Santiago Vaquera-Vásquez, Sarah Ann Wells

**Lecturers:** Gay Allan, Ozzie Díaz-Duque, Deanna Johnson, Pilar Marcé, Maria Nilsson

**Undergraduate degrees:** B.A. in Spanish, Portuguese

**Undergraduate nondegree programs:** Minor in Spanish, Portuguese

**Graduate degrees:** M.A., Ph.D. in Spanish

**Web site:** <http://www.uiowa.edu/~spanport>

The Department of Spanish and Portuguese provides course work for undergraduate and graduate majors in Spanish or Portuguese and for the satisfaction of foreign language requirements for undergraduate and graduate degrees in other fields. It also participates in several study abroad programs.

## Undergraduate Programs

The department offers a Bachelor of Arts in Spanish and in Portuguese, and a minor in Spanish and in Portuguese.

Elementary and intermediate courses in Spanish language interrelate five performance goals--listening, reading, speaking, writing, and cultural knowledge--in a staged progression whose overall goal is to develop proficiency. The curriculum emphasizes acquisition of Spanish language skills in communicative contexts, enrichment of vocabulary through an introduction to Hispanic culture, and development of grammatical accuracy in speaking and writing.

The beginning course in Portuguese is for students without previous study or experience with the language. There also is a special Portuguese course for students who already know Spanish. Portuguese classes provide a great deal of individual attention in an informal language-learning environment. Courses emphasize speaking, comprehending, reading, and writing Brazilian Portuguese. They incorporate cultural material in the form of videos and music.

### Bachelor of Arts in Spanish

The Bachelor of Arts in Spanish requires a minimum of 120 s.h., including 36 s.h. of work for the major. The program is built on course work in Spanish peninsular and Spanish American literature, Hispanic cultures, Hispanic linguistics, and advanced language skills. The goal of the major is twofold: to study content areas related to the Spanish language, such as literature, culture, and linguistics; and to develop proficiency in the Spanish language in all four skills: speaking, listening, reading, and writing.

Students who major in Spanish may go on to graduate study in areas such as Spanish and Spanish American literature, Hispanic linguistics, or comparative literature. They also may combine their Spanish studies with other areas to prepare for career opportunities in international business, government, travel, journalism, or communications, where knowledge of another language and other cultures is essential.

The required 36 s.h. (12 courses) of work for the major must be earned in courses more advanced than those required for the General Education Program. Students complete core requirements consisting of one course from each of the principal academic areas of the department (see "Required Core" below). The remaining eight courses are electives, which may focus on one or more of the principal areas or may include a broad range of courses in the department (see "Electives" below). Spanish majors are required to take at least three Spanish courses (prefix 035) numbered 170 or above; 035:195 Senior Seminar is recommended for all Spanish majors.

Students also must complete the College of Liberal Arts and Sciences General Education Program.

#### REQUIRED CORE

One course in Hispanic linguistics from these:

035:121 Introduction to Hispanic Linguistics	3 s.h.
035:122 Spanish Sound Structure	3 s.h.
035:123 Foundations in Sociolinguistics	3 s.h.
035:124 Introduction to Bilingualism	3 s.h.
035:126 Spanish Applied Linguistics	3 s.h.
035:128 Introduction to Spanish Language Acquisition	3 s.h.
035:129 Structure of the Spanish Language	3 s.h.
035:184 Linguistic Aspects of Second Language Acquisition	3 s.h.
035:185 Topics in Hispanic Linguistics	3 s.h.

035:186 Introduction to Spanish Syntax	3 s.h.
035:187 Spanish Word Formation	3 s.h.
035:188 History of the Spanish Language	3 s.h.
035:189 Introduction to Spanish Phonology	3 s.h.

One course in Spanish peninsular literature from these:

035:110 Readings in Spanish Literature	3 s.h.
035:151 Literature in the Time of Cervantes	3 s.h.
035:152 Romanticism and Revolution in Spain	3 s.h.
035:155 Hispanic Institute: Literature	3 s.h.
035:156 Spanish Literature of the Transition	3 s.h.
035:157 Contemporary Spanish Short Story	3 s.h.
035:160 The Cid in History and Legend	3 s.h.
035:161 Modern and Contemporary Spanish Literature	3 s.h.
035:180 Spanish Golden Age Fiction	3 s.h.
035:181 Topics in Spanish Literature	3 s.h.
035:182 Society and Poetry: Spanish Lyric	3 s.h.
035:183 Don Quijote	3 s.h.

One course in Spanish American literature from these:

035:111 Readings in Spanish American Literature	3 s.h.
035:131 Contemporary Spanish American Fiction	3 s.h.
035:132 Spanish American Poetry	3 s.h.
035:134 Spanish American Short Story	3 s.h.
035:140 Spanish American Literature of Fantasy	3 s.h.
035:144 Latin American Women Writers	3 s.h.
035:147 Topics in National Literatures and Cultures	3 s.h.
035:173 Colonial Spanish American Literature	3 s.h.
035:177 Literature and Mass Culture in Latin America	3 s.h.
035:178 Topics in Spanish American Literature	3 s.h.

One course in culture (peninsular or Spanish American) from these:

035:113 Screening Latin America	3 s.h.
035:130 Cultures of Spanish America	3 s.h.
035:135 Latinos in the United States	3 s.h.
035:137 Introduction to Chicano Literature and Culture	3 s.h.
035:145 Latin America Cinema	3 s.h.
035:148 Topics in Cinema, Literature, and Society	3 s.h.
035:149 Visual Culture: Colonial Spanish America	3 s.h.
035:150 Cultures of Spain	3 s.h.
035:153 Madrid	3 s.h.
035:154 Hispanic Institute: Culture	3 s.h.
035:172 Topics in Cultural Studies	3 s.h.
035:174 Latino/a Popular Culture	3 s.h.
035:179 Islamic Cultural Presence in Spain	3 s.h.
035:190 Chicano Cinema	3 s.h.
035:191 Topics in Latin American Cinema	3 s.h.
035:192 Topics in Film Studies	3 s.h.

## **ELECTIVES**

Eight elective courses in Spanish 24 s.h.

The eight electives may include course work in Spanish language skills as well as more advanced language courses that focus on specialized language functions and purposes. They also may include courses in Portuguese or in related areas from other departments, such as history, anthropology, comparative literature, international studies, or linguistics, subject to restrictions (see "Restrictions" below).

## **RESTRICTIONS**

All courses taken for the major must be numbered 100 or above. A maximum of five of the following courses or equivalent transfer or study abroad courses (as determined by the department's study abroad advisor) may be applied toward the major.

035:103 Spanish Language Skills: Writing	3 s.h.
035:104 Hispanic Institute: Language	3 s.h.
035:106 Spanish Language Skills: Speaking	3 s.h.
035:117 Introduction to Spanish-English Translation	3 s.h.
035:118 Business Spanish	3 s.h.
035:119 Journalistic Writing in Spanish	3 s.h.
035:120 Taller Basico de Escritura Creativa	3 s.h.
035:139 Advanced Spanish Language Skills: Writing	3 s.h.
035:141 Advanced Spanish Language Skills: Speaking	3 s.h.
035:168 Advanced Business Spanish	3 s.h.
038:103 Composition and Conversation	3 s.h.

Students may not count 035:116 Spanish Composition and Grammar (if taken after spring 2010) or 035:165 Advanced Spanish Grammar toward the Spanish major. Credit from 038:100 Accelerated Elementary Portuguese does not count toward the Spanish major. Of the 6 s.h. earned in 038:101 Accelerated Intermediate Portuguese, 3 s.h. may be applied toward the Spanish major. Students may count a maximum of 6 s.h. of course work in Portuguese toward the Spanish major.

A maximum of 6 s.h. of related course work from outside the department may be applied toward the Spanish major. Related courses must be approved by the director of undergraduate studies and must be numbered 100 or above. For a list of approved related courses, contact the Department of Spanish and Portuguese.

Students may count a maximum of 6 s.h. in courses taught in English, either in the Department of Spanish and Portuguese or in other departments, toward the Spanish major.

A maximum of 15 s.h. of credit in approved courses may be transferred from other institutions toward the requirements for the major in Spanish.

Advanced undergraduates preparing to earn a B.A. with honors may enroll in graduate courses with the permission of their advisor and the department chair. Ordinarily, permission is granted only to students who have completed a minimum of 30 s.h. of work for the major and whose g.p.a. in the major is 3.75 or higher.

### **B.A. with Teacher Licensure in Spanish**

Spanish majors interested in teaching Spanish at the elementary and/or secondary level must successfully complete the requirements for the Spanish major as well as the requirements for teacher licensure students administered by the College of Education's Teacher Education Program in foreign language. For more information, contact the Department of Teaching and Learning.

### **Bachelor of Arts in Portuguese**

The Bachelor of Arts in Portuguese requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must complete the courses listed under "Prerequisites" below (12 s.h.), or their equivalents, before they may begin fulfilling requirements for the major.

Portuguese is spoken in Portugal, Brazil, Angola, Mozambique, Cape Verde, and Guine-Bissau. There are more speakers of Portuguese in South America than there are of Spanish. Knowledge of Portuguese and of Luso-Brazilian culture is extremely helpful for students interested in career opportunities in international business, government, or related fields.

The major in Portuguese requires the following courses or their equivalents. All course work in the major must be more advanced than second-year level. Courses listed under "Prerequisites" do not count toward the 30 s.h. of work for the major.

Students also must complete the College of Liberal Arts and Sciences General Education Program.

#### **PREREQUISITES TO COURSE WORK FOR THE MAJOR**

038:100 Accelerated Elementary Portuguese	6 s.h.
038:101 Accelerated Intermediate Portuguese	6 s.h.

**REQUIRED COURSES**

038:103 Composition and Conversation	3 s.h.
038:105 Brazilian Literature Before 1900	3 s.h.
038:106 Brazilian Literature After 1900	3 s.h.
038:107 Introduction to Portuguese Literature	3 s.h.
038:120 Topics in Luso-Brazilian Culture	3 s.h.

**ELECTIVES**

Portuguese courses numbered above 038:102 15 s.h.

A maximum of 6 s.h. may be taken in approved courses in related areas (e.g., art, anthropology, comparative literature, geography, history, Latin American studies, linguistics, sociology, Spanish).

**Four-Year Graduation Plan****B.A. in Spanish**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Before the third semester begins:** Intermediate Spanish I (or equivalent second-year, first-semester competence in Spanish) and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** two courses in Spanish beyond Intermediate Spanish II (or equivalent second-year, second-semester competence) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** four more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** a total of nine courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

**B.A. in Portuguese**

**Before the third semester begins:** competence in first-year Portuguese and at least one-quarter of the semester hours needed for graduation

**Before the fifth semester begins:** competence in intermediate Portuguese and at least one-half of the semester hours needed for graduation

**Before the seventh semester begins:** three or four additional courses for the major and at least three-quarters of the semester hours needed for graduation

**Before the eighth semester begins:** a total of seven courses in the major

**During the eighth semester:** enrollment in remaining major course work, any remaining General Education courses, and sufficient semester hours to graduate

**Honors****Honors in Spanish**

Admission to the honors program in Spanish requires a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in Spanish (contact the University of Iowa Honors Program for more information about honors study at Iowa). Graduation with honors in Spanish requires that one course (3 s.h.) taken to complete major requirements be chosen for honors designation, in consultation with the department honors advisor. It also requires registration for 3 s.h. in 035:198 Honors: Research and Thesis. To complete 035:198 Honors: Research and Thesis successfully, students must present an honors thesis written in Spanish and must present it orally to a faculty committee in a meeting conducted in Spanish.

## Honors in Portuguese

Admission to the honors program in Portuguese requires a cumulative g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in Portuguese (contact the University of Iowa Honors Program for more information about honors study at Iowa). Graduation with honors in Portuguese requires that students earn 3 s.h. in 038:198 Honors Research and Thesis, plus 3 s.h. in a course chosen in consultation with the department honors adviser. Both courses (6 s.h.) count toward the total 30 s.h. required for the major in Portuguese. Students must write an honors thesis and present it orally to a committee of three faculty members.

## Minor in Spanish

The minor in Spanish requires a minimum of 18 s.h. in Spanish courses, including 15 s.h. in 100-level courses taken at The University of Iowa or in a University of Iowa study abroad program. At least one of the 100-level courses must be in Spanish or Spanish American literature or culture, or in Hispanic linguistics. Students may not count 035:116 Spanish Composition and Grammar (if taken after spring 2010) or 035:165 Advanced Spanish Grammar toward the Spanish minor. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. All courses for the minor must be taught in Spanish.

## Minor in Portuguese

The minor in Portuguese requires a minimum of 15 s.h. in Portuguese courses, including 12 s.h. in advanced courses taken at The University of Iowa or in a University of Iowa study abroad program. For the minor, courses numbered 038:103:103 Composition and Conversation and above are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

## Courses for Nonmajors

The department offers several opportunities for students who wish to study Spanish or Portuguese--languages that are spoken in many cultures around the world and are important in the study of literature, art, film, and many other disciplines.

All new students--including transfer students--who have previous course work or other experience with Spanish should take the Spanish Foreign Language Placement Test, offered at no charge during summer orientation programs and monthly by Evaluation and Examination Service. The test helps determine the level at which a student should begin Spanish language study at The University of Iowa. Students should take the test before they register for their first University of Iowa Spanish course.

Students with experience in Portuguese may receive individual evaluations from the department.

The department's language courses are open to any student who has satisfied the specified prerequisites.

## General Education Foreign Language Requirement

The department offers course sequences in Spanish and in Portuguese that may be used to fulfill the foreign language requirement of the General Education Program.

### SPANISH

The following sequence fulfills the General Education foreign language requirement and is appropriate for students who have no background in Spanish.

035:001 Elementary Spanish I	5 s.h.
035:002 Elementary Spanish II	5 s.h.
035:011 Intermediate Spanish I	5 s.h.
035:012 Intermediate Spanish II	5 s.h.

Students with previous knowledge of Spanish may substitute 035:005 Elementary Spanish Review (a one-semester intensive course) for 035:001 and 035:002.

The accelerated course 035:013 Accelerated Intermediate Spanish combines 035:011 and 035:012 into one semester and may be appropriate for some students.

The Spanish Foreign Language Placement Test determine where students should begin study. Students should consult with their advisors.

### PORTUGUESE

Only one course sequence in Portuguese fulfills the General Education foreign language requirement. It consists of two intensive courses that combine two semesters into one, so that the sequence is completed in a total of two semesters rather than four. Both courses are open to any student with an interest in the language, including entering first-year students.

038:100 Accelerated Elementary Portuguese

6 s.h.

038:101 Accelerated Intermediate Portuguese

6 s.h.

### **Other Courses for Nonmajors**

The department offers several literature, film, and cultural survey courses of general interest that are taught in English.

In addition to using Spanish or Portuguese language courses to fulfill the General Education foreign language requirement, undergraduate students may fulfill other General Education Program requirements with 035:020 Contemporary Spanish American Narrative, 035:060 Latino/a Literature in the U.S., and 038:020 Contemporary Brazilian Narrative, which are taught in English.

### **Related Certificates**

#### **Certificate in International Business**

The College of Liberal Arts and Sciences and the Henry B. Tippie College of Business offer the Certificate in International Business. The program entails study of international business and economics; international relations and institutions; a foreign language, such as Spanish or Portuguese; and the art, literature, culture, and/or politics of a geographic area. The certificate is designed not only for students who intend to pursue careers in international business but also for those interested in gaining a better understanding of the global economy and a broader awareness of the political, historical, and social environment in which international business operates.

The certificate requires 29 s.h. It offers a wide range of electives, permitting students to tailor areas of specialization to their interests and to complement majors in both liberal arts and sciences and business administration.

For more information, see International Business in the Catalog and contact CLAS Academic Programs & Services in the College of Liberal Arts and Sciences or the Undergraduate Program Office in the Tippie College of Business.

#### **Certificate in Latin American Studies**

The department plays an important and active role in the Latin American Studies Program, an interdisciplinary undergraduate program focusing on the history, politics, social organization, economy, art, music, religion, and literature of Latin America. Work in the program may lead to a certificate or a minor in Latin American studies.

The Certificate in Latin American Studies requires a minimum of 24 s.h. Students must have sufficient competence in Spanish or Portuguese to do background readings in the language before enrolling in the required senior seminar.

See Latin American Studies in the Catalog for detailed information about the certificate or minor.

### **Study Abroad**

#### **Study Abroad Programs in Spanish**

The department participates in study abroad programs in Spain and Latin America; most of these programs offer both summer and semester or yearlong programs. The programs in Spain include the Board of Regents, State of Iowa, program in Valladolid (summer only); USAC (University Studies Abroad Consortium) programs in Alicante, Bilbao, Madrid, and San Sebastián; and CIEE programs in Alcalá de Henares, Alicante, Barcelona, Madrid, Palma de Mallorca, and Seville.

The programs in Latin America include USAC programs in Chile (Santiago), Costa Rica (Heredia, Puntarenas, and San Ramón), and Mexico (Puebla); CIEE programs in Argentina (Buenos Aires), Chile (Santiago and Valparaíso), Dominican Republic (Santiago), Mexico (Guanajuato), and Peru (Lima). They also include the CIC Latin America Health, Nutrition, and Environmental Issues Program in Santiago, Dominican Republic, and the CIC Summer Program in Guadalajara, Mexico. For information about other foreign study programs in Spanish, contact the Office for Study Abroad.

Participation in a number of different programs allows the department to offer study abroad opportunities that take into account a variety of student interests and needs. Credit earned in these or other study abroad programs may be applied toward the requirements for the Spanish major or minor. The amount of credit that may be accepted varies according to the program.

Interested students should contact the department's study abroad advisor. Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 15 s.h. maximum allowed for the major and the 3 s.h. maximum allowed for the minor.



## Study Abroad Programs in Portuguese

The department offers a seven-week program in Salvador, Bahia, Brazil that includes courses in Portuguese language, culture, and literature. Contact the Office for Study Abroad for details.

## Graduate Programs

The department offers two graduate degrees: a Master of Arts and a Doctor of Philosophy in Spanish.

### Master of Arts

The Master of Arts in Spanish requires 30 s.h. of graduate credit. It offers two emphases: literature, which provides training in literary analysis and broad knowledge of representative works in principal areas of Hispanic literature; and linguistics, which provides training in linguistic analysis and argumentation and broad knowledge of the principal subfields of Hispanic linguistics. Applicants to the M.A. program should have completed the equivalent of the undergraduate Spanish major with a g.p.a. of at least 3.00 in course work for the major.

A maximum of 9 s.h. of graduate credit in approved courses may be transferred from other institutions toward the 30 s.h. required for the M.A.

The M.A. requires the following 10 courses.

#### LITERATURE EMPHASIS COURSES

035:200 Foreign Language Teaching Methods	3 s.h.
Two courses in Spanish linguistics numbered 035:170 and above	6 s.h.
Two courses in Spanish (peninsular) literature numbered 035:170 and above	6 s.h.
Two courses in Spanish American literature numbered 035:170 and above	6 s.h.
One course in literary theory	3 s.h.
Two electives	6 s.h.

At least eight of the 10 literature emphasis courses must be taken in the Department of Spanish and Portuguese and must be numbered above 035:170. The remaining two may be taken either in the Department of Spanish and Portuguese (numbered above 035:170) or in related departments, subject to approval by the director of graduate studies.

#### LINGUISTICS EMPHASIS COURSES

035:200 Foreign Language Teaching Methods	3 s.h.
035:204 Introduction to Spanish Linguistic Analysis	3 s.h.
One course in Spanish or Spanish American literature numbered 035:170 and above	3 s.h.
Two courses in syntax	6 s.h.
Two courses in phonetics/phonology	6 s.h.
One course in history of the Spanish language, language variation, or applied linguistics/language acquisition	3 s.h.
One course in applied linguistics or language	3 s.h.
One elective	3 s.h.

At least six of the 10 linguistics emphasis courses must be taken in the Department of Spanish and Portuguese and numbered above 035:170. The remaining four may be taken in the Department of Spanish and Portuguese (numbered above 035:170) or the Department of Linguistics.

#### LANGUAGE TOOL REQUIREMENT

M.A. students must complete the equivalent of one year of college-level study of any approved second foreign language; Portuguese is highly recommended. They may satisfy this requirement either by examination or through courses taken at The University of Iowa or another accredited university; such course work does not count toward the 30 s.h. required for the M.A.

#### EXAMINATIONS

The M.A. comprehensive examination includes written and oral components. The written portion consists of a two-hour examination in each of three areas; an oral examination follows, usually lasting 90 minutes. The examining committee

is composed of four departmental faculty members.

Students in the literature emphasis may choose to be examined in three literature areas or in two literature areas and one linguistics area. At least one literature area must be in Spanish literature and at least one must be in Spanish American literature. If three literature areas are chosen, at least one must represent literature written before 1700 (peninsular or Spanish American).

Students in the linguistics emphasis may choose to be examined in three linguistics areas or in two linguistics areas and one literature area. At least one of the linguistics areas must be in syntax or phonology. For students in both emphases, the third examination area may be a film area.

For reading lists, contact the Department of Spanish and Portuguese.

#### **MAXIMUM STUDY LOADS**

Maximum course registration is 15 s.h. of graduate-level course work during fall or spring semesters and 8 s.h. of graduate-level work during summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. The normal full-time registration for students who hold one-half-time assistantships is three graduate courses in fall and spring semesters; one-half-time assistants may register for a maximum of 12 s.h. in fall and spring semesters and 6 s.h. in summer sessions. Additional semester hours may be taken only with Graduate College approval.

Minimum course registration is 2 s.h. Students who fail to register for a period of 36 months must apply for readmission to the Graduate College.

## **Doctor of Philosophy**

The Doctor of Philosophy in Spanish requires a total of at least 72 s.h. of graduate credit. Ph.D. students choose from two programs; one is dedicated to Hispanic literatures, the other to Hispanic linguistics. The literature program trains students in textual analysis and literary history, criticism, and theory. The linguistics program provides training in linguistic analysis and theory.

The literature program requires a minimum of 66 s.h. of course work (22 courses), of which 30 s.h. may have been earned for an M.A. in Spanish at The University of Iowa or at another institution, as approved by the director of graduate studies.

The linguistics program requires a minimum of 57 s.h. of course work (19 courses), of which 30 s.h. may have been earned for an M.A. in Spanish at The University of Iowa or at another institution, as approved by the director of graduate studies.

Both programs also require 6 s.h. earned in 035:299 Thesis, to complete the 72 s.h. required for the Ph.D.

Course requirements for each program are as follows.

#### **LITERATURE TRACK: COURSES**

Students must complete at least 36 s.h. (12 courses) beyond the master's degree (or 22 courses beyond the bachelor's degree). The following courses are required; courses taken for the M.A. may be used to meet part of this requirement.

Two courses in literary theory	6 s.h.
Three courses in Spanish literature, at least one of which must be pre-1700 literature	9 s.h.
Three courses in Spanish American literature	9 s.h.
One course in cinema	3 s.h.
Two 300-level seminars in literary studies	6 s.h.
One literature course in another Romance language (see "Language and Literature Tool Requirements")	3 s.h.
035:299 Thesis	3-15 s.h.

Each student's plan of study is tailored to his or her area of emphasis and must be approved by the student's advisory committee. Ph.D. course work in Spanish (taken after the M.A.) must be at the 200 and 300 levels, except the Romance literature course taken for the language tool requirement.

#### **LITERATURE TRACK: LANGUAGE AND LITERATURE TOOL REQUIREMENTS**

Before the comprehensive examination, students must complete the equivalent of three years of college-level study in another Romance language and become well-acquainted with its literature in limited areas of specialization; the study of Luso-Brazilian literature is highly recommended. This requirement can be satisfied only through course work at The

University of Iowa or another accredited university.

The equivalent of one year of college-level study of another approved foreign language also is required. If Portuguese is not the language chosen to fulfill the Romance literature requirement, it must be used for this requirement. Students who choose to write dissertations on topics in Spanish or Portuguese literature before 1700 must have one year of college-level Latin or the equivalent.

Students may satisfy the language tool requirement by examination or by course work at The University of Iowa or at another accredited university; language tool course work does not count toward the 72 s.h. required for the degree.

#### **LINGUISTICS TRACK: COURSES**

Students must earn at least 27 s.h. (9 courses) beyond the master's degree (or 19 courses beyond the bachelor's degree). The following courses are required; courses taken for the M.A. may be used to meet part of this requirement.

035:206 Topics in Spanish Language Acquisition	3 s.h.
035:207 Topics in Comparative Romance Linguistics	3 s.h.
035:209 Spanish Phonology	3 s.h.
035:210 Spanish Syntax	3 s.h.
103:110 Articulatory and Acoustic Phonetics	3 s.h.
103:201 Introduction to Syntax	3 s.h.
103:202 Syntactic Theory	3 s.h.
103:203 Introduction to Phonology	3 s.h.
One additional course in the dissertation research area	
One course in historical linguistics, sociolinguistics/language variation, or language acquisition/psycholinguistics	3 s.h.
One 300-level Hispanic linguistics seminar	3 s.h.
035:299 Thesis	13-15 s.h.

The additional course in the dissertation research area (phonology, syntax, language acquisition, language variation) must be offered by the Department of Spanish and Portuguese or the Department of Linguistics.

Each student's plan of study is tailored to his or her area of emphasis and must be approved by the student's advisory committee. Ph.D. course work in Spanish (taken after the M.A.) must be at the 200 and 300 levels, except some courses offered by the Department of Linguistics and the required third-year-level course in Portuguese (see "Program II Language Tool Requirements" below).

#### **LINGUISTICS TRACK: LANGUAGE TOOL AND ADDITIONAL REQUIREMENTS**

Students in the linguistics track must complete the equivalent of three years of college-level study of Portuguese, and the equivalent of one year of college-level study of each of two other languages. For students specializing in historical linguistics, one of those two languages must be Latin.

Students may satisfy the language tool requirement by examination or by course work at The University of Iowa or at another accredited university. The language tool course work does not count toward the 57 s.h. of prethesis course work required for the degree, except the third-year-level course work in Portuguese, which may be counted with the faculty advisor's approval.

Students in the linguistics track also must write two extended research papers and give two colloquium presentations based on these papers. The first paper must be in an area distinct from the intended dissertation research area and must be approved by the end of fall semester of the second year of Ph.D. course work in order for the student to continue in the program. The second paper must be in the dissertation research area, must be of publishable quality, and must be approved no later than the beginning of the semester in which the student takes the comprehensive exam.

#### **COMPREHENSIVE EXAMINATION**

The purpose of the Ph.D. comprehensive examination is to determine whether the student has gained sufficient breadth and depth of research knowledge in Hispanic literatures or linguistics to enter the profession as a teacher-scholar. The examining committee is composed of five departmental faculty members or four departmental faculty members and a fifth faculty member from a related department.

#### **Literature Track**

The comprehensive exam for the literature track includes four elements: two broad areas, one specialized area, one article, and an oral exam. Each element is supervised by a different committee member.

The two broad areas comprise lists of approximately 40 readings, which each list covering an established historical period that is tied to the student's Ph.D. course work (one Peninsular, the other Spanish-American). The lists must be approved by the supervisor before distribution to the rest of the committee. Each area is evaluated with a three-hour written exam, which is discussed during the student's oral exam.

The specialized area includes 25-40 secondary works that define the area and are related to the dissertation. The area is examined via a 15-20 page position paper, which is a critical synthesis of the secondary readings and normally becomes part of the dissertation introduction. The list and the paper must be written in consultation with the supervisor and must be approved by the supervisor at least one month before the exam.

The article is a 20-25 page research essay, usually a revised version of a paper written for one of the two required 300-level seminars. The article should be written in consultation with the professor who taught the seminar and with at least two other professors. It must be approved by the supervisor at least one month before the exam.

The oral exam lasts two hours, with approximately half devoted to the two broad areas and half to the article and the position paper.

### **Linguistics Track**

The comprehensive exam for the linguistics track includes written and oral components. The written component comprises two weekend take-home exams consisting of linguistic analysis in two subdisciplines distinct from the subdiscipline of the intended dissertation research. The two-hour oral exam consists of one hour devoted to discussion of the second research paper and the other hour devoted to follow-up questions on the written exams.

### **DISSERTATION**

After the Ph.D. comprehensive examination is completed, the candidate submits a dissertation prospectus for the dissertation committee's approval. The dissertation committee is composed of five faculty members; at least four committee members must be from the Department of Spanish and Portuguese.

Beginning fall 2009, all doctoral dissertations must be submitted to the Graduate College in electronic format.

The dissertation, complete and in final form, must be submitted in the required electronic format at the Graduate College office by the first-deposit deadline date of the session in which the degree is to be conferred. The final deposit of the approved dissertation in electronic format must be deposited at the office by the appropriate deadline in the student's graduation semester.

Students must adhere to the Graduate College regulations regarding preparation of the dissertation copy; consult the Graduate College. For information on the dissertation and final examinations, see the Manual of Rules and Regulations of the Graduate College.

### **Financial Support**

Teaching and research assistantships are available to qualified graduate students. Usually, two years of support are available for completion of the M.A. and four years beyond the receipt of the M.A. for the Ph.D. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

## **Facilities**

The Language Media Center (LMC) provides students and faculty with a broad range of services and facilities that include a state-of-the-art audio language laboratory, individual audio recording carrels, video viewing rooms for small groups, video viewing stations for individuals, and networked microcomputer and interactive multimedia workstations. The LMC maintains a number of instructional technology classrooms that have special video, audio, and computer equipment for in-class presentations. The center's extensive collection of international media resources on audio tape, videotape, computer diskette, videodisc, and CD-ROM serves learners at many levels and in many disciplines.

## **Spanish and Portuguese Courses**

### **Basic Spanish**

Students must have permission from the chair of the Department of Spanish and Portuguese to take an elementary course for credit after having completed a higher-level course for which the elementary course or its equivalent is a

prerequisite.

**035:001 Elementary Spanish I** 5 s.h.

Emphasis on oral and written skills. Taught in Spanish. Recommendations: no previous study of Spanish. GE: Foreign Language First Level Proficiency.

**035:002 Elementary Spanish II** 5 s.h.

Continuation of 035:001; emphasis on oral and written skills. Taught in Spanish. Prerequisites: 035:001. GE: Foreign Language Second Level Proficiency.

**035:005 Elementary Spanish Review** 5 s.h.

Intensive treatment of material presented in 035:001 and 035:002. Taught in Spanish. Requirements: two years of secondary school Spanish. GE: Foreign Language Second Level Proficiency.

**035:011 Intermediate Spanish I** 5 s.h.

Communication in speaking and writing; cultural topics. Taught in Spanish. Prerequisites: 035:002 or 035:005. GE: Foreign Language Second Level Proficiency.

**035:012 Intermediate Spanish II** 5 s.h.

Continuation of 035:011. Prerequisites: 035:011. GE: Foreign Language Fourth Level Proficiency.

**035:013 Accelerated Intermediate Spanish** 6 s.h.

The sequence 035:011 - 035:012 in one semester. Prerequisites: 035:002 or 035:005. GE: Foreign Language Fourth Level Proficiency.

**035:020 Contemporary Spanish American Narrative** 3 s.h.

Themes and narrative techniques in major texts, 1960-present; overview of cultural, sociopolitical aspects. Taught in English, readings in English. Prerequisites: 08G:001. GE: Foreign Civilization & Culture, Humanities.

**035:029 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**035:030 Hispanic Culture and Language** 1 s.h.

Development of Spanish communication skills and cultural competence; course activities connect classroom to students' living environment. Requirements: Hispanic Culture and Language Living-Learning Community resident.

**035:053 Special Work** 1-3 s.h.

**035:060 Latino/a Literature in the U.S.** 3 s.h.

Introduction to growing cultural production of varied Latino communities (e.g., Chicano, Puerto Rican American/Nuyorican, Cuban American) that have a strong presence in the United States; recent cultural production from borderland transcultural spaces with physical, cultural, economic, political, and mythical elements; visions of the United States from contemporary Latin American writers who recently have become U.S. residents. Taught in English. GE: Cultural Diversity, Humanities.

**035:070 Introduction to Latin American Studies** 3 s.h.

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as 038:070, 130:070, 187:070.

## **Spanish Level 1, Primarily for Undergraduates**

Students should take these courses at the start of the Spanish major.

**035:103 Spanish Language Skills: Writing** 3 s.h.

Bridge from second-year Spanish to more advanced courses in Spanish language, linguistics, and literature; emphasis on skill development in writing, critical reading in Spanish, and oral communication. Taught in Spanish. Prerequisites: 035:012.

- 035:104 Hispanic Institute: Language** 3 s.h.  
Grammar essentials, written exercises, short compositions, conversational activities. Prerequisites: 035:012.
- 035:105 Hispanic Institute: Study/Life in Spain** 1 s.h.
- 035:106 Spanish Language Skills: Speaking** 3 s.h.  
Development of conversational proficiency and cultural competence through action learning; strategic role playing and creative language use based on everyday situations in Hispanic cultures; composition skills and grammar review. Prerequisites: 035:012.
- 035:108 Spanish in the U.S.** 3 s.h.  
Issues related to Spanish in the United States; aspects of linguistics and sociolinguistics inherent to the existence and proliferation of Spanish in the United States. Taught in English.
- 035:109 Study of Language: Myths and Concepts** 3 s.h.  
How linguists look at language; basic concepts of linguistics and grammar. Prerequisites: 035:012.
- 035:110 Readings in Spanish Literature** 3 s.h.  
Tools for improving reading skills; basic concepts for textual understanding; historical overview of literary works, with focus on literature of Spain. Prerequisites: 035:012. Requirements: no more than one Spanish course numbered above 035:100.
- 035:111 Readings in Spanish American Literature** 3 s.h.  
Tools for improving reading skills; basic concepts for textual understanding; historical overview of literary works, with focus on Spanish American literature. Prerequisites: 035:012.
- 035:112 Introduction to Literary Analysis** 3 s.h.  
Close readings of literary texts from Spain and Spanish America; basic concepts of genre (narrative, poetry, theater, essay); writing about literary texts. Prerequisites: 035:012.
- 035:113 Screening Latin America** 3 s.h.  
Latin American film; histories of the four major national film industries; aesthetic and political debates surrounding the New Latin American Cinema movement of the 1960s and 1970s. Prerequisites: 035:012.

## **Spanish Level 2, Primarily for Undergraduates**

Students should have at least one Level 1 course before starting these courses. Some courses have additional prerequisites.

### **Language Skills**

- 035:116 Spanish Composition and Grammar** 3 s.h.  
Grammar review, class presentations and discussions; evolution of student compositions through peer editing, instructor critique, author's analysis; summary portfolio. Requirements: two courses taught in Spanish at the 100 level or above.
- 035:117 Introduction to Spanish-English Translation** 3 s.h.  
Introduction to written and sight translation: translation theory, elements for good translations and effective translation process, cultural aspects; practice in written translation. Requirements: at least one course taught in Spanish at the 100 level or above.
- 035:118 Business Spanish** 3 s.h.  
Clear, concise business writing; emphasis on linguistic and cultural proficiency. Requirements: one Spanish course numbered above 035:100.
- 035:119 Journalistic Writing in Spanish** 3 s.h.  
Spanish writing skills; introduction to style and practice of journalistic reporting and writing. Requirements: at least one course taught in Spanish at the 100 level or above.

- 035:120 Taller Basico de Escritura Creativa** 3 s.h.  
Development of writing skills in Spanish through creative writing. Taught in Spanish. Prerequisites: 035:103.
- 035:139 Advanced Spanish Language Skills: Writing** 3 s.h.  
Development of writing skills in Spanish, focus on expository writing for academic purposes. Requirements: two courses in Spanish numbered above 035:100.
- 035:141 Advanced Spanish Language Skills: Speaking** 3 s.h.  
Development of conversational proficiency; improvement of listening, reading, and writing skills; cultural knowledge of several Spanish-speaking countries. Requirements: two courses taught in Spanish at the 100 level or above.

## Hispanic Linguistics

- 035:121 Introduction to Hispanic Linguistics** 3 s.h.  
Basic linguistic theory as applied to analysis of Spanish language; systematic study of sound patterns, sentence construction, word formation; meanings, historical linguistics, sociolinguistics, psycholinguistics. Requirements: one Spanish course numbered above 035:100.
- 035:122 Spanish Sound Structure** 3 s.h.  
Articulation of Spanish sounds--description and practice; how Spanish sounds are organized into classes, relations among the different classes, how they are implemented in context, patterns they exhibit. Requirements: one Spanish course numbered above 035:100.
- 035:123 Foundations in Sociolinguistics** 3 s.h.  
Dialects, speech communities, variation, choosing a code, solidarity and politeness, language and gender, language planning. Requirements: at least one course taught in Spanish at the 100 level or above.
- 035:124 Introduction to Bilingualism** 3 s.h.  
Psycholinguistic and sociolinguistic aspects of bilingualism; language usage, maintenance, attitudes, shift, transfer, loss; code-switching. Requirements: at least one course taught in Spanish at the 100 level or above.
- 035:126 Spanish Applied Linguistics** 3 s.h.  
Concepts of linguistic analysis applied to Spanish; focus on problematic areas of Spanish grammar, lexicon, semantics; introduction to cross-cultural pragmatics; connections between language learning and technology and assessment; ideal for future teachers of Spanish. Prerequisites: 035:121.
- 035:128 Introduction to Spanish Language Acquisition** 3 s.h.  
Basic principles of language acquisition theory applied to learning Spanish as a first or second language. Prerequisites: 035:121.
- 035:129 Structure of the Spanish Language** 3 s.h.  
Descriptive analysis of Spanish, contrasting Spanish sentence structure with English; pronouns, properties and interpretation of verbal forms, and pragmatic interpretations of different word orders. Prerequisites: 035:121.

## Spanish American Literature and Culture

- 035:130 Cultures of Spanish America** 3 s.h.  
Pre-Columbian, colonial, modern periods; socioeconomic structure, form of government, culture. Requirements: at least one course taught in Spanish at the 100 level or above.
- 035:131 Contemporary Spanish American Fiction** 3 s.h.  
Major 20th-century short-story writers and novelists (Borges, Cortázar, Fuentes, García-Márquez, Rulfo, etc.) through representative works. Requirements: at least one course taught in Spanish at the 100 level or above.
- 035:132 Spanish American Poetry** 3 s.h.

Poetry as a literary genre, short history of its development, early forms in Spanish America, poets from Modernism to present; readings from writers including Rubén Darío, Pablo Neruda, César Vallejo, Octavio Paz, J.L. Borges.

Requirements: one Spanish course numbered above 035:100.

**035:134 Spanish American Short Story** 3 s.h.

Works by 19th- and 20th-century Spanish American writers; emphasis on reading strategies and historical, cultural, literary backgrounds. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:135 Latinos in the United States** 3 s.h.

Latina/o cultural practices and products as dynamic expressions that affirm, contest, resist and are shaped in and against the mappings of race, class, nation, gender, sexuality, colonialism. Requirements: one Spanish course numbered above 035:100.

**035:137 Introduction to Chicano Literature and Culture** 3 s.h.

Recent fiction and poetry by Chicano and Chicana writers; readings in Spanish and English. Taught in Spanish. Requirements: at least one Spanish literature or culture course at the 100 level or above.

**035:140 Spanish American Literature of Fantasy** 3 s.h.

Principal manifestations from 19th-century origins to culmination in 20th-century masterpieces; analysis. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:143 Cuban American Literature and Culture** 3 s.h.

Experiences of Cuban exiles in the United States; emergence of a literature and culture based on sense of dispossession, marginality, and memory of island past. Taught in English. Prerequisites: 08G:001. GE: Cultural Diversity. Same as 048:196.

**035:144 Latin American Women Writers** 3 s.h.

Focus on 20th century; how Latin American women subjects view themselves through literature; textual practice specific to women; psychoanalytic approaches, contemporary feminist criticism. Requirements: at least one course taught in Spanish at the 100 level or above. Same as 131:162.

**035:145 Latin America Cinema** 3 s.h.

Political, historical, aesthetic, and cultural issues in key films from Latin American national cinemas. Taught in English. Requirements: one Spanish course numbered above 035:100 for Spanish majors; or one course numbered above 048:050. Recommendations: knowledge of Spanish. Same as 048:145.

**035:147 Topics in National Literatures and Cultures** 3 s.h.

Requirements: at least one course taught in Spanish at the 100 level or above.

**035:148 Topics in Cinema, Literature, and Society** 3 s.h.

Concept of national cultures examined through major texts in literary and film history in one Latin American nation. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:149 Visual Culture: Colonial Spanish America** 3 s.h.

Facets of the Spanish American colonial world, including literature, arts, music, architecture, and other forms of cultural expression; major themes and concepts, including discovery, conquest, evangelization, intercultural contact, memory, identity. Taught in Spanish. Requirements: at least one course taught in Spanish at the 100 level or above.

## **Spanish Literature and Culture**

**035:150 Cultures of Spain** 3 s.h.

Political, religious, social, economic background; important cultural, literary movements. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:151 Literature in the Time of Cervantes** 3 s.h.

Introduction to literary questions of 15th to 17th centuries in Spain; understanding of literary Spanish and cultural issues of the period--end of the feudal mind, beginning of individualism, poetry, emergence of theater, crisis of empire. Requirements: one Spanish course numbered above 035:100.



**035:152 Romanticism and Revolution in Spain**

3 s.h.

Spanish Romanticism as the cultural expression of social revolution in first half of 19th-century Spain. Taught in Spanish. Requirements: one Spanish course numbered above 035:100.

**035:153 Madrid**

3 s.h.

Contemporary Madrid as one of the premier capital cities of the European Union; history and present day reality of the city; examination of paintings, descriptions, movies, fashion, and customs from several historical periods. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:154 Hispanic Institute: Culture**

3 s.h.

Overview of geography, history (political, economic, social), architecture, painting, music of Spain; readings, slides, video and audio cassettes, visits to local sites of cultural significance. Prerequisites: 035:012.

**035:155 Hispanic Institute: Literature**

3 s.h.

Introduction to poetry, narrative, and theater in Spanish literature; textual commentary and critical interpretations of major representative works of selected historical periods. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:156 Spanish Literature of the Transition**

3 s.h.

Literary production of the transition in post-Franco Spain; works by Carmen Martin Gaité, Luis Garcia Montero, Pedro Almodovar, others. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:157 Contemporary Spanish Short Story**

3 s.h.

Contemporary short stories from 20th- and 21st-century Spain; emphasis on reading strategies and interpretation skills; focus on historical and social contexts. Requirements: one Spanish course numbered above 035:100.

**035:160 The Cid in History and Legend**

3 s.h.

Rodrigo Diaz de Vivar, el Cid, in history and legend; changing perceptions of the Cid from the 13th century to the present. Requirements: one Spanish literature course numbered above 035:100.

**035:161 Modern and Contemporary Spanish Literature**

3 s.h.

Works of the last 30 years of the 19th century, up to the outbreak of the Spanish Civil War; Realism, Naturalism, generation of 1898, generation of 1913, generation of 1927. Requirements: at least one course taught in Spanish at the 100 level or above.

**035:165 Advanced Spanish Grammar**

3 s.h.

Problematic areas of vocabulary and grammar; systematic features of standard written international Spanish (norma culta); background and insight for teaching Spanish. Requirements: previous intermediate and advanced courses in Spanish, especially language and grammar.

**035:168 Advanced Business Spanish**

3 s.h.

Tools for effective business communication, building on concepts learned in 035:118; linguistic, sociolinguistic, practical skills for effective oral and written communication developed through discussion of business case studies, presentations, meetings; selected Spanish and Latin American companies examined through varied media, including news and Internet; role of transaction intermediaries in international trade. Prerequisites: 035:118.

**035:169 Writing Narrative Journalism in Spanish**

3 s.h.

In-depth interpretative journalistic writing on a range of topics and forms, including profiles, social and political issues and controversy, cultural affairs, education. Prerequisites: 035:119.

**Spanish Level 3 for Undergraduates**

Undergraduates should take the following courses during their last semesters of enrollment. These courses are also open to M.A. students. All of these courses require a research paper. Prerequisites vary.

**035:171 Pan-Caribbean Literary Currents**

3 s.h.

Twentieth-century fiction, film, and cultural practices in the Hispanic, Francophone, and Anglophone Caribbean; cultural essays to complement literary readings; pan-Caribbean cultural practices--music and carnival celebrations. Taught in English. Requirements: (for 048:162) junior or senior standing; (for 035:171) two literature courses. Same as 048:162.

**035:172 Topics in Cultural Studies**

3 s.h.

Requirements: one Spanish literature or culture course numbered 035:130 or above.

**035:173 Colonial Spanish American Literature**

3 s.h.

Readings from the formative period of Spanish American culture; may include discovery and conquest, ethnicity and gender, dissent and popular resistance. Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:174 Latino/a Popular Culture**

3 s.h.

Role of Latino/a popular culture as a site of contemporary social practice and cultural politics in both local and global contexts; specific attention to notions of citizenship, identity, and culture. Requirements: two Spanish literature or culture courses; at least one must be numbered 035:131 or above.

**035:175 Cultural Identity in Caribbean Literature**

3 s.h.

Main currents in 20th-century Hispanic Caribbean literature: *americanismo literario*, *poesía negra*, testimonial narrative centered on slavery and women's fiction; Caribbean cultural context in music, humor, Afro-Caribbean rituals. Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:176 Latin American Studies Seminar**

3 s.h.

Interdisciplinary approach. Taught in English. Recommendations: Spanish or Portuguese sufficient for background readings. Same as 038:176, 048:153, 113:132, 130:176, 16W:109.

**035:177 Literature and Mass Culture in Latin America**

3 s.h.

Examination of literature in relation to other media in Latin America in the 20th century; close readings of novels, short stories, and essays analyzed in combination with film clips, photographs, music, and blogs. Requirements: two Spanish literature courses; at least one must be numbered 035:131 or above.

**035:178 Topics in Spanish American Literature**

3 s.h.

Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:179 Islamic Cultural Presence in Spain**

3 s.h.

Islamic history and culture in the Iberian Peninsula from Middle Ages to present. Taught in Spanish. Requirements: one Spanish literature or culture course numbered 035:130 or above. Same as 032:179.

**035:180 Spanish Golden Age Fiction**

3 s.h.

Literature and society in first centuries of Spanish Modernity, Renaissance and Baroque periods, love and the self, alienation, utopias, the body and morals, cultural dimensions of genres. Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:181 Topics in Spanish Literature**

3 s.h.

Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:182 Society and Poetry: Spanish Lyric**

3 s.h.

Twentieth-century Spanish lyric poetry in its sociocultural context. Requirements: two literature courses in Spanish, at least one of which must be numbered above 035:131.

**035:183 Don Quijote**

3 s.h.

Exploration of Cervantes' *Don Quijote*; sociohistorical context, questions of human existence, literary tradition, metafiction, influence of *Don Quijote* on novelists and filmmakers, critical reception of the text. Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:184 Linguistic Aspects of Second Language Acquisition**

3 s.h.

Theoretical linguistic approaches to acquisition of Spanish as a second language. Prerequisites: 035:121.

**035:185 Topics in Hispanic Linguistics**

3 s.h.

Prerequisites: 035:121.

**035:186 Introduction to Spanish Syntax** 3 s.h.

Basic principles of generative syntax as applied to analysis of Spanish syntactic structure; extensive syntactic analysis.

Prerequisites: 035:121. Same as 164:186.

**035:187 Spanish Word Formation** 3 s.h.

Basic principles of morphology (derivational and inflectional) applied to analysis of Spanish complex word formation; extensive practice in morphological analysis. Prerequisites: 035:121.

**035:188 History of the Spanish Language** 3 s.h.

Development of phonetic, morphological, syntactical properties of the Spanish language from its Latin roots; emphasis on internal history and process of expansion from a minor dialect (Castilian) to a significant world language.

Prerequisites: 035:121.

**035:189 Introduction to Spanish Phonology** 3 s.h.

Sound patterns of Spanish; how various theoretical approaches solve basic problems in Spanish phonology; identification of linguistic universals, how they are manifested in the sound structure of Spanish. Prerequisites: 035:121 or 035:122. Same as 164:189.

**035:190 Chicano Cinema** 3 s.h.

History of Chicano independent and industry film and television production since the Chicano political and cultural movement began in the 1960s. Taught in English. Requirements: one Spanish literature or culture course numbered 035:130 or above, or one film studies course numbered above 048:050. Same as 048:190.

**035:191 Topics in Latin American Cinema** 3 s.h.

Taught in English. Requirements: one Spanish literature or culture course numbered above 035:130 or one film studies course. Same as 048:178.

**035:192 Topics in Film Studies** 3 s.h.

Requirements: one Spanish literature or culture course numbered 035:130 or above.

**035:194 Topics in Literary Studies** 3 s.h.

Requirements: two literature courses in Spanish, at least one of which must be numbered 035:131 or above.

**035:195 Senior Seminar** 3 s.h.

Analysis of works of a major author or theme from the Latin American or the Peninsular traditions or on a focused set of problems in Hispanic linguistics.

**035:196 Taller Avanzado de Escritura Creativa** 3 s.h.

In-depth consideration of characters, dialog, conflict, setting, point of view, other fundamentals of fiction; experience writing short stories and other pieces, with class discussion; fictional texts by renowned writers, authors' essays on their own creative process; narrative strategies of short stories, songs, painting, films. Requirements: two literature courses in Spanish numbered 035:131 or above.

**035:198 Honors: Research and Thesis** 2-3 s.h.

Requirements: honors standing.

**035:199 Special Work** 1-3 s.h.

## **Spanish, Primarily for Graduate Students**

**035:200 Foreign Language Teaching Methods** 3 s.h.

Readings in pedagogical theory and practice and second language acquisition; experience designing activities for teaching and assessment, with critiques based on current theories and approaches; development of reflective practices toward one's own language teaching. Same as 164:260.

**035:201 Second Language Acquisition Research and Theory I** 3 s.h.

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as 009:237, 039:200, 164:201, 39J:201.

**035:202 Second Language Acquisition Research and Theory II** 3 s.h.

Continuation of 164:201. Prerequisites: 164:201. Same as 039:201, 164:202.

**035:204 Introduction to Spanish Linguistic Analysis** 3 s.h.

Introduction to goals and concepts of generative linguistics as applied to Spanish: main subfields of linguistics; skill development in linguistic analysis, argumentation.

**035:206 Topics in Spanish Language Acquisition** 3 s.h.

Theoretical linguistic approaches to monolingual, bilingual, and second language acquisition of Spanish and Portuguese; varied topics. Prerequisites: 035:204. Same as 164:261.

**035:207 Topics in Comparative Romance Linguistics** 3 s.h.

Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Repeatable. Prerequisites: 035:204. Recommendations: additional graduate course work in linguistics. Same as 103:262, 164:262, 20E:201.

**035:209 Spanish Phonology** 3 s.h.

Modern approaches to synchronic phonology as applied to Spanish; focus on traditional descriptive problems, recent generative analyses. Requirements: phonology or linguistics course. Same as 164:263.

**035:210 Spanish Syntax** 3 s.h.

Spanish syntactic constructions examined in framework of selected syntactic theory; emphasis on development of syntactic argumentation. Requirements: one course in syntax. Same as 164:264.

**035:211 Topics in Hispanic Linguistics** 3 s.h.

Taught in Spanish or English. Repeatable.

**035:212 Multimedia and Second Language Acquisition** 3 s.h.

Foreign language multimedia in the context of current second language acquisition theories and research; readings on interactivity, interface design, feedback, learner control, and acquisition of vocabulary, grammar, and culture; multimedia development project. Requirements: foreign language teaching methodology course. Same as 009:238, 013:253, 164:211.

**035:214 Advanced CALL Curriculum Development** 3 s.h.

Advanced instruction in a variety of software and hardware tools for development of multimedia computer-assisted language learning (CALL) courseware; students develop software for a General Education Program or third-year language course in collaboration with course supervisor. Prerequisites: 164:212. Same as 009:239, 013:254, 164:214.

**035:225 Topics in Literary Studies** 3 s.h.

Repeatable.

**035:226 Topics in Cultural Studies** 3 s.h.

Repeatable.

**035:227 Topics in Second Language Acquisition: Writing** 3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as 010:275, 164:227.

**035:228 Topics in Second Language Acquisition: Speaking** 3 s.h.

Theory, pedagogy, research, and assessment in second language speaking. Same as 009:236, 164:221.

**035:230 Spanish American Narrative: Nineteenth Century** 3 s.h.

Review of narrative, with emphasis on Romanticism.

**035:231 Spanish American Narrative: Modern and Regional** 3 s.h.

- 035:236 Contemporary Spanish American Narrative** 3 s.h.  
Narrative from mid-20th century to present; emphasis on the Boom, post-Boom.
- 035:247 Readings: Latin American History** arr.  
Same as 016:288.
- 035:248 Topics in Film Studies** 3 s.h.  
Repeatable.
- 035:250 Medieval Spanish Literature** 3 s.h.  
Critical reading of canonical medieval texts in their cultural context; application of modern theory to medieval texts; works such as *El Poema del Cid*, *El Romancero Viejo*, *Milagros de Nuestra Señora*, *El Conde Lucanor*, *El Libro de Buen Amor*.
- 035:255 Spanish Renaissance and Baroque Literature** 3 s.h.  
Critical analysis of social, moral, political function of literature in early modern Spain; Renaissance and Baroque poetry; *La Celestina*; pastoral literature; *Don Quijote*; narratives of the court; modern subjectivity; the question of genre.
- 035:257 Spanish Romanticism** 3 s.h.  
Spanish literature and culture 1814-1850, in context of political and economic history.
- 035:258 Nineteenth-Century Spanish Novel** 3 s.h.  
Development of the novel in Spain, from Romanticism to the Generation of 1898; novel's role in helping to consolidate ideologies and structures of 19th-century bourgeois society.
- 035:259 Contemporary Spanish Fiction** 3 s.h.  
The post-Franco novel in Spain; literary "postmodernism" and relationships between Spanish literature, politics, and society since 1975; representative significant works.
- 035:260 Contemporary Non-Castilian Narrative Spain** 3 s.h.  
Readings in Spanish of novels and short stories written in another language of the Spanish state or by a member of one of Spain's non-Castilian historic nationalities.
- 035:264 Contemporary Spanish Poetry** 3 s.h.  
Poetry on the Spanish literary scene circa 1968; authors' reactions to predecessors, their connections with foreign traditions, metapoetry, the aesthetics of culturalism.
- 035:269 Topics in Spanish American Literature** 3 s.h.  
Repeatable.
- 035:270 Topics in Spanish Literature** 3 s.h.  
Repeatable.
- 035:271 Crossing Borders Proseminar** 1 s.h.  
Same as 013:260, 016:244, 01H:330, 030:243, 044:287, 048:244, 113:248.
- 035:273 Crossing Borders Seminar** 2-3 s.h.  
Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 044:286, 048:247, 113:247, 129:231, 160:247, 181:247.
- 035:281 Introduction to Contemporary Literary Theory** 3 s.h.  
How major theories construct literary text; structuralist, semiotic, psychoanalytic, Marxist, reader response, Derridian criticism. Taught in English. Same as 048:217.
- 035:282 Marxist Literary Criticism** 3 s.h.  
Contemporary Western Marxist literary and cultural theory; major thinkers in the Marxist tradition--Georg Lukacs, Louis Althusser, Terry Eagleton, Fredric Jameson, Juan Carlos Rodriguez; readings on topics in Marxist literary and cultural criticism--Marxism and the media, dialectics, Lenin. Taught in Spanish and English.
- 035:286 Colonial Spanish American Literature** 3 s.h.

Chronicles of the conquest: close reading with focus on role of writing and operations of "othering"; balance between critical secondary sources and primary sources.

<b>035:298 Special Work</b>	arr.
<b>035:299 Thesis</b>	arr.
<b>035:300 Seminar: Spanish Linguistics</b> Repeatable with different topics. Same as 103:300.	3 s.h.
<b>035:302 Seminar: Spanish American Literature Before 1900</b> Repeatable with different topics.	3 s.h.
<b>035:303 Seminar: Spanish American Literature After 1900</b> Repeatable with different topics.	3 s.h.
<b>035:304 Medieval Spanish Literature</b> Repeatable with different topics.	3 s.h.
<b>035:305 Seminar: Spanish Golden Age Literature</b> Repeatable with different topics.	3 s.h.
<b>035:307 Seminar: Modern and Contemporary Spanish Literature</b> Repeatable with different topics.	3 s.h.

## Portuguese for Undergraduate and Graduate Students

<b>038:020 Contemporary Brazilian Narrative</b> Novels, short stories, other narrative forms, beginning with neorealists of 1930s; cultural background of different periods, innovative literary approaches of writers through films, other media. Prerequisites: 08G:001. GE: Foreign Civilization & Culture, Humanities.	3 s.h.
<b>038:053 Special Work</b>	arr.
<b>038:070 Introduction to Latin American Studies</b> Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as 035:070, 130:070, 187:070.	3 s.h.
<b>038:077 Brazil: The Erotic/Exotic Lure</b> Popular culture (carnaval, soccer, lay and religious festivities), the land, and the people. Taught in English.	3 s.h.
<b>038:100 Accelerated Elementary Portuguese</b> First-year course in one semester; comprehending, speaking, reading, writing modern Portuguese; emphasis on speaking. GE: Foreign Language Second Level Proficiency.	6 s.h.
<b>038:101 Accelerated Intermediate Portuguese</b> Second-year course in one semester; reading comprehension, oral and writing skills; grammar review. Prerequisites: 038:100. GE: Foreign Language Fourth Level Proficiency.	6 s.h.
<b>038:102 Portuguese for Spanish Speakers</b> Systematic differences and similarities between Spanish and Portuguese; emphasis on reading, writing. Requirements: seven courses numbered above 035:100.	3 s.h.
<b>038:103 Composition and Conversation</b> Speaking, writing skills through discussion and oral presentations, grammar and vocabulary review, composition; materials from current Brazilian newspapers, magazines, short fiction, telenovelas and films. Prerequisites: 038:101.	3 s.h.
<b>038:104 Introduction to Literary Analysis</b>	3 s.h.

Basic concepts of genre, literary periods, narrative and literary analysis; close reading of literary texts in Portuguese; tools for improving reading and writing skills. Taught in Portuguese. Prerequisites: 038:101.

**038:105 Brazilian Literature Before 1900**

3 s.h.

Beginnings through end of 19th century; representative readings from all periods and genres; focus on works of major Brazilian authors such as Gonzaga, Alencar, Castro Alves, Machado de Assis, Cruz e Sousa. Taught in Portuguese. Prerequisites: 038:101.

**038:106 Brazilian Literature After 1900**

3 s.h.

Twentieth-century poetry, novels, short stories; modernism, regionalism, generation of '45, concretism; works of principal figures behind these movements; focus on major writers of modern period, such as Lima Barreto, Mário de Andrade, Drummond, Jorge Amado, Cabral de Melo Neto, Guimarães Rosa, Lispector, and contemporary writers. Taught in Portuguese. Prerequisites: 038:101.

**038:107 Introduction to Portuguese Literature**

3 s.h.

Representative readings including Portuguese lyric and epic poetry, Renaissance theater, romantic and realist novels, 20th-century symbolist verse, neorealist prose. Taught in Portuguese. Prerequisites: 038:101.

**038:112 Topics in Luso-Brazilian Literature**

3 s.h.

Genres, themes, movements. Taught in Portuguese. Requirements: one Portuguese or Brazilian literature course.

**038:115 Writing Brazil in the U.S.**

3 s.h.

Representation of the Amazon region and Rio de Janeiro in travel narratives, novels, diaries, journals, letters, poems, and essays by American authors published in the United States. Taught in English.

**038:120 Topics in Luso-Brazilian Culture**

3 s.h.

Comparative analysis of Brazil and Portuguese-speaking countries in Africa; colonization, independence, religion, music, language. Taught in Portuguese. Prerequisites: 038:101.

**038:176 Latin American Studies Seminar**

3 s.h.

Interdisciplinary approach. Taught in English. Recommendations: Spanish or Portuguese sufficient for background readings. Same as 035:176, 048:153, 113:132, 130:176, 16W:109.

**038:179 Special Work**

1-3 s.h.

**038:198 Honors Research and Thesis**

2-3 s.h.

Requirements: honors standing.

**038:279 Special Work**

arr.

## Statistics and Actuarial Science

**Chair:** Luke Tierney

**Professors:** Kathryn Chaloner (Biostatistics/Statistics and Actuarial Science), Kung-Sik Chan, Richard L. Dykstra, Jian Huang (Statistics and Actuarial Science/Biostatistics), Michael P. Jones (Biostatistics/Statistics and Actuarial Science), Joseph B. Lang (Statistics and Actuarial Science/Biostatistics), Johannes Ledolter (Management Sciences/Statistics and Actuarial Science), Russell V. Lenth, Paul S. Muhly (Mathematics/Statistics and Actuarial Science), Ralph P. Russo, Elias S.W. Shiu (Principal Financial Group Professor of Actuarial Science), Luke Tierney (Ralph E. Wareham Professor of Mathematical Sciences), Dale Zimmerman (Statistics and Actuarial Science/Biostatistics)

**Professors emeriti:** James D. Broffitt, Jonathan D. Cryer, Leonard S. Feldt (Psychological and Quantitative Foundations/Statistics and Actuarial Science), John Geweke (Statistics and Actuarial Science/Economics), Robert V. Hogg, George G. Woodworth (Statistics and Actuarial Science/Biostatistics), Robert F. Woolson (Biostatistics/Statistics and Actuarial Science)

**Associate professors:** Mary Kathryn Cowles (Statistics and Actuarial Science/Biostatistics), Osnat Stramer, Qihe Tang

**Assistant professors:** Rhonda DeCook, Joyee Ghosh, Jerome Pansera, N.D. Shyamalkumar, Aixin Tan

**Adjunct assistant professor:** James A. Sconing

**Lecturers:** Matthew A. Bognar, Mary D. Russo, Blake Whitten

**Undergraduate degrees:** B.S. in Statistics, Actuarial Science

**Undergraduate nondegree program:** Minor in Statistics

**Graduate degrees:** M.S., Ph.D. in Statistics

**Web site:** <http://www.stat.uiowa.edu>

During the 20th century, probability and statistics developed into an important scientific discipline essential to all fields of study that rely on information obtained from data. Author H.G. Wells acknowledged the importance of statistical reasoning when he stated, "Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write."

Today's world is bombarded with numerical information. Informed decisions rely on the ability to separate fact from fiction by applying valid statistical analyses. Statisticians can provide crucial guidance in determining what information is reliable and which predictions may be trusted. They often help search for clues to the solution of a scientific mystery and sometimes keep investigators from being misled by false impressions.

The work of a statistician may range from the theoretical (developing new methodologies and statistical theory) to the applied (working with scientists and decision makers to collect, analyze, and interpret data). Regardless of the areas in which they work, statisticians need a strong background in mathematics and computer use. Because uncertainty and data arise in many settings, statisticians have the opportunity to work on a variety of projects in industry, education, government, and research. Thousands of statisticians work in medicine, law, agriculture, public policy, marketing, manufacturing, engineering, and other fields in the social and natural sciences. The diversity of applications is an exciting aspect of the field and is one reason why the demand for well-trained statisticians continues to be strong.

An actuary is a business executive, professionally trained in the mathematical sciences. Actuaries specialize in the evaluation of financial risk—most often in the context of life, health, and casualty insurance, where they design, analyze, and refine various programs to meet the insurance needs of society. Most actuaries are employed by insurance companies, where they have responsibilities for all phases of the development and maintenance of their company's products. They have considerable influence on the financial soundness of their company through work in pricing insurance policies and in compiling data for financial statements.

Many actuaries are employed as consultants. Their actuarial services are used by smaller insurance companies and by individual employers who need actuarial guidance in establishing insurance and retirement programs for their employees. A growing number of actuaries work in the areas of asset/liability management and risk management. Some of these actuaries are employed by investment and consulting firms; others are employed by insurance companies.

Actuaries have been called financial architects and social mathematicians, because their combined analytical and business skills help solve a growing variety of financial and social problems. The actuarial profession is a demanding yet rewarding career choice.

Graduates of the Department of Statistics and Actuarial Science have enjoyed great success in finding employment at all levels of the profession's fields.

## Undergraduate Programs

The department offers a Bachelor of Science in statistics and in actuarial science, and a minor in statistics.

### Bachelor of Science in Statistics

The Bachelor of Science in statistics requires a minimum of 120 s.h., including 46 s.h. of work for the major. Students complete 10 core courses that provide essential instruction in statistical methods, applications, and theory. In addition, they concentrate on their particular interest areas by choosing one of the following three emphasis tracks, in which they complete at least four courses.

The statistics in business, industry, government, and research track emphasizes statistical applications and data analysis. It is appropriate for students interested in careers as applied statisticians.



The statistical computing track emphasizes statistical applications and requires additional course work in computing. It prepares students for statistical work that requires computing expertise for data management, analysis, and reporting.

The mathematical statistics track provides a solid foundation in statistical theory and applications. It requires additional course work in mathematics and is good preparation for graduate study in statistics.

Students must complete the College of Liberal Arts and Sciences General Education Program.

The major in statistics requires the following course work.

#### **CORE COURSES**

All students complete the following.

##### **Computer Science**

22C:016 Computer Science I: Fundamentals	4 s.h.
--	--------

##### **Mathematics**

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.

##### **Statistics**

22S:030 Statistical Methods and Computing	3 s.h.
22S:130-22S:131 Introduction to Mathematical Statistics I-II	6 s.h.
22S:152 Applied Linear Regression	3 s.h.
22S:158 Experimental Design and Analysis	3 s.h.
171:173 Design of Sample Surveys	3 s.h.

The department recommends that well-prepared students who elect the mathematical statistics track take 22S:153 Mathematical Statistics I and 22S:154 Mathematical Statistics II in place of 22S:130 Introduction to Mathematical Statistics I and 22S:131 Introduction to Mathematical Statistics II to satisfy the core requirement in statistics.

#### **Emphasis Tracks**

Students take four courses from one of the following tracks.

##### **STATISTICS IN BUSINESS, INDUSTRY, GOVERNMENT, AND RESEARCH**

171:164 Research Data Management	3 s.h.
----------------------------------	--------

Three of these:

22S:133 Quality Control	3 s.h.
22S:138 Bayesian Statistics	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:173 Statistical Consulting	3 s.h.
171:174/22S:160 Introductory Longitudinal Data Analysis	3 s.h.

##### **STATISTICAL COMPUTING**

22C:022 Object-Oriented Software Development	4 s.h.
171:164 Research Data Management	3 s.h.

Two of these:

22C:072 Elementary Numerical Analysis	3 s.h.
22S:138 Bayesian Statistics	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:166 Computing in Statistics	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:173 Statistical Consulting	3 s.h.
171:174/22S:160 Introductory Longitudinal Data Analysis	3 s.h.

#### **MATHEMATICAL STATISTICS**

22M:055 Fundamental Properties of Spaces and Functions I	3 s.h.
--	--------

One of these:

22M:028 Calculus III	4 s.h.
22M:056 Fundamental Properties of Spaces and Functions II	4 s.h.

Two of these:

22S:138 Bayesian Statistics	3 s.h.
22S:153-22S:154 Mathematical Statistics I-II	6 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:173 Statistical Consulting	3 s.h.
22S:195-22S:196 Probability and Stochastic Processes I-II	6 s.h.

If 22S:153 Mathematical Statistics I and 22S:154 Mathematical Statistics II are used to satisfy the core requirements, they may not be used to satisfy the track requirement.

### **Bachelor of Science in Actuarial Science**

The Bachelor of Science in actuarial science requires a minimum of 120 s.h., including 59 s.h. of work for the major. The program prepares students for careers as actuaries. It also helps them learn material that is included in professional examinations administered by the Casualty Actuarial Society and/or the Society of Actuaries, which actuaries must pass in order to achieve professional status.

Students take a variety of actuarial science courses. In addition, preparation for business aspects of the actuarial profession requires the study of accounting, law, finance, insurance, and economics. Courses relating to communication skills, such as writing and speaking, are also important.

Students also must complete the College of Liberal Arts and Sciences General Education Program.

Due to the demanding nature of the actuarial science major and the difficulty of the professional examinations, the department maintains a selective admission program for actuarial science. Students must apply and be admitted to the major.

Students interested in becoming actuaries should declare an interest in actuarial science as their major when they enter the University. Ordinarily, students apply for admission to the actuarial science major in the fall semester of their sophomore year, after they have taken 22S:130 Introduction to Mathematical Statistics I. Students should apply no later than the end of the spring semester of their junior year.

Students admitted to the actuarial science major usually have completed at least 40 s.h. at the University or at another postsecondary institution, including a three- or four-course calculus sequence, a course in linear algebra, and a calculus-based course in probability and statistics. The admission decision is based on the student's performance in these courses and other courses relevant to success in the major. The student's grades from semester to semester

also are considered. ACT or SAT scores are considered in evaluating transfer students. Factors such as work ethic, enthusiasm, and commitment may be considered.

Students who do well in prerequisite math courses tend to be most successful in actuarial science.

For application forms and more information about selective admission, contact the Department of Statistics and Actuarial Science.

Permission to substitute course work taken at another institution for required courses at Iowa is decided case-by-case.

The B.S. in actuarial science requires the following course work.

#### **Computer Science**

22C:016 Computer Science I: Fundamentals	4 s.h.
--	--------

#### **Economics**

06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.

#### **Mathematics**

22M:025-22M:026 Calculus I-II	8 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:055-22M:056 Fundamental Properties of Spaces and Functions I-II	7 s.h.

#### **Statistics and Actuarial Science**

22S:130-22S:131 Introduction to Mathematical Statistics I-II	6 s.h.
22S:153-22S:154 Mathematical Statistics I-II	6 s.h.
22S:174 Quantitative Methods for Actuaries	3 s.h.
22S:175 Actuarial Models	3 s.h.
22S:180 Mathematics of Finance I	4 s.h.
22S:181-22S:182 Life Contingencies I-II	6 s.h.

In exceptional cases, the advisor may grant permission to waive 22S:130 Introduction to Mathematical Statistics I and/or 22S:131 Introduction to Mathematical Statistics II.

#### **Sample Schedule**

The following is a sample schedule for completing actuarial science degree requirements.

#### **FIRST YEAR**

##### **Fall Semester**

06E:001 Principles of Microeconomics	4 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
22M:025 Calculus I	4 s.h.

##### **Spring Semester**

06E:002 Principles of Macroeconomics	4 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.

22M:026 Calculus II 4 s.h.

## SECOND YEAR

### Fall Semester

22M:055 Fundamental Properties of Spaces and Functions I 3 s.h.  
22S:130 Introduction to Mathematical Statistics I 3 s.h.

### Spring Semester

22M:056 Fundamental Properties of Spaces and Functions II 4 s.h.  
22S:131 Introduction to Mathematical Statistics II 3 s.h.  
22S:180 Mathematics of Finance I 4 s.h.

## THIRD YEAR

### Fall Semester

22S:153 Mathematical Statistics I 3 s.h.  
22S:174 Quantitative Methods for Actuaries 3 s.h.

### Spring Semester

22S:154 Mathematical Statistics II 3 s.h.  
22S:175 Actuarial Models 3 s.h.  
22S:181 Life Contingencies I 3 s.h.

## FOURTH YEAR

### Fall Semester

22S:182 Life Contingencies II 3 s.h.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Much of the work in the discipline is sequential, so students must begin requirements for the major as soon as possible. Individual study plans must be made carefully. Students who first enroll for a spring semester must consult the department to confirm a four-year plan.

### B.S. in Statistics

Courses must be taken in sequence, so students must begin work early.

**Before the third semester begins:** at least one-fourth of the semester hours required for graduation

**Before the fifth semester begins:** at least four courses in the major, including 22M:025 Calculus I, 22M:026 Calculus II and 22S:030 Statistical Methods and Computing, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** seven or eight courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** nine or ten courses in the major

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **B.S. in Actuarial Science**

**Before the third semester begins:** 22M:025 Calculus I, 22M:026 Calculus II, 22M:027 Introduction to Linear Algebra, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 22M:055 Fundamental Properties of Spaces and Functions I, 22M:056 Fundamental Properties of Spaces and Functions II, 22S:130 Introduction to Mathematical Statistics I, 22S:131 Introduction to Mathematical Statistics II, 22S:180 Mathematics of Finance I, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** 22C:016 Computer Science I: Fundamentals, 22S:153 Mathematical Statistics I, 22S:154 Mathematical Statistics II, 22S:174 Quantitative Methods for Actuaries, 22S:175 Actuarial Models, 22S:181 Life Contingencies I, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** 22S:182 Life Contingencies II

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Honors**

Qualified undergraduate students may earn a degree with honors.

To graduate with honors in statistics or in actuarial science, a student must be a member of the University of Iowa Honors Program, which requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

Honors students in statistics must have a g.p.a. of at least 3.40 in departmental courses required for the major. They also must complete an honors project or suitable alternative. A statistics student planning to graduate with honors should contact the statistics honors advisor.

Honors students in actuarial science must have a g.p.a. of at least 3.40 in departmental courses required for the major. They also must complete the following three courses in addition to the requirements for the B.S.

22S:171 Topics in Actuarial Science	3 s.h.
22S:176 Credibility and Survival Analysis	3 s.h.
22S:183 Mathematics of Finance II	3 s.h.

### **Minor**

The minor in statistics requires a minimum of 15 s.h. in statistics courses, including 12 s.h. in 100-level courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. The minor requires the following courses:

Two of these:

22S:030 Statistical Methods and Computing	3 s.h.
or	
22S:105 Statistical Methods and Computing	3 s.h.

22S:152 Applied Linear Regression	3 s.h.
-----------------------------------	--------

Three of these:

22S:120 Probability and Statistics	4 s.h.
or	
22S:130 Introduction to Mathematical Statistics I	3 s.h.

22S:131 Introduction to Mathematical Statistics II	3 s.h.
--	--------

22S:133 Quality Control	3 s.h.
22S:138 Bayesian Statistics	3 s.h.
22S:153 Mathematical Statistics I	3 s.h.
22S:154 Mathematical Statistics II	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:158 Experimental Design and Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:195 Probability and Stochastic Processes I	3 s.h.
171:164 Research Data Management	3 s.h.
171:174/22S:160 Introductory Longitudinal Data Analysis	3 s.h.

There is no minor in actuarial science.

## Graduate Programs

The department offers a Master of Science in statistics with thesis, without thesis, and with an actuarial science emphasis (without thesis). It also offers a Doctor of Philosophy in statistics.

### Master of Science

The Master of Science in statistics requires a minimum of 34 s.h. of graduate credit, with or without thesis. It prepares students for careers as professional statisticians or for entry into the Ph.D. program. The curriculum includes a solid foundation in statistical computing, regression analysis, experimental design, and mathematical statistics, plus electives in statistical methods and/or theory. Students have the opportunity to concentrate on theory, applications, or a combination of the two.

M.S. students may choose to write a thesis, which substitutes for two elective courses.

Each M.S. nonthesis student has a comprehensive exam committee of three or four faculty members, which is responsible for recommending action on the student's degree. The recommendation usually is based on two written examinations over topics covered in the required courses.

M.S. thesis students usually have two separate committees responsible for recommending action on their degrees. The recommendation of the thesis committee usually is based on an oral defense of the thesis, although it also may be based on a single written examination over topics covered in the student's program of study. The recommendation of the comprehensive exam committee usually is based on two written examinations over topics covered in the required courses.

### M.S. with Thesis

The M.S. in statistics with thesis requires the following course work. A computer programming proficiency test is administered early in the first semester. Students who display inadequate programming skills may be required to take an additional programming course.

Each semester in which a graduate student registers for at least 6 s.h., he or she must include at least one 2 s.h. course offered by the Department of Statistics and Actuarial Science, excluding 22S:197 Readings in Statistics and 22S:299 Reading Research.

22S:164-22S:165 Applied Statistics I-II	7 s.h.
22S:166 Computing in Statistics	3 s.h.
22S:173 Statistical Consulting	3 s.h.
22S:193-22S:194 Statistical Inference I-II	6 s.h.
22S:195 Probability and Stochastic Processes I	3 s.h.
22S:197 Readings in Statistics	6 s.h.

At least two of these:

22S:138 Bayesian Statistics	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:163 Nonparametric Statistical Methods	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:190 Mathematical Methods for Statistics	3 s.h.

22S:196 Probability and Stochastic Processes II 3 s.h.  
 Any 200-level statistics course  
 An elective approved by the advisor

The typical thesis is a statistical presentation of the results of a meaningful research project in another field, or a study of the characteristics of a new statistical method. The thesis work is directed by a supervising professor.

### **M.S. Without Thesis**

The following course work is required for the M.S. in statistics without thesis. A computer programming proficiency test is administered early in the first semester. Students who display inadequate programming skills may be required to take an additional programming course.

Each semester in which a graduate student registers for at least 6 s.h., he or she must include at least one 2 s.h. course offered by the Department of Statistics and Actuarial Science, excluding 22S:197 Readings in Statistics and 22S:299 Reading Research.

22S:164-22S:165 Applied Statistics I-II	7 s.h.
22S:166 Computing in Statistics	3 s.h.
22S:173 Statistical Consulting	3 s.h.
22S:193-22S:194 Statistical Inference I-II	6 s.h.
22S:195 Probability and Stochastic Processes I	3 s.h.

At least four of these:

22S:138 Bayesian Statistics	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:163 Nonparametric Statistical Methods	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:190 Mathematical Methods for Statistics	3 s.h.
22S:196 Probability and Stochastic Processes II	3 s.h.
Any 200-level statistics course	
An elective approved by the advisor	

### **M.S. with Actuarial Science Emphasis**

The Master of Science in statistics with actuarial science emphasis requires 36 s.h. of graduate credit. It is offered without thesis. The program prepares students for actuarial careers by emphasizing the theory that underlies risk processes and the application of this theory to practical problems of insurance pricing and management. The required course work helps students prepare for the professional examinations administered by the Casualty Actuarial Society and/or the Society of Actuaries.

Each M.S. student has a committee of three or four members, which is responsible for recommending action on the student's degree. The committee's recommendation usually is based on two written examinations over topics covered in the required program.

The M.S. in statistics with actuarial science emphasis requires the following course work.

Each semester in which a graduate student registers for at least 6 s.h., he or she must include at least one 2 s.h. course offered by the Department of Statistics and Actuarial Science, excluding 22S:197 Readings in Statistics and 22S:299 Reading Research.

One of these sequences:

22S:153-22S:154 Mathematical Statistics I-II	6 s.h.
22S:193-22S:194 Statistical Inference I-II (for well-prepared students)	6 s.h.

All of these:

22S:150 Regression, Time Series, and Forecasting	3 s.h.
22S:171 Topics in Actuarial Science	3 s.h.
22S:174 Quantitative Methods for Actuaries	3 s.h.
22S:175 Actuarial Models	3 s.h.

22S:176 Credibility and Survival Analysis	3 s.h.
22S:180 Mathematics of Finance I	4 s.h.
22S:181-22S:182 Life Contingencies I-II	6 s.h.
22S:183 Mathematics of Finance II	3 s.h.

## Doctor of Philosophy in Statistics

The Doctor of Philosophy in statistics requires a minimum of 72 s.h. of graduate credit, including work completed in the M.S. program. The program prepares students for careers in research, applications, and teaching.

All Ph.D. students must pass comprehensive exams and write a dissertation. The program takes about three years to complete after the M.S. has been granted, or five years after completion of a Bachelor of Science. Students choose one of four concentration areas for their Ph.D. course work: biostatistics; probability/mathematical statistics; statistical modeling; and actuarial science/financial mathematics.

Biostatistics emphasizes exposure to various biostatistical methods, such as survival analysis, categorical data analysis, and longitudinal data analysis. It prepares students for consulting and other positions in industry.

Probability/mathematical statistics emphasizes a broad, solid foundation in techniques and underpinnings of mathematical statistics. Its focus on breadth and depth is intended to produce well-rounded, knowledgeable scholars. It is excellent preparation for academic positions in mathematical statistics and industrial or government positions that require broadly trained statisticians with a strong understanding of statistical theory.

Statistical modeling emphasizes the theory and application of a broad array of statistical models, such as linear, generalized linear, nonlinear, categorical, spatial, correlated response, and nonparametric regression models. This concentration area prepares students to specify and choose appropriate models; fit the models using available statistical software; and make sound statistical conclusions and interpretive statements. It is excellent preparation for students interested in academic, industrial, or government positions that involve data modeling and analysis.

Actuarial science/financial mathematics emphasizes the theory of actuarial science, finance, and risk management. It is excellent preparation for academic positions in universities that offer actuarial science programs or for positions in the insurance, pension, and financial industries. Most students who choose this concentration area are admitted after earning an M.S. in statistics with actuarial science emphasis at The University of Iowa.

The Ph.D. in statistics requires the following course work.

Each semester in which a graduate student registers for at least 6 s.h., he or she must include at least one 2 s.h. course offered by the Department of Statistics and Actuarial Science, excluding 22S:197 Readings in Statistics and 22S:299 Reading Research.

### CORE COURSES

22S:164-22S:165 Applied Statistics I-II	7 s.h.
22S:166 Computing in Statistics	3 s.h.
22S:173 Statistical Consulting	3 s.h.
22S:190 Mathematical Methods for Statistics	3 s.h.
22S:193-22S:194 Statistical Inference I-II	6 s.h.
22S:195 Probability and Stochastic Processes I	3 s.h.
22S:203-22S:204 Foundations of Probability I-II	6 s.h.
22S:253-22S:254 Advanced Inference I-II	6 s.h.
22S:255 Linear Models	4 s.h.
22S:299 Reading Research (at least 18 s.h.)	arr.
At least 2 s.h. of 22S:291, 22S:293, or 22S:295 (seminars)	

### CONCENTRATION AREA

Students take at least four courses in one of the following concentration areas. At least two of these must be 200-level courses.

#### Biostatistics

22S:138 Bayesian Statistics	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.



22S:162 Applied Generalized Regression	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:220 Analysis of Categorical Data	3 s.h.
22S:225 Survival Data Analysis	3 s.h.
171:241 Applied Categorical Data Analysis	3 s.h.
171:264 Longitudinal Data Analysis	3 s.h.
185:274 Theory of Statistical Genetics	3 s.h.

#### **Probability/Mathematical Statistics**

22S:196 Probability and Stochastic Processes II	3 s.h.
22S:235 Time Series Analysis	3 s.h.
22S:238 Bayesian Analysis	3 s.h.

#### **Statistical Modeling**

22S:138 Bayesian Statistics	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:162 Applied Generalized Regression	3 s.h.
22S:167 Environmental and Spatial Statistics	3 s.h.
22S:220 Analysis of Categorical Data	3 s.h.
22S:235 Time Series Analysis	3 s.h.
22S:238 Bayesian Analysis	3 s.h.
22S:248 Computer Intensive Statistics	3 s.h.

#### **Actuarial Science/Financial Mathematics**

06F:225 Finance Theory I	3 s.h.
06F:227 Finance Theory II	3 s.h.
22S:196 Probability and Stochastic Processes II	3 s.h.
22S:235 Time Series Analysis	3 s.h.
22S:273 Advanced Topics in Actuarial Science/Financial Mathematics	3 s.h.

#### **OTHER COURSE WORK**

During the graduate program, students may take course work or seminars in other departments to achieve the Ph.D. program's auxiliary goals: to relate an area of specialization to other fields of knowledge, to acquire the ability to use computers, or to learn the language skills needed to read international scientific journals and respond in personal contacts with foreign scholars.

#### **COMPREHENSIVE EXAM**

Ph.D. students take a comprehensive examination after completing most of the course work on their approved plan of study, typically during the third year of graduate study.

The comprehensive examination consists of a written core examination and an oral examination on statistical inference, linear models, and probability. These topics are generally covered in 22S:193 Statistical Inference I, 22S:194 Statistical Inference II, 22S:195 Probability and Stochastic Processes I, 22S:203 Foundations of Probability I, 22S:253 Advanced Inference I, and 22S:255 Linear Models. Study guides for the core examination are available from the department. Students in the actuarial science/financial mathematics concentration area may qualify to take an exam designed by their advisor and approved by the director of graduate studies.

A program that does not conform to the prescribed requirements but is of high quality may be approved by the department chair.

#### **Financial Support**

Funds are available to help support outstanding applicants. Fellowships, teaching assistantships, and research assistantships provide an attractive stipend plus resident tuition status and tuition scholarships for students who are appointed at least one-quarter time. In some cases, full tuition waivers are granted.

Students who wish to be considered for financial assistance for their third year in the program should request a Ph.D. candidacy review no later than the spring semester of their second year.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Facilities

The Department of Statistics and Actuarial Science is housed in Schaeffer Hall, adjacent to Old Capitol, a National Historic Landmark and the center of campus. The department operates two computer labs in Schaeffer Hall. One, which also is used as an electronic classroom, contains 28 Windows PCs. The second houses 18 high-end UNIX workstations. Students use these labs for both class work and research.

## Statistics and Actuarial Science Courses

### Primarily for Undergraduates

Once students have earned credit in a Department of Statistics and Actuarial Science course numbered above 105, they cannot earn credit in one numbered below 105. Students may earn credit for only two of these: 22S:002 Statistics and Society, 22S:008 Statistics for Business, 22S:025 Elementary Statistics and Inference (same as 07P:025), and 22S:030 Statistical Methods and Computing. Credit for 22S:002 Statistics and Society can be earned only if the course is taken before 22S:008 Statistics for Business, 22S:025 Elementary Statistics and Inference (same as 07P:025), or 22S:030 Statistical Methods and Computing. Students may receive credit for only one course from each of these pairs: 22S:030 and 22S:105 Statistical Methods and Computing, 22S:101 Biostatistics and 22S:102 Introduction to Statistical Methods, and 22S:120 Probability and Statistics and 22S:130 Introduction to Mathematical Statistics I.

#### **22S:002 Statistics and Society** 3 s.h.

Statistical ideas and their relevance to public policy, business, and the social, health, and physical sciences; focus on critical approach to statistical evidence. Prerequisites: 22M:001. GE: Quantitative or Formal Reasoning.

#### **22S:008 Statistics for Business** 4 s.h.

Descriptive statistics, elementary probability, estimation and testing, regression, correlation; statistical computer packages. Prerequisites: 22M:008. GE: Quantitative or Formal Reasoning.

#### **22S:025 Elementary Statistics and Inference** 3 s.h.

Graphing techniques for presenting data, descriptive statistics, correlation, regression, prediction; logic of statistical inference, elementary probability models, estimation and tests of significance. Prerequisites: 22M:001. GE: Quantitative or Formal Reasoning. Same as 07P:025.

#### **22S:029 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **22S:030 Statistical Methods and Computing** 3 s.h.

Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Prerequisites: 22M:008. GE: Quantitative or Formal Reasoning.

#### **22S:039 Probability and Statistics for the Engineering and Physical Sciences** 3 s.h.

Descriptive statistics, exploratory data analysis, random variables, important discrete and continuous distributions, point and interval estimation, tests of hypotheses, regression; design of experiments, including factorial and fractional factorial designs. Prerequisites: 22M:032.

**For Undergraduate and Graduate Students**

- 22S:101 Biostatistics** 3 s.h.  
Statistics in biohealth science; probability, evidence, Bayes Rule; relative risks, design of experiments; linear, logistic, Cox regression; survival analysis; statistical adjustment. Prerequisites: 22M:001.
- 22S:102 Introduction to Statistical Methods** 3 s.h.  
Analysis, interpretation of research data; descriptive statistics; introduction to probability, sampling theory, statistical inference (binomial, normal distribution, t-distribution models); linear correlation, regression. Same as 07P:143.
- 22S:105 Statistical Methods and Computing** 3 s.h.  
Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Prerequisites: 22M:008.
- 22S:120 Probability and Statistics** 4 s.h.  
Models, discrete and continuous random variables and their distributions, estimation of parameters, testing statistical hypotheses. Prerequisites: 22M:026 or 22M:032.
- 22S:130 Introduction to Mathematical Statistics I** 3 s.h.  
Descriptive statistics, probability, discrete and continuous distributions, sampling, sampling distributions. Prerequisites: 22M:026 or 22M:032.
- 22S:131 Introduction to Mathematical Statistics II** 3 s.h.  
Estimation, testing statistical hypotheses, linear models, multivariate distributions, nonparametric methods. Prerequisites: 22S:130.
- 22S:133 Quality Control** 3 s.h.  
Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: 22S:030 and 22S:039. Same as 056:162.
- 22S:138 Bayesian Statistics** 3 s.h.  
Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: 22S:120 and 22S:152. Same as 07P:148.
- 22S:140 Design and Analysis of Biomedical Studies** 3 s.h.  
Simple and multiple linear regression and correlation; one- and two-way layout considerations in planning experiments; factorial experiments; multiple comparison techniques; orthogonal contrasts. Offered spring semesters. Prerequisites: 171:161. Same as 171:162.
- 22S:148 Intermediate Statistical Methods** 4 s.h.  
Foundation for more advanced applied courses; logic of statistical inference, chi-square, and other tests of statistical hypotheses; small sample error theory, interval estimates, introduction to analysis of variance, selected nonparametric methods. Prerequisites: 07P:143. Requirements: (for 22S:148) 22S:102. Same as 07P:243.
- 22S:150 Regression, Time Series, and Forecasting** 3 s.h.  
Regression analysis, forecasting, time series methods; use of statistical computing packages. Prerequisites: 22S:154.
- 22S:152 Applied Linear Regression** 3 s.h.  
Regression analysis with focus on applications; model formulation, checking, selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; hands-on data analysis with SAS software. Prerequisites: 22S:030 or 22S:039. Same as 056:176.
- 22S:153 Mathematical Statistics I** 3 s.h.

Probability, conditional probability, random variables, distribution and density functions, joint and conditional distributions, various families of discrete and continuous distributions, mgf technique for sums, convergence in distribution, convergence in probability, central limit theorem. Prerequisites: 22M:027 and 22M:028.

### **22S:154 Mathematical Statistics II**

3 s.h.

Transformations, order statistics, point estimation, sufficient statistics, Rao-Blackwell Theorem, delta method, confidence intervals, likelihood ratio tests, applications.

### **22S:156 Applied Time Series Analysis**

3 s.h.

General stationary, nonstationary models, autocovariance autocorrelation functions; stationary, nonstationary autoregressive integrated moving average models; identification, estimation, forecasting in linear models; use of statistical computer packages. Offered spring semesters. Prerequisites: 22S:131, and 22S:152 or 22S:164.

### **22S:157 Correlation and Regression**

4 s.h.

Correlation techniques; selected bivariate procedures, multiple, partial, curvilinear correlation; multiple linear regression; sampling theory applied to regression analysis and correlation coefficients; simple causal models. Prerequisites: 07P:243. Requirements: (for 22S:157) 22S:148. Same as 07P:244.

### **22S:158 Experimental Design and Analysis**

3 s.h.

Single- and multifactor experiments; analysis of variance; multiple comparisons; contrasts; diagnostics; fixed, random, and mixed effects models; designs with blocking and/or nesting; two-level factorials and fractions thereof; use of statistical computing packages. Prerequisites: 22S:030 and 22S:152.

### **22S:159 Design of Experiments**

4 s.h.

Theory and methods in the planning and statistical analysis of experimental studies; testing of hypotheses about linear contrasts among means in single-factor and multifactor, completely randomized, and repeated measurement designs. Prerequisites: 07P:243. Requirements: (for 22S:159) 22S:148. Same as 07P:246.

### **22S:160 Introductory Longitudinal Data Analysis**

3 s.h.

Statistical models and estimation methods used to analyze correlated data (e.g., same subject measured repeatedly); emphasis on use of statistical software. Offered fall semesters of even years. Prerequisites: 171:161, and 171:162 or 22S:152. Same as 171:174.

### **22S:161 Applied Multivariate Analysis**

3 s.h.

Multivariate descriptive statistics, multivariate normal distribution, Hotelling's T-squared, MANOVA, multivariate regression, principal components, discrimination and classification, cluster analysis. Prerequisites: 22S:152 and 22S:158. Requirements: facility with matrix algebra. Same as 07P:245.

### **22S:162 Applied Generalized Regression**

3 s.h.

Applications of semiparametric models, generalized linear models, nonlinear normal errors models, correlated response models; use of statistical packages, especially SAS. Requirements: introductory statistics and applied linear models.

### **22S:163 Nonparametric Statistical Methods**

3 s.h.

Selected nonparametric methods; one- and two-sample location tests and estimation methods, measures of association, analyses of variance; emphasis on relationships to classical parametric procedures. Prerequisites: 07P:243 or 22S:120. Same as 07P:247.

### **22S:164 Applied Statistics I**

4 s.h.

Introduction to computing environments and statistical packages, descriptive statistics, basic inferential methods (confidence intervals, chi-square tests); linear models (regression and ANOVA models--specification and assumptions, fitting, diagnostics, selection, testing, interpretation). Prerequisites: 22S:120. Requirements: facility with matrix algebra.

### **22S:165 Applied Statistics II**

3 s.h.

Design of experiments, analysis of designed experiments. Prerequisites: 22S:164.

### **22S:166 Computing in Statistics**

3 s.h.

R; database management; graphical techniques; importing graphics into word-processing documents (e.g., LaTeX); creating reports in LaTeX; SAS; simulation methods (Monte Carlo studies, bootstrap, etc.). Corequisites: 22S:164 and 22S:193.

- 22S:167 Environmental and Spatial Statistics** 3 s.h.  
Methods for sampling environmental populations, sampling design, trend detection and estimation, geostatistics, kriging, variogram estimation, lattice data analysis, analysis of spatial point patterns. Prerequisites: 22S:152 and 22S:154.
- 22S:170 ALPHA Seminar** 1 s.h.  
Resources available to students, program requirements, tips for academic success, professional statistical organizations, library and career center resources, statistical computing, scientific document preparation, history of statistics. Requirements: graduate standing in statistics.
- 22S:171 Topics in Actuarial Science** arr.
- 22S:172 Topics in Statistics** 3 s.h.  
Prerequisites: 22S:154.
- 22S:173 Statistical Consulting** 3 s.h.  
Realistic supervised data analysis experiences, including statistical packages, statistical graphics, writing statistical reports, dealing with complex or messy data. Offered spring semesters. Prerequisites: 22S:152 and 22S:158, or 22S:164 and 22S:165.
- 22S:174 Quantitative Methods for Actuaries** 3 s.h.  
Algorithms, finite differences, interpolation, linear and quadratic programming, individual risk models, life tables. Offered fall semesters. Corequisites: 22S:153 or 22S:193. Requirements: multivariate calculus and linear algebra.
- 22S:175 Actuarial Models** 3 s.h.  
Fundamental theorem of asset pricing; Poisson processes, Markov chains, Brownian motion, financial applications. Offered spring semesters. Requirements: grades of C+ or higher in 22S:174 and 22S:180.
- 22S:176 Credibility and Survival Analysis** 3 s.h.  
Construction and selection of parametric models; credibility; simulation. Offered spring semesters. Prerequisites: 22S:154 or 22S:194. Corequisites: 22S:177. Requirements: grade of C+ or higher in 22S:175.
- 22S:177 Loss Distributions** 3 s.h.  
Severity, frequency, and aggregate models and their modifications; risk measures; construction of empirical models. Offered spring semesters. Prerequisites: 22S:154 or 22S:194. Corequisites: 22S:176. Requirements: grade of C+ or higher in 22S:175.
- 22S:180 Mathematics of Finance I** 4 s.h.  
Mathematics of compound interest, including annuities certain, amortization schedules, yield rates, sinking funds, bonds. Offered fall and spring semesters. Prerequisites: 22M:026.
- 22S:181 Life Contingencies I** 3 s.h.  
Life insurance, life annuities, benefit premiums and reserves. Offered spring semesters. Prerequisites: 22S:153 or 22S:193. Requirements: grades of C+ or higher in 22S:174 and 22S:180.
- 22S:182 Life Contingencies II** 3 s.h.  
Continuation of 22S:181; benefit premiums and reserves, multiple-decrement and multilife models. Offered fall semesters. Requirements: grade of C or higher in 22S:181.
- 22S:183 Mathematics of Finance II** 3 s.h.  
Derivatives markets, interest rate models, financial applications. Offered fall semesters. Requirements: grade of C or higher in 22S:175.
- 22S:188 Actuarial Exam P/1 Preparation** 1 s.h.
- 22S:189 Actuarial Exam FM/2 Preparation** 1 s.h.  
Preparation for the Society of Actuaries and the Casualty Actuarial Society exams.

**22S:190 Mathematical Methods for Statistics**

3 s.h.

Real numbers, point set theory, limit points, limits, metric spaces, continuity, sequences and series, Taylor series (multivariate), uniform convergence, Riemann-Stieltjes integrals. Requirements: graduate standing in statistics.

**22S:193 Statistical Inference I**

3 s.h.

Review of probability, distribution theory (multiple random variables, moment-generating functions, transformations, conditional distributions), sampling distributions, order statistics, limit theory, principles of data reduction. Prerequisites: 22M:028 and 22S:131.

**22S:194 Statistical Inference II**

3 s.h.

Continuation of 22S:193; principles of data reduction, point estimation theory (MLE, Bayes, UMVU), hypothesis testing, interval estimation, decision theory, asymptotic evaluations. Prerequisites: 22S:193.

**22S:195 Probability and Stochastic Processes I**

3 s.h.

Conditional expectations; Markov chains, including random walks and gambler's ruin; classification of states; stationary distributions; branching processes. Prerequisites: 22S:130, or 22S:120.

**22S:196 Probability and Stochastic Processes II**

3 s.h.

Continuous-time Markov chains, including birth and death processes and time reversibility; renewal theory, including regenerative processes and semi-Markov processes; Brownian motion, stationary processes. Prerequisites: 22S:195.

**22S:197 Readings in Statistics**

arr.

**22S:199 Actuarial Exam MLC Preparation**

1 s.h.

Preparation for the Society of Actuaries exam.

**Primarily for Graduate Students****22S:203 Foundations of Probability I**

3 s.h.

Probability theory, with emphasis on constructing rigorous proofs; measure spaces, measurable functions, random variables and induced measures, distribution functions, Lebesgue integral, product measure and independence, Borel Cantelli lemma, modes of convergence. Prerequisites: 22S:190.

**22S:204 Foundations of Probability II**

3 s.h.

Laws of large numbers, characteristic functions and properties, central limit theorem, Radon-Nikodym derivatives, conditional expected value and martingales. Prerequisites: 22S:203.

**22S:220 Analysis of Categorical Data**

3 s.h.

Models for discrete data, distribution theory, maximum likelihood and weighted least squares estimation for categorical data, tests of fit, models selection. Offered spring semesters. Prerequisites: 22S:154 or 22S:194, and 22S:164 or 171:202. Same as 171:262.

**22S:225 Survival Data Analysis**

3 s.h.

Types of censoring and truncation; survival function estimation; life tables; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; analysis of correlated survival data. Offered fall semesters. Prerequisites: 22S:154 or 22S:194, and 171:202. Same as 171:261.

**22S:235 Time Series Analysis**

3 s.h.

Stationary time series, ARIMA models, spectral representation, linear prediction inference for the spectrum, multivariate time series, state space models and processes, nonlinear time series. Prerequisites: 22S:154 and 22S:156.

**22S:238 Bayesian Analysis**

3 s.h.

Decision theory, conjugate families, structure of Bayesian inference, hierarchical models, asymptotic approximations for posterior distributions, Markov chain Monte Carlo methods and convergence assessment, model adequacy and model choice. Prerequisites: 22S:164, 22S:166, 22S:190, and 22S:194.

**22S:248 Computer Intensive Statistics**

3 s.h.

Computer arithmetic; random variate generation; numerical optimization; numerical linear algebra; smoothing techniques; bootstrap methods; cross-validation; MCMC; EM and related algorithms; other topics per student/instructor interests. Prerequisites: 22S:131, and 22S:164 or 171:201. Requirements: proficiency in Fortran or C or C++ or Java.

**22S:253 Advanced Inference I**

3 s.h.

Concepts of convergence, asymptotic methods including the delta method, sufficiency, asymptotic efficiency, Fisher information and information bounds for estimation, maximum likelihood estimation, the EM-algorithm, Bayes estimation, decision theory. Prerequisites: 22S:190 and 22S:194.

**22S:254 Advanced Inference II**

3 s.h.

Hypothesis testing, asymptotics of the likelihood ratio test, asymptotic efficiency, statistical functionals, robustness, bootstrap and jackknife, estimation with dependent data. Prerequisites: 22S:253.

**22S:255 Linear Models**

4 s.h.

Linear spaces and matrix theory, multivariate normal distribution and distributions of quadratic forms, full-rank and non-full-rank linear models, estimability, interval estimation, hypothesis testing, random and mixed models, applications. Prerequisites: 22S:164, 22S:165, and 22S:194.

**22S:273 Advanced Topics in Actuarial Science/Financial Mathematics**

arr.

Repeatable.

**22S:291 Seminar: Mathematical Statistics**

arr.

Repeatable.

**22S:293 Seminar: Probability**

arr.

**22S:295 Seminar: Applied Statistics**

arr.

Repeatable.

**22S:299 Reading Research**

arr.

Repeatable.

## Theatre Arts

**Director, Division of Performing Arts:** Alan MacVey

**Chair:** Alan MacVey

**Professors:** Eric Forsythe, Alan MacVey, Kim Marra (Theatre Arts/American Studies)

**Professors emeriti:** Cosmo A. Catalano, David Schaal, David Thayer

**Associate professors:** Loyce Arthur, Art Borreca, John Cameron, Merrel Dare Clubb, Tisch Jones, Sydne Mahone, Bryon Winn

**Visiting associate professor:** Judy Leigh-Johnson

**Assistant professors:** Paul Kalina, R. Eric Stone

**Lecturers:** James Albert, Meredith Alexander, James P. Birder, Carol MacVey, David McGraw

**Undergraduate degree:** B.A. in Theatre Arts

**Undergraduate nondegree program:** Minor in Theatre Arts

**Graduate degree:** M.F.A. in Theatre Arts

**Web site:** <http://www.uiowa.edu/~theatre>

The Department of Theatre Arts offers academic programs for undergraduate and graduate students. It also stages live performances throughout the academic year and during the summer.

The department is one of three academic units that make up the Division of Performing Arts.

## Undergraduate Programs

The Department of Theatre Arts offers a Bachelor of Arts and a minor in theatre arts. It also participates in offering the Certificate in Performing Arts Entrepreneurship, offered through the Division of Performing Arts.

The major is based on the department's belief that the best way to develop future artists is to expose them to rigorous professional practice within the framework of a liberal arts and sciences education.

Department of Theatre Arts students take workshop courses in acting, directing, design, technical theatre, stage management, and playwriting and complement them with classes in dramatic literature, history, and criticism. Students also are encouraged to explore a range of courses throughout the University. Two dozen productions are staged each year, providing additional opportunities to learn the theatre craft and to develop a personal artistic vision.

The department also educates students who plan to enter other fields in which understanding of the arts and experience with theatre skills are useful. Some pursue a major in theatre arts or work toward a double major in theatre arts and another discipline. Others take theatre classes as nonmajors; see "Courses for Nonmajors" in this section of the Catalog.

### Bachelor of Arts

The Bachelor of Arts in theatre arts requires a minimum of 120 s.h., including 33 s.h. of work for the major. The following courses constitute the basic experience for all undergraduate theatre arts students. Registration in some courses for the major requires special permission. Contact the Department of Theatre Arts for details.

Students must maintain a g.p.a. of at least 2.00 for all courses in the major.

Students who transfer to The University of Iowa from other accredited two- or four-year institutions must demonstrate that they have successfully completed course work equivalent to the basic requirements of the theatre arts department and the University before they may take advanced-level electives. Consult the director of undergraduate studies for more information.

Students must complete the College of Liberal Arts and Sciences General Education Program.

In planning course work, especially electives, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. or B.S. may apply a maximum of 50 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 50 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

### COMMON REQUIREMENTS

Students must complete a course's prerequisites before registering for the course. Playscript Analysis (049:060) should be completed as soon as possible; it is prerequisite to several 100-level courses. Courses 049:025 Acting I, 049:060 Playscript Analysis, 049:112 History of Theatre and Drama I or 049:113 History of Theatre and Drama II, and the design requirement normally are completed within the first four semesters in the major. Theatre Crafts (049:044) is prerequisite to all production courses; 049:045 Production: Run Crew is prerequisite to 049:046 Production: Crew Chief and 049:047 Production: Construction.

Students who complete 049:002 Theatre and Society: Ancients and Moderns or 049:003 Theatre and Society: Romantics and Rebels before declaring a major in theatre arts must consult the undergraduate director before



registering for 049:112 History of Theatre and Drama I or 049:113 History of Theatre and Drama II.

All of these:

049:025 Acting I	3 s.h.
049:044 Theatre Crafts	3 s.h.
049:060 Playscript Analysis	3 s.h.
049:112 History of Theatre and Drama I	3 s.h.
049:113 History of Theatre and Drama II	3 s.h.
Dramatic literature requirement (049:072, 049:116-049:119, 049:181-049:188, 049:190-049:193)	3 s.h.
Design requirement (049:043, 049:133-049:136, or 049:146)	3 s.h.
Theatre courses numbered 100 or above	6 s.h.

Required production courses: Students must earn a total of 3 s.h. from the following production courses; 049:045 Production: Run Crew is prerequisite to 049:046 Production: Crew Chief and 049:047 Production: Construction.

049:045 Production: Run Crew	1-2 s.h.
049:046 Production: Crew Chief	2 s.h.
049:047 Production: Construction	1-2 s.h.

Optional courses: With the instructor's approval, students who enroll in one of the three optional courses (049:132 Stage Management, 049:147 Technical Production I, or 049:148 Technical Production: Special Topics) also may enroll in 049:045 Production: Run Crew (a required production course) during the same semester or session and may complete an additional project, earning 1 s.h. for 049:045 Production: Run Crew in addition to the credit they earn for the optional course. Students may earn a maximum of 1 s.h. of required production course credit this way.

049:132 Stage Management	3 s.h.
049:147 Technical Production I	3 s.h.
049:148 Technical Production: Special Topics	3 s.h.

One of these:

049:130 Directing I	3 s.h.
049:172 Senior Seminar	3 s.h.

## ELECTIVES

Students majoring in theatre arts may count a maximum of 17 s.h. earned in Department of Theatre Arts elective courses (prefix 049) toward degree requirements. Theatre arts elective credit in excess of 17 s.h. is included on the transcript, but it does not count toward the 120 s.h. required for graduation.

Transfer students should consult the director of undergraduate studies before registering for advanced-level electives.

### Student Auditions for Theatre Arts Productions

Theatre arts majors are encouraged to audition for the department's productions in general auditions at the beginning of the fall semester. Students normally present a three-minute audition consisting of two contrasting pieces. From this audition, callback lists are posted for major productions offered during the first semester. Additional general auditions normally are scheduled in early November and in February.

Students in other majors are welcome to audition for the department's productions, as are community members (see "Productions and Auditions" later in this section). For academic considerations, theatre arts majors are given first consideration for roles.

Materials and information about the general auditions are available from the Department of Theatre Arts office in August. Notices of auditions for all subsequent productions are posted on the department's call board.

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** three courses in the major (chosen from 049:025 Acting I, 049:043 Elements of Design, 049:060 Playscript Analysis, 049:112 History of Theatre and Drama I, and 049:113 History of Theatre and

Drama II) and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** three more courses in the major, two semesters of production credit, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** two more courses in the major and another semester of production credit

**During the eighth semester:** enrollment in remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

## Honors

Students who wish to pursue honors studies in the Department of Theatre Arts must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Senior theatre arts majors who are members of the honors program, have earned a 3.33 g.p.a. in the major, and have approval from the theatre arts faculty may undertake an honors project. Projects may be analytical or creative, or an appropriate combination of the two. Projects ordinarily require an oral presentation or performance for designated faculty members as well as a research and writing component, which is due upon the project's completion.

Students who wish to complete an honors project meet with the departmental honors advisor, who helps them find an appropriate faculty sponsor, prepare and gain acceptance for a written proposal, present the work, and evaluate the outcome. Students normally begin this work before their senior year.

Theatre arts majors who are members of the University of Iowa Honors Program may take honors courses in theatre arts. Courses in the major can be designated as honors courses with permission of the faculty member who teaches the course, the department, and the honors program.

## Minor

The minor in theatre arts requires a minimum of 15 s.h. in theatre arts courses, including 12 s.h. in advanced courses taken at The University of Iowa. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass.

For the minor, advanced courses include 049:021 Basic Acting II, 049:043 Elements of Design, 049:044 Theatre Crafts, 049:060 Playscript Analysis, 049:063 Playwriting II, and any course numbered 049:100 and above. Students must complete all prerequisites for the courses they choose for the minor. They may not include 049:025 Acting I in the minor; it is reserved for students majoring in theatre arts. Students interested in acting should start the minor with 049:020 Basic Acting and then 049:021 Basic Acting II. In rare cases, a student who has completed those may be granted permission to take 049:120 Acting II, which generally is reserved for theatre arts majors.

## Courses for Nonmajors

Students in other majors who have an interest in the theatre arts may take courses in the department. The following courses are open to nonmajors.

049:001 Art of the Theatre	3 s.h.
049:002 Theatre and Society: Ancients and Moderns	3 s.h.
049:003 Theatre and Society: Romantics and Rebels	3 s.h.
049:020 Basic Acting	3 s.h.
049:021 Basic Acting II	3 s.h.
049:050 Musical Theatre	3 s.h.
049:051 Comedy and Society	3 s.h.
049:062 Playwriting I	3 s.h.
049:072 Shakespeare	3 s.h.
049:101 Drama in the Classroom	3 s.h.
049:102 Acting for Singers	2 s.h.
049:103 Voice/Speech/Text--Speaking in Public	3 s.h.
049:105 Introduction to Laban Movement Studies	2-3 s.h.
049:106 Singing for Actors	2 s.h.
049:109 Introduction to Arts Management	3 s.h.
049:110 Theatre for Social Outreach	arr.
049:111 New Ventures in the Arts	3 s.h.
049:161 The Arts in Performance	3 s.h.
049:182 Free Style Writing: Poetry, Plays, and Performances	3 s.h.

049:183 Black Feminist Tradition and Culture	3 s.h.
049:185 Cultural Diversity and Identity	3 s.h.
049:190 African American Theatre I	3 s.h.
049:191 African American Theatre II	3 s.h.
049:192 Culturally Diverse Theatre	3 s.h.
049:195 Arts Leadership Seminar	3 s.h.

Nonmajors with backgrounds in the fine arts may take the following courses with consent of instructor.

049:133 Theatre Design I	3 s.h.
049:134 Scene Design I	3 s.h.
049:135 Costume Design I	3 s.h.
049:136 Lighting Design I	3 s.h.

Other courses may be open to nonmajors with consent of the instructor.

## Graduate Program

The department offers a Master of Fine Arts in theatre arts.

### Master of Fine Arts

The Master of Fine Arts in theatre arts requires 61-72 s.h. of graduate credit, depending on specialty area. Students normally must complete six semesters in residence (internships may be substituted).

The graduate program is dedicated to creative development of theatre artists. Graduates have a solid background in major performance theories, dramatic literature, and practices of the past and present as well as in the craft of their chosen specialties.

Special attention is given to understanding the role and importance of live theatre in society. Interactions among the various theatre disciplines are emphasized, both in classes and through the department's extensive production program. Particular emphasis is placed on the development of new works for the theatre.

Students must make normal progress toward completion of the degree requirements to remain in the program: they must maintain a g.p.a. of at least 3.00 overall and in all course work within the primary area of concentration, and they must build a record of substantial creative work of high quality. Students who fail to make normal progress are placed on academic probation and given one additional semester to demonstrate their qualifications for earning the degree.

Contact the Department of Theatre Arts for specific information on any of the M.F.A. specialty areas.

### Admission

Students who demonstrate exceptional ability in acting, directing, dramaturgy, playwriting, design, or stage management may apply for admission to the program of study and production leading to the M.F.A. Admission is based on interview, audition, and/or a portfolio of relevant work, the undergraduate record or other proof of artistic accomplishment, and letters of recommendation.

Submission of playscripts is the most important element in gaining admission to the Playwrights Workshop.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Productions and Auditions

The Department of Theatre Arts presents around 25 public productions each year. These include a subscription series of five plays, a festival of five new works by students, three productions by Iowa Summer Repertory Theatre (a professional company that also employs students), and other productions, many of them new plays.

Special attention is given to the process of developing new works and to the collaborative process that involves writers, directors, designers, dramaturgs, stage managers, and actors. Graduates, undergraduates, faculty, and visiting guest artists work together on large and small projects throughout the year and in a special summer repertory season.

### Auditions for Theatre Arts Productions

Auditions for theatre arts productions are open to everyone, including all University of Iowa students and members of

the local community. Theatre arts students are given first priority for roles, but many roles are available throughout the year, and many non-theatre students and nonstudent actors are cast each season. Occasionally, professional actors are employed.

General auditions are held at the beginning of the fall semester, and callback lists are posted during the semester. Additional general auditions usually are scheduled in early November and in February. Information about auditions is available from the Department of Theatre Arts office in August. Notices of auditions are posted on the department's call board.

## Facilities

The University of Iowa has one of the finest educational theatre complexes in the country. The Theatre Building offers four theatres and up-to-date facilities for classroom, laboratory, shop, and performance work.

The E.C. Mabie Theatre, a continental-style, 457-seat proscenium playhouse, is one of the finest theatres of its type in the United States. The David Thayer Theatre is a "black box" production space; its flexible seating units accommodate from 140 to 225 people and allow modification of space and audience relationships. Theatre B, which seats 144, is an open-stage theatre dedicated primarily to the production of new and experimental works. The flexible studio theatre seats 50.

In addition to classrooms for acting and directing, several spaces are designed for teaching particular aspects of dramatic studies. The Cosmo Catalano Acting Studio is for study of movement and motion by acting students. The Arnie Gillette Design Studio serves as classroom and studio workshop for design students.

To support its production schedule and to provide students with an appropriate range of experience, the department maintains shops for building, painting, maintaining, and storing scenery, costumes, and properties. Using these shops, students learn to work in metal, plastics, canvas, and wood.

## Theatre Arts Courses

### Primarily for Undergraduates

- 049:001 Art of the Theatre** 3 s.h.  
Fundamentals of acting, playwriting, directing. GE: Fine Arts, Humanities.
- 049:002 Theatre and Society: Ancients and Moderns** 3 s.h.  
Representative plays as performed in social contexts of ancient Egypt; classical Greece, Rome, India, and Japan; and medieval and early modern Europe. GE: Fine Arts, Historical Perspectives.
- 049:003 Theatre and Society: Romantics and Rebels** 3 s.h.  
Representative plays as performed in social contexts of revolutionary and modern Europe and postwar United States. GE: Fine Arts, Historical Perspectives.
- 049:020 Basic Acting** 3 s.h.  
Concentration, relaxation, imagination, observation, communication, sensory awareness; development of theatrical creativity through objectives, obstacles, action, conflict, spontaneity; development of a scene from scripts. Requirements: non-theatre arts majors. GE: Fine Arts.
- 049:021 Basic Acting II** 3 s.h.  
Continuation of 049:020; emphasis on development of scenes.
- 049:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- 049:030 New Student Collaboration Project** 1-2 s.h.  
Collaborative work on a script, from table work to staging; student participation as a creative team; production culminating in one performance; ensemble of actors, designers, dramaturges, directors, and stage managers who are new majors to the Department of Theatre Arts. Requirements: first-year standing or transfer student or new declared theatre major.

- 049:043 Elements of Design** 3 s.h.  
Development of visual literacy; manipulation of line, shape, color, value, texture, form; development of designs for theatre through techniques explored in class.
- 049:044 Theatre Crafts** 3 s.h.  
Backstage operations; wardrobe, scenery, properties, lighting, sound. Requirements: theatre arts major.
- 049:045 Production: Run Crew** 1-2 s.h.  
Experience as run crew member in scenery, props, or costumes; or light board, sound board, or follow-spot operator; for mainstage production.
- 049:046 Production: Crew Chief** 2 s.h.  
Experience as master electrician, stage manager, assistant stage manager, wardrobe master, production carpenter, or properties assistant for single production. Prerequisites: 049:044 and 049:045.
- 049:047 Production: Construction** 1-2 s.h.  
Production work in scenery, costume, or electrics shop. Prerequisites: 049:044 and 049:045.
- 049:050 Musical Theatre** 3 s.h.  
American musical theatre's form, function, evolution; major composers (Berlin, Gershwin, Rodgers and Hammerstein, Sondheim), lesser-known and contemporary writers; roots of the rock musical, future of musical theatre, how musicals reflect their own eras and cultural attitudes of their times; readings, recordings, videos. Ability to read music not required.
- 049:051 Comedy and Society** 3 s.h.  
How comedy reflects, comments upon, and intersects with western culture and society; roots of western comedy, satire, censorship; comic playwrights, stand-up comedians, improv and sketch troupes, satirists; gender and sexuality; how portrayals of African Americans in popular culture evolved from early 20th century to present; videos, readings, live performances.
- 049:060 Playscript Analysis** 3 s.h.  
Basic skills in critical reading and close analysis of dramatic texts, with focus on dramatic structure, challenges of putting texts into production.
- 049:062 Playwriting I** 3 s.h.  
Elements of playwriting; emphasis on analysis and discussion of original student writing. GE: Fine Arts.
- 049:063 Playwriting II** 3 s.h.  
Continuation of 049:062; original student writing, one-act play form. Prerequisites: 049:062.
- 049:072 Shakespeare** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 008:147.

## For Undergraduate and Graduate Students

### Acting and Directing

- 049:025 Acting I** 3 s.h.  
Development of creativity, imagination, and openness through exercises to engage mind, body, and voice in theatrical play and scene work.
- 049:035 Movement: Special Topics** 2 s.h.  
Specialized study in movement techniques and movement styles for body conditioning; development of yoga techniques; varied topics.
- 049:101 Drama in the Classroom** 3 s.h.

Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as 07E:180.

**049:102 Acting for Singers** 2 s.h.

Fundamentals of acting technique, with attention to demands on performers in opera and musical theater. Same as 025:175.

**049:103 Voice/Speech/Text--Speaking in Public** 3 s.h.

How to be an effective and confident communicator; exercises designed to develop and improve vocal sound, vocal strength, clarity of speech; appropriate interpretation of text.

**049:105 Introduction to Laban Movement Studies** 2-3 s.h.

Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically-efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as 025:167, 137:160, 188:167.

**049:106 Singing for Actors** 2 s.h.

Skill development for healthy, effective singing in the musical theatre style; techniques of vocal production through breath management, resonance, articulation, flexibility; song interpretation and repertoire. Recommendations: (for 025:169) concurrent registration in 025:059. Same as 025:169.

**049:108 Dance Kinesiology** 3 s.h.

Body science related to demands of dance; structural and muscular analysis for efficient, effective dance training and prevention of injuries; investigation of skeletal and ligamentous structure for working knowledge of how the body produces movement; joint actions and restrictions, common injuries to those sites; attachments of the voluntary muscles, pathways and potential actions; neuromuscular analysis of an action; functional skeletal alignment; how individual differences may affect movement performance. Prerequisites: 027:053. Same as 137:147.

**049:109 Introduction to Arts Management** 3 s.h.

Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as 145:109, 188:109.

**049:110 Theatre for Social Outreach** arr.

Use of improvisation, storytelling, readers' theatre to explore complex social issues; participation in Darwin Turner Action Theatre; experience creating works that examine social issues, especially those related to cultural diversity; performances in Iowa schools and communities.

**049:111 New Ventures in the Arts** 3 s.h.

Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates 06J:125 and 06T:120. Corequisites: 06T:050, or 06A:001 and 06M:100. Same as 06T:125, 145:111, 188:111.

**049:120 Acting II** 3 s.h.

Extension of work begun in 049:025; scene study, with focus on contemporary realism and development of collaborative dynamic. Prerequisites: 049:025. Requirements: audition.

**049:122 Acting With Verse** 3 s.h.

Approaches to poetic material; emphasis on Shakespeare; contemporary scenes written in poetic or abstract styles. Prerequisites: 049:120 and 049:125.

**049:124 Acting: Special Topics** 3 s.h.

Specialized study in a specific aspect or theory of acting.

**049:125 Voice for the Actor** 3 s.h.

Progressive development of voice and speech for theatre; physical awareness, relaxation, breathing, freeing the sound channel, resonance, articulation; application of voice work through prose, poetry, text. Prerequisites: 049:025.

**049:126 Voice, Text, and the Actor** 3 s.h.

Vocal study of prose, poetry, and dramatic text to achieve connection to language--emotion, images, and sensuality connected to a fully released voice; emphasis on Shakespearean verse. Prerequisites: 049:125.

**049:127 Theatre Movement** 3 s.h.

The body as a tool for dramatic expression; basic principles and practices of stage movement; approaches to physical technique, mime/movement studies, ensemble performance projects. Requirements: theatre arts major.

**049:128 Movement Styles** 3 s.h.

Intensive study of a selected movement style, such as mask, clowning, melodrama, mime, commedia dell'arte, stage combat; presentation of student projects. Prerequisites: 049:127.

**049:129 Stage Combat** 3 s.h.

Principles, safety, techniques of nonviolent stage combat for actor, director, choreographer.

**049:130 Directing I** 3 s.h.

Basic elements of stage direction; exercises in composition, emphasis, movement, rhythm, directorial analysis; director's role in production process; short scenes, projects, papers. Prerequisites: 049:025, 049:060, and 049:043 or 049:133 or 049:134 or 049:135 or 049:136 or 049:146. Requirements: completion of design requirement.

**049:131 Directing II** 3 s.h.

Continuation of 049:130; practical work in stage direction culminating in a larger directing project. Prerequisites: 049:130.

**049:132 Stage Management** 3 s.h.

Duties and procedures of stage management; focus on development of production from preparatory work through performance; examine role of stage manager in collaboration.

**049:170 Introduction to the Alexander Technique** 3 s.h.

The Alexander Technique and "self-use"--how our movement choices affect the results we achieve; improving physical skills and presence; principles from the Alexander Technique in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting) and applied to skills in daily life, addressing the underpinnings of movement; physical participation, including laying, rolling, sitting, standing, and locomotion. Same as 025:176, 137:173, 188:168.

**049:195 Arts Leadership Seminar** 3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Requirements: (for 049:195) 049:109 or 049:111 or graduate standing in an arts discipline. Same as 06T:155, 145:195, 188:195.

**049:200 Stage Management: Special Topics** 3 s.h.

Topics in stage management, arts production, and their professional practice. Repeatable. Prerequisites: 049:133.

**049:201 Voice for Performers** 2 s.h.

Comparison of Kinesthetic techniques for singing and acting voice; relaxation, posture, breathing, tone quality, diction, interpretation. Same as 003:204, 025:216.

**049:220 Advanced Acting** 3 s.h.

Preprofessional training; may include psychophysical training in impulse, openness and the "mask," individual and group dynamics, improvisation, repetition, characterization and scenework, Shakespeare and style, on-camera, development of professional work habits and skills, audition and interview. Repeatable.

**049:225 Vocal Technique** 3 s.h.

Skills training; voice and speech for the actor, phonetics, dialects, sound exploration, contemporary and classical text analysis. Repeatable.

**049:227 Movement Technique** 3 s.h.

Fundamental principles and practices required for physical acting technique; basic stage movement, stage combat, mime technique, Lecoq-based improvisation; a new works project. Repeatable. Requirements: graduate acting major.

**049:230 Director's Seminar** 1-3 s.h.  
Preprofessional training in stage direction; the art and craft of directing; research, practical experience; development of new pieces; approaches to a variety of theatrical materials through concept, type, style. Repeatable.

**049:233 Stage Management Seminar** 1 s.h.  
Practice and techniques of stage management. Repeatable. Requirements: graduate stage management major.

## Design

**049:133 Theatre Design I** 3 s.h.  
The process of theatre design; how to research, conceptualize, and visualize ideas; experience using a script and working in scenery, costumes. Prerequisites: 049:043.

**049:134 Scene Design I** 3 s.h.  
The development of theatre scenery; how to research, conceptualize, and express ideas in sketches, models, simple drafting. Same as 01P:134.

**049:135 Costume Design I** 3 s.h.  
Development of theatre costumes; how to research, conceptualize, and express ideas through rendering and swatching; historical orientation. Prerequisites: 049:133.

**049:136 Lighting Design I** 3 s.h.  
How to research, conceptualize, and express ideas through light plots, other design paperwork, and theatre lighting design projects.

**049:137 Scene Design II** 3 s.h.  
Design and execution of increasingly complex projects in a variety of formats, including refined perspective sketching, color models, property drawing, more detailed drafting. Prerequisites: 049:134.

**049:138 Costume Design II** 3 s.h.  
Research, conceptual and character analysis skills, color, material, and volume as expressions of different styles. Prerequisites: 049:135.

**049:139 Lighting Design II** 3 s.h.  
Production styles and venues; skills developed through increasingly complex light plots, more precise paperwork. Prerequisites: 049:060 and 049:136.

**049:140 Sound Design for the Theatre** 3 s.h.  
Methods of sound recording, editing, reinforcement; how to conceptualize and express ideas for theatre production.

**049:141 Period Styles for Theatre Designers** 3 s.h.  
Aesthetics of selected periods as they apply to theatrical presentation; principles of architecture, furniture, fashion.

**049:142 Textile Science** 3 s.h.  
Fiber, yarn, and fabric science; fabric painting, dyeing, and other laboratories. Same as 097:107.

**049:143 Sound Design II** 3 s.h.  
Sound designs for theatre using digital and analog equipment; concept development, design execution; focus on computer-aided design skills, design presentation, advanced editing techniques. Prerequisites: 049:140.

**049:144 Web Design** 3 s.h.  
Creation of graphic identities and web sites using Adobe Photoshop and Dreamweaver.

**049:145 Computer Visualization** 3 s.h.



Computer drafting with AutoCAD, principles of theatre drafting, basic functions and commands, one-word editing skills.  
Prerequisites: 049:144.

**049:146 Drawing and Rendering for the Theatre** 3 s.h.  
Development of artistic skills and documentation techniques through studio work in drawing, painting, model craft projects for theatre.

**049:147 Technical Production I** 3 s.h.  
Scene construction techniques, including stage carpentry, softgoods, theatrical rigging, drafting, management procedures. Prerequisites: 049:044.

**049:148 Technical Production: Special Topics** 3 s.h.  
Skill development and construction techniques, including work in plastics, metals, mechanics, electrics. Prerequisites: 049:044.

**049:151 Scenic Art for Designers** 3 s.h.  
Techniques in scenic art for the theatre; classical *trompe l'oeil* scene painting, sculpting with nontraditional materials, finishing.

**049:152 Costume Crafts: Special Topics** 3 s.h.  
Stage makeup design and application, paper mache and plaster gauze mask-making techniques.

**049:153 Costume Crafts II** 3 s.h.  
Pattern drafting, draping, basic costume construction techniques.

**049:156 Stage Makeup** 3 s.h.  
Same as 188:156.

**049:157 Concepts in Drawing** 3-4 s.h.  
Drawing from topics at the intermediate level; observation, theory, media, form, content; emphasizes personal direction. Prerequisites: 01F:007. Same as 01F:105.

**049:158 Environmental Design I** 4 s.h.  
Human interaction with the interior and exterior environment. Offered fall semesters of odd years. Prerequisites: 01D:021. Same as 01D:137.

**049:235 Graduate Design Seminar** arr.  
Graduate design in set, lighting, and costume design; teamwork; meetings with design faculty in specific disciplines; short-term projects in the theatre department; long-term projects, including summer design work, internships, and other professional opportunities during the three-year program and beyond. Prerequisites: 049:137 or 049:138 or 049:139. Requirements: graduate standing.

**049:237 Scene Design III** 3 s.h.  
Complex assignments in theatre, dance, opera; documentation skills, scenery design preparation. Prerequisites: 049:043 or 049:133, and 049:137.

**049:238 Costume Design III** 3 s.h.  
Advanced projects in costume design; psychological effect of design elements; preparation of costume designs for production. Prerequisites: 049:138.

**049:239 Lighting Design III** 3 s.h.  
Advanced projects in venues such as dance, opera, industrials; preparation of lighting designs for production. Prerequisites: 049:139.

**049:240 Scene Design IV** 3 s.h.  
Advanced projects; production problems and techniques; development of clarity and speed in conceptualizing and documenting designs.

**049:241 Costume Design IV** 3 s.h.  
Analytical and studio skills for advanced projects in widening venues, including music, dance, opera.

<b>049:242 Lighting Design IV</b>	3 s.h.
Advanced projects in a variety of venues; development of clarity in concepts and design documentation.	
<b>049:243 Scene Design V</b>	3 s.h.
Portfolio development; collaborative.	
<b>049:244 Costume Design V</b>	3 s.h.
Portfolio development; collaborative.	
<b>049:245 Lighting Design V</b>	3 s.h.
Portfolio development; collaborative.	
<b>049:249 Production Management</b>	3 s.h.
Organization and supervision of theatre productions; resources, procedures for successfully mounting a theatre production or season; personnel, equipment, facility and budget management, scheduling, communication. Requirements: stage management M.F.A. enrollment.	
<b>049:251 Internship in Design</b>	1-6 s.h.
Experience as designer or assistant designer with a professional theatre, dance, or opera company or with a professional design studio. Requirements: theatre design M.F.A. enrollment.	
<b>Playwriting</b>	
<b>049:165 Advanced Playwriting</b>	3 s.h.
Continuation of 049:063; original student writing, extensive rewriting; may focus on specific style, genre, or approach. Prerequisites: 049:063.	
<b>049:169 Undergraduate Playwriting Workshop</b>	1-3 s.h.
Workshop discussion of original full-length plays, collaborative creation of new plays, work with guest artists. Prerequisites: 049:062 and 049:063. Requirements: submission of writing sample.	
<b>049:173 Guest Seminar</b>	arr.
<b>049:182 Free Style Writing: Poetry, Plays, and Performances</b>	3 s.h.
Creative writing lab experience in reading, writing, and performing poetry and short plays; expansion of students' horizons of the self; arc of innovation in African American literature from Harlem Renaissance to present, with texts from Langston Hughes and Zora Neale Hurston to Saul Williams and Jill Scott; role of the artist in society and as outsider and insider; shifting perspectives on race, gender, class; musical influences and models, from blues to house music; sensuality, spirituality; artistic reflections on the cultural moment; effects of these on literary form and performance style; students create and perform a work for an audience. Same as 129:182.	
<b>049:269 Playwrights Workshop</b>	3 s.h.
Development of works by Iowa Playwrights Workshop members. Repeatable. Requirements: playwriting or dramaturgy M.F.A. enrollment.	
<b>049:270 Special Topics in Playwriting</b>	3 s.h.
Repeatable.	
<b>049:271 Orientation to Graduate Studies</b>	2 s.h.
Repeatable. Requirements: theatre arts M.F.A. enrollment.	
<b>049:272 The Collaborative Process</b>	3 s.h.
Development of new plays, collaboratively created works. Repeatable.	
<b>049:275 Collaborative Performance</b>	1-4 s.h.

Collaborative experience with advanced artists from varied disciplines that culminates in a final performance; emphasis on sharing and investigating ideas, artistic intent, personal vision, and creating collaborative projects. Same as 137:275, 188:275.

## **History, Literature, Dramaturgy**

### **049:112 History of Theatre and Drama I**

3 s.h.

Major developments in Anglo-European, Indian, Asian, African theatre and drama 3000 B.C.E. to C.E. 1700; sociopolitical, economic, cultural circumstances of original productions. Offered fall semesters. Prerequisites: 049:060. GE: Fine Arts, Historical Perspectives.

### **049:113 History of Theatre and Drama II**

3 s.h.

Continuation of 049:112, 1700 to 1960; revolutionary and modern European theatre, culturally diverse postwar U.S. theatre. Offered spring semesters. Prerequisites: 049:060. GE: Fine Arts, Historical Perspectives.

### **049:116 Dramatic Theory**

3 s.h.

Theoretical questions of interest to dramatists and philosophers in western and nonwestern traditions; metaphysics of play; theories of character, psyche, self; narrative and nonnarrative dramatic forms. Prerequisites: 049:060, 049:112, and 049:113.

### **049:117 American Drama Since 1900**

3 s.h.

American playwrights and plays after 1900. English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:197.

### **049:118 American Women Playwrights: 1776-Present**

3 s.h.

How women in the United States have expressed themselves in theatre since 1776; diversity of voices in works by African American, Asian American, Latina, Native American, European American, lesbian playwrights; female-authored drama and production in relation to concurrent male-authored traditions and socioeconomic, political, cultural phenomena. Same as 045:118.

### **049:119 Dramas of the Spirit**

3 s.h.

Western and nonwestern dramatic texts that enact or describe journeys of the human spirit; textual analysis, investigation of the notion of spirit and its relation to dramatic form. Prerequisites: 049:060, 049:112, and 049:113.

### **049:160 Performing Culture, Language, and Literature**

3 s.h.

Performance of self in everyday life; performance in/of literature; performance as an aesthetic act; performance as a way to understand and represent identities, languages and cultures; students participate in performance as a mode of literary and rhetorical interpretation, cultural and political intervention, and artistic-embodied public presentation. Requirements: (for 036:130) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:130, 036:130, 160:130.

### **049:161 The Arts in Performance**

3 s.h.

GE: Fine Arts, Humanities. Same as 033:161, 137:161, 188:161.

### **049:174 Topics in Digital Media**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:173.

### **049:181 Medieval Drama**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 008:144.

### **049:183 Black Feminist Tradition and Culture**

3 s.h.

Survey of selected theoretical texts chronicling shifting perspectives on feminism; comparative interdisciplinary survey of artistic works that reflect such perspectives. Same as 129:183.

### **049:184 English Renaissance Drama**

3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as 008:145.

**049:185 Cultural Diversity and Identity** 3 s.h.

Nature of personal and cultural identity within a pluralistic society; race, ethnicity, national identity, class, sexuality, and gender as categories of cultural difference. Same as 033:185.

**049:186 African American Drama** 3 s.h.

English majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:186, 129:186.

**049:188 Sex and Gender in Performance** 3 s.h.

Relationship between sex and gender in the performing body across a range of public venues, including stage, film, athletic events, and social spaces; articles, texts, plays, films, television, and videos; attendance at live performances of theatre, sports, and other events scheduled in the University and local community; discussion format. Same as 131:187.

**049:190 African American Theatre I** 3 s.h.

Works by African American playwrights and relevant historical documents, Africa through Black Renaissance; themes, history, sociopolitical context; artists forging theatrical paths under oppressive conditions; exploration through discussion, performance; literature-based course, workshop approach. Same as 129:175.

**049:191 African American Theatre II** 3 s.h.

Works by African American playwrights and relevant historical documents, Black Renaissance to present; themes, history, sociopolitical context; artists forging theatrical paths under oppressive conditions; exploration through discussion, performance; literature-based course, workshop approach. Same as 129:191.

**049:192 Culturally Diverse Theatre** 3 s.h.

Same as 131:192, 154:192.

**049:193 Studies in Drama** 3 s.h.

Exploration of a specific period of dramatic literature, or the work of specific authors, or dramatic principles central to playwrighting.

**049:194 Dramaturgy** 3 s.h.

Theory, practice: history in Europe and the United States; relationship to dramatic criticism; practical experience in critical writing, play analysis, dramaturgical research, conceptualization of productions; evaluation, advocacy, and development of new plays; audience relations and education. Prerequisites: 049:060.

**049:210 Dramaturgy Practicum** arr.

Exploration of theoretical, creative, and practical issues that arise in working dramaturgically on both established and new plays, and in a variety of collaborative processes; practical dramaturgical exercises in script reporting, dramaturgical research, educational programming, season planning, production documentation, and writing of critical and dramaturgical essays for a general audience. Requirements: admission to M.F.A. dramaturgy program.

**049:213 Shakespeare** 3 s.h.

Same as 008:253.

**049:215 Theatrical Analysis: Classical to Restoration Drama** 3 s.h.

Representative plays from the Classical to the Romantic periods--in historical context of their original productions, contemporary production potential. Requirements: theatre arts M.F.A. enrollment.

**049:216 Theatrical Analysis: Modern** 3 s.h.

Questions of dramatic form and content examined in-depth through close readings of modern plays.

**049:217 Theatrical Analysis: Postmodern** 3 s.h.

Diverse postmodern traditions; emphasis on questions of relation of text.

**049:294 Dramaturgy Seminar** 3 s.h.

Dramatic history, literature, and dramaturgy topics of interest to M.F.A. candidates. Repeatable. Requirements: dramaturgy M.F.A. enrollment.

### **Workshops, Performances, Special Studies**

- 049:172 Senior Seminar** 3 s.h.  
Theatre arts capstone seminar; how personal aesthetic relates one's work to great theatrical visionaries of the past and present-day practitioners; research culminating in a collaborative theatre piece. Requirements: senior standing and theatre arts major.
- 049:177 London Performance Study** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:128.
- 049:178 New York Performance Study** 3 s.h.  
Theatrical style, acting, direction, design, as well as business aspects; examination of nine performances.
- 049:196 Projects in Theatre** arr.
- 049:197 Honors Theatre Arts** arr.  
Development and production of a new work for film or television by writers, directors, actors.
- 049:198 Performance Practicum** 1-2 s.h.  
Act in a faculty-directed production produced by the Theatre Arts Department. Same as 188:198.
- 049:199 Independent Study** arr.
- 049:234 Internship in Stage Management** 1-6 s.h.  
Experience as stage manager or assistant stage manager with a professional theatre, dance, or opera company. Repeatable. Requirements: stage management M.F.A. enrollment.
- 049:296 Projects in Theatre Advanced** arr.  
Create a special project under the mentorship of a faculty member for credit; projects may include performing in a main stage production, writing, directing, or designing a play performed in the department, developing a research project that intersects production. Requirements: graduate standing.
- 049:298 M.F.A. Thesis** 0-3 s.h.  
Work related to M.F.A. thesis projects in theatre arts. Repeatable.

# Tippie College of Business

**Dean:** William C. (Curt) Hunter

**Senior associate dean:** Charles H. Whiteman

**Associate dean, School of Management:** Jarjis Sa-Aadu

**Associate dean, undergraduate program:** Lon D. Moeller

**Degrees:** B.B.A., M.Ac., M.B.A., Ph.D.

**Undergraduate nondegree programs:** Certificate in Entrepreneurial Management, International Business, Risk Management and Insurance; Minor in Business Administration

**Web site:** <http://www.tippie.uiowa.edu>

The Henry B. Tippie College of Business is composed of six academic departments: accounting, economics, finance, management and organizations, management sciences, and marketing.

The college's undergraduate and graduate programs are accredited by AACSB International--the Association to Advance Collegiate Schools of Business.

Research, executive development, and education activities are supported by the centers and institutes of the college: Hawkinson Institute of Business Finance, Institute for Economic Research, Institute for Electronic Markets, John Pappajohn Entrepreneurial Center, RSM McGladrey Institute of Accounting Education and Research, Institute for International Business, Judith R. Frank Business Communications Center, Small Business Development Center, Emmett J. Vaughan Institute for Risk Management and Insurance, and Tippie Business Solutions Center.

## Undergraduate Programs

The Tippie College of Business offers the Bachelor of Business Administration (B.B.A.) with majors in accounting, economics, finance, management, management information systems, and marketing, and it collaborates with the College of Liberal Arts and Sciences to offer an undergraduate major for Bachelor of Arts and Bachelor of Science students in economics; see the appropriate Tippie College of Business department sections in the Catalog for information about each major. The college also offers joint degrees with the College of Engineering and the College of Liberal Arts and Sciences; see "Joint Degrees" below.

The college offers the undergraduate Certificate in Entrepreneurial Management, Certificate in International Business, and Certificate in Risk Management and Insurance; see "Certificates" below. It collaborates with the College of Engineering to offer the Certificate in Technological Entrepreneurship, and the John Pappajohn Entrepreneurial Center collaborates with the College of Liberal Arts and Sciences to offer the Certificate in Performing Arts Entrepreneurship; see "Undergraduate Programs" in the College of Engineering section of the Catalog and Performing Arts Entrepreneurship in the College of Liberal Arts and Sciences section.

B.B.A. students may earn minors in disciplines outside the Tippie College of Business, and the college offers a minor in business administration for non-business students; see "Minors" below.

### Undergraduate Advising

All business students are advised at the Undergraduate Program Office in the Tippie College of Business. Pre-business students are advised at the University's Academic Advising Center or the college's Undergraduate Program Office. Assignment to the Undergraduate Program Office for advising depends on a student's grade-point average, completion of calculus and statistics, and/or the number of semester hours completed. Walk-in hours and scheduled appointments are available at both offices. For more information on advising, contact the college's Undergraduate Program Office or the UI Academic Advising Center.

### Honor Code

Integrity and honesty are essential to success in all facets of life. The purpose of the Tippie College of Business Honor Code is to promote honorable and ethical behavior. Students admitted to the college are required to uphold the honor code.

### Bachelor of Business Administration

The Bachelor of Business Administration requires a minimum of 120 s.h. of credit, including at least 48 s.h. earned in business courses and at least 60 s.h. earned in nonbusiness courses.

B.B.A. students must earn 30 s.h. in residence following admission to the Tippie College of Business. At least 24 s.h. in courses offered by the business college and at least two-thirds of the semester hours in the student's major must be earned at The University of Iowa. Nonresident instruction includes course work at colleges and universities other than The University of Iowa.

To graduate, B.B.A. students must have a cumulative g.p.a. of at least 2.00 in all college course work attempted, all college course work attempted in business, all college course work attempted in the major, all course work attempted

at The University of Iowa, all business course work attempted at The University of Iowa, and all course work in the major attempted at The University of Iowa.

### **Common B.B.A. Requirements**

B.B.A. candidates must satisfy the following minimum common requirements or approved equivalents. For approved equivalents, consult the college's Undergraduate Program Office.

#### **GENERAL EDUCATION REQUIREMENTS**

Students may not count courses taken to fulfill General Education Program requirements toward other requirements for the B.B.A.

08G:001 The Interpretation of Literature	3 s.h.
Rhetoric	4 s.h.
Natural sciences	3 s.h.
Historical perspectives	3 s.h.
Global and cultural studies	3 s.h.
Humanities	3 s.h.
Social sciences (excluding 06E:001 and 06E:002)	3 s.h.

#### **PREREQUISITES TO THE BUSINESS CORE**

06A:001 Introduction to Financial Accounting	3 s.h.
06A:002 Managerial Accounting	3 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

#### **BUSINESS CORE**

06B:100 Business Communication and Protocol	3 s.h.
06E:071 Statistics for Strategy Problems	3 s.h.
06F:100 Introductory Financial Management	3 s.h.
06J:047 Introduction to Law	3 s.h.
06J:048 Introduction to Management	3 s.h.
06K:070 Computer Analysis	3 s.h.
06K:100 Operations Management	3 s.h.
06M:100 Introduction to Marketing Strategy	3 s.h.

#### **MAJOR STUDY AREA**

All B.B.A. students must complete a major area of study. The college offers majors in accounting, economics, finance, management, management information systems, and marketing. The requirements for each major are established by the college's individual departments; see the Catalog's Tippie College of Business department sections.

### **Students with Associate of Arts Degrees**

Students who receive an Associate of Arts (A.A.) from community colleges participating in the Iowa Community College/Regents Articulation Agreement are considered to have met all high school unit requirements, General Education Program requirements in rhetoric, interpretation of literature, natural sciences, social sciences, historical perspectives, and humanities, but not the global and cultural studies requirements. The program of study for which the student was awarded the A.A. must have included:

a minimum of 60 s.h. (or 90 quarter hours) of credit acceptable toward graduation from The University of Iowa (mathematics courses comparable to 22M:001 Basic Algebra I and 22M:003 Basic Geometry, and are not accepted toward graduation);

completion of the agreed-upon group of courses at the community college; and

a g.p.a. of at least 2.00.

However, completion of an Associate of Arts does not guarantee admission to the Tippie College of Business. See "Admission to the B.B.A." later in this section for a complete list of admission requirements.

Students who use the provisions of the articulation agreement are granted a maximum of 60 s.h. of transferable credit from two-year colleges toward the 120 s.h. required for a B.B.A. Credit earned for the A.A. beyond the 60 s.h. transferable maximum is used in computing the student's grade-point average, and it may be used to satisfy course requirements, but it does not count toward the B.B.A. Transfer credit for business courses taken during the first and second years is counted toward the B.B.A. only if such courses are usually offered as lower-division courses at The University of Iowa.

### Transfer Courses

Students who have taken courses at another institution that are similar to those approved for the common business requirements at Iowa may request that these courses be evaluated for transfer credit. Students who transfer fewer hours than needed to meet a common business requirement may use only approved courses to complete the remainder of the requirement. Only third- and fourth-year-level courses taken at accredited four-year institutions may be used to satisfy common business course requirements numbered 100 and above. Students must complete a minimum of 24 s.h. and at least two-thirds of the course work in the major at The University of Iowa and must meet the 30 s.h. residency requirement of the Tippie College of Business. Guided Independent Study may be counted toward all requirements for graduation, subject to approval by the student's major department.

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Note: The following checkpoints are designed for students who enter the University as first-year pre-business or business students. In order to stay on the plan, students must maintain the grade-point averages required for guaranteed admission to the Tippie College of Business and must apply for admission to the college by the established deadline. The Four-Year Graduation Plan is not available to students who choose to pursue a double major in the college or students who are in a combined degree program.

Students must take 06B:100 Business Communication and Protocol during their first year after admission to the Tippie College of Business, except direct admission students, who take the course during their second year.

**Before the third semester begins:** 06E:001 Principles of Microeconomics or 06E:002 Principles of Macroeconomics, 22M:017 Calculus and Matrix Algebra for Business, and 22S:008 Statistics for Business, or equivalents; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 06A:001 Introduction to Financial Accounting, 06A:002 Managerial Accounting, and 06E:001 Principles of Microeconomics or 06E:002 Principles of Macroeconomics (whichever has not already been taken), or equivalents; all General Education requirements; and at least half of the semester hours required for graduation

**Before the seventh semester begins:** business core requirements, approximately half of the course work in the major (varies by major), and three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** approximately three-quarters of course work in the major (varies by major)

**During the eighth semester:** all remaining course work in the major, and a sufficient number of semester hours to graduate

### Honors Program

The Tippie College of Business Honors Program offers outstanding students the opportunity to undertake independent study and to work closely with faculty members and other honors students. To graduate with honors, students must complete 06B:194 Honors Seminar and 06B:195 Honors Thesis in Business. They take the honors seminar in spring of their third year or fall of their fourth year. They complete the honors thesis the following semester.

Students must have a g.p.a. of at least 3.50 to enter the Tippie Honors Program. To earn the B.B.A. with honors, students must successfully complete all college and honors program requirements with a g.p.a. of at least 3.50 in all courses taken at Iowa, all business courses taken at Iowa, all courses taken (including transfer courses), and all business courses taken (including transfer courses).

Pre-business students interested in the honors program are encouraged to participate in the University of Iowa Honors Program until they are admitted to the business college.



## **Double Majors in Business**

Students may earn a double major by meeting the requirements of more than one major in the Tippie College of Business. They receive one B.B.A. with two majors. The Four-Year Graduation Plan is not available to students pursuing a double major.

Students may declare only one major when they apply to the college, but they may add a second major on the first day of classes during their first semester or session after admission to the college, or any time after that. Students may declare a maximum of two programs (programs include majors, certificates, and minors). Students who have officially declared double majors have access to degree evaluations for both majors. They also have access to both sets of major courses, with some limitations, during early registration. Students may not change majors in order to have priority registration for more than two majors at one time. A student must be in good academic standing in order to declare a second major. See Double Majors--Policies and Procedures.

## **Joint Degrees**

### **Joint B.B.A./Liberal Arts and Sciences Degree**

The Tippie College of Business and the College of Liberal Arts and Sciences offer a joint degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business; and a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.) from the College of Liberal Arts and Sciences.

All students in a joint program must complete requirements for both degrees, including all General Education requirements.

The second-grade option is not available to all students in joint degree programs. Students should consult with their advisors before pursuing a second-grade option.

Joint degree students are assigned two advisors, one in the Tippie College of Business Undergraduate Program Office, the other in their major in the College of Liberal Arts and Sciences.

To enter a joint degree program, students must have approval from the Tippie College of Business and must be admitted to both colleges. Interested students should see an advisor in the college's Undergraduate Program Office.

To learn about liberal arts and sciences majors, visit College of Liberal Arts and Sciences in the Catalog and select majors from the college index.

### **Joint B.B.A./B.S.E.**

The Tippie College of Business and the College of Engineering offer a joint degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Science in Engineering (B.S.E.) from the College of Engineering.

Students in the joint program must complete all requirements for both degrees, including all General Education requirements. They must enroll in appropriate mathematics and engineering courses early in their course of study in order to complete the program in a timely way. Because courses in natural sciences, mathematics, humanities, and social sciences count toward the B.B.A. and the B.S.E., students may count a single course toward both degrees.

B.B.A./B.S.E. students usually meet the degree requirements of both colleges in about five years; time required depends on the student's choice of major study areas.

The second-grade option is not available for all students in joint degree programs. Students should consult with their advisors before pursuing a second-grade option.

Students are assigned two advisors, one in the Tippie College of Business Undergraduate Program Office, the other in their College of Engineering major department.

To enter the joint degree program, students must have approval from the Tippie College of Business and must be admitted to both colleges. Interested students should see an advisor in the college's Undergraduate Program Office.

For information about the B.S.E., including degree requirements, see Bachelor of Science in Engineering (College of Engineering) in the Catalog.

## **Minors**

### **Minors for Business Students**

Undergraduate students in the Tippie College of Business may earn a minor in another University of Iowa college. For example, students interested in international business might choose a foreign language as a minor. For the minor requirements, students should consult with an advisor in the appropriate department. Students may declare a minor on

ISIS. To have the minor recorded on their transcripts, students must complete the "minor" section on the B.B.A. Application for Degree before submitting the form to the Office of the Registrar early in their final semester, or when they apply for the degree using ISIS.

### **Minor in Business Administration (for Non-business Students)**

The minor in business administration requires 37 s.h., including at least 12 s.h. taken in the Tippie College of Business. The minor is open to UI undergraduates who are not majoring in business, except interdepartmental studies majors in the business studies track. Students must maintain a g.p.a. of at least 2.00 in the minor overall and in all courses in the minor taken at The University of Iowa. Course work in the minor may not be taken pass/nonpass.

The following courses, or their equivalents, satisfy all requirements for the minor. Please refer to ISIS for a current list of prerequisites.

22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.
06A:001 Introduction to Financial Accounting	3 s.h.
06A:002 Managerial Accounting	3 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.
06F:100 Introductory Financial Management	3 s.h.
06J:047 Introduction to Law	3 s.h.
06J:048 Introduction to Management	3 s.h.
06K:070 Computer Analysis	3 s.h.
06M:100 Introduction to Marketing Strategy	3 s.h.

For a list of approved substitutions and additional details about the minor, see Business Minor on the Tippie College of Business web site.

Students who will have completed all requirements for the minor when they graduate should indicate a business administration minor on the Application for Degree before they submit the form to the registrar's office early in their final semester, or when they apply for the degree using ISIS.

### **Certificates**

The Tippie College of Business is a partner in offering several certificate programs for University of Iowa undergraduate students. Together with the John Pappajohn Entrepreneurial Center, it offers the Certificate in Entrepreneurial Management, and it collaborates with the College of Engineering to offer the Certificate in Technological Entrepreneurship; see Entrepreneurship in the Catalog.

The Department of Finance and the Emmett J. Vaughan Institute of Risk Management and Insurance offer the Certificate in Risk Management and Insurance; see Risk Management and Insurance in the Catalog.

The Tippie College of Business and the College of Liberal Arts and Sciences (CLAS) offer the Certificate in International Business; see International Business in the Catalog. The John Pappajohn Entrepreneurial Center also collaborates with CLAS to offer a certificate; see Performing Arts Entrepreneurship (College of Liberal Arts and Sciences) in the Catalog.

### **Admission to the B.B.A.**

The Tippie College of Business offers three paths to admission: direct admission, accelerated admission, and standard admission. All students admitted to the College of Business must follow the Tippie College of Business Honor Code. Students who meet the grade-point average requirement may be denied admission upon evidence of postsecondary academic misconduct or other violations of the honor code. Students are required to meet with the associate dean, undergraduate program, to discuss incidents of academic misconduct.

Admission standards are set by the Undergraduate Program Committee. All admission appeals are reviewed by the Undergraduate Program Office. Prospective students must submit acceptance of admission offers and all transcripts showing course work that satisfies the Tippie College of Business admission requirements to the University's Office of Admissions by the 10th day of classes. Letters of recommendation are not accepted. For more information about application and admission, contact the Undergraduate Program Office.

#### **Direct Admission**

Direct admission is designed to enable highly qualified high school students to enter the college directly after high school. Applicants must have a composite ACT score of 27 or higher and a high school g.p.a. of 3.70 or higher to qualify; see Admission Policies on the Tippie College of Business web site for information about admission

requirements.

Entering first-year students may petition for direct admission to the Tippie College of Business if they meet either the direct admission criterion of an ACT composite score of 27 or higher (SAT critical reading and math score of 1210 or higher) or a high school grade-point average of at least 3.70 (on a 4.00 scale). Petitions are accepted through August 1. For more information, see the Petition for Direct Admission form.

In order to declare a major in accounting, students must have a University of Iowa g.p.a. and a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 2.75 and no grade below C on all prerequisites; and a 2.67 (B-minus average) in 06A:001 Introduction to Financial Accounting and 06A:002 Managerial Accounting.

Students who receive direct admission to the college are eligible to apply to the Tippie Scholars Program. Admission is highly competitive and is based on high school record and an application essay. Application deadline is February 1. The Tippie Scholars Program provides a scholarship, specialized programming, a dedicated advisor, a first-year seminar offered by the Tippie College of Business, and priority registration. Tippie scholars must maintain a University of Iowa g.p.a. of at least 3.33 each semester to remain in the program.

### **Accelerated Admission**

Accelerated Admission is available for students admitted to The University of Iowa for fall 2007 or later who have earned 59 s.h. of credit or less; have been enrolled at the University for at least one semester; have earned at least 12 s.h. of University of Iowa credit; and have completed the calculus and statistics prerequisites to the B.B.A. business core and one of the economics prerequisites (or their equivalents) with no grade below C in any completed prerequisite course. The six prerequisite courses are listed under "Common B.B.A. Requirements"; see Bachelor of Business Administration above.

Students must have a University of Iowa cumulative g.p.a. of at least 2.75. They also must have a g.p.a. of at least 2.75 in their completed prerequisites for admission to the college; all prerequisites for admission to the college that the student has taken are used in calculating the prerequisite grade-point average.

Students who do not meet the admission criteria for accelerated admission may apply for standard admission; there is no petition process for accelerated admission.

In order to declare a major in accounting, students must have a University of Iowa g.p.a. and a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 2.75 and no grade below C on all prerequisites; and a 2.67 (B-minus average) in 06A:001 Introduction to Financial Accounting and 06A:002 Managerial Accounting.

### **Standard Admission**

Standard Admission is guaranteed to students who have earned 60 s.h.; have a g.p.a. of at least 2.75 on all college course work and on all University of Iowa course work; and have completed the six prerequisites to the B.B.A. business core with a prerequisite g.p.a. of at least 2.75 and no grade below C on any of the prerequisites. The six prerequisite courses are listed under "Common B.B.A. Requirements"; see Bachelor of Business Administration above.

Admission to the accounting major is guaranteed only to applicants who have a University of Iowa g.p.a. and cumulative g.p.a. of at least 3.00; a g.p.a. of at least 2.75 and no grade below C on all prerequisites; and a 2.67 (B-minus average) in 06A:001 Introduction to Financial Accounting and 06A:002 Managerial Accounting.

Applications for standard admission must be submitted online at Admissions on the Tippie College of Business web site. Application deadlines are April 1 for summer and fall admission and November 1 for spring admission. Applicants may not be admitted for the three-week winter session. Applicants transferring from another university are not held to the application deadlines; they may apply at any time. Applicants who do not meet the criteria for guaranteed admission may still apply to the college. Students denied admission may file an [Appeal for Denial of Admission to Business](#). Grades from winter session courses may not be used for consideration for admission in the immediate spring session, and grades from three-week summer session courses may not be used for consideration for admission in the immediate summer session.

### **Nondegree Admission**

Students visiting from another institution who wish to enroll in undergraduate courses to earn credit that they can transfer to their home institution may be granted admission as undergraduate nondegree students. Nondegree students are not guaranteed access to specific courses; they must have the approval of the undergraduate program director in the Tippie College of Business and may earn no more than 9 s.h. on nondegree status.

### **Reentry**

Reentry to the Tippie College of Business after an absence from the University follows this policy.

**Students absent 12 months or more, in good standing:** These students must apply to the University's Office of Admissions for reentry and must contact the Tippie College of Business Undergraduate Program Office for advising before they register. Good standing is defined as not on probation or dismissed for any reason.

**Students absent 12 months or more, not in good standing:** These students must file a petition for reinstatement with the Tippie College of Business Undergraduate Program Office. If the petition is approved, the student must file an application with the University's Office of Admissions (the Undergraduate Program Office notifies the Office of Admissions about the approval). The student must schedule an appointment with an advisor in the Undergraduate Program Office for advising before he or she may register. Not in good standing is defined as being on probation or being dismissed from the Tippie College of Business due to unsatisfactory scholarship, academic misconduct at The University of Iowa or at another institution, or a violation of the Tippie College of Business Honor Code. Students who have been dismissed officially follow the procedures for reinstatement.

**Students absent less than 12 months, in good standing:** These students are not required to file an application for reentry; they should contact the Tippie College of Business Undergraduate Program Office for advising before they register. Their reentry is approved regardless of any changes in admission requirements during their absence.

**Students absent less than 12 months, not in good standing:** These students must consult an advisor in the Tippie College of Business Undergraduate Program Office; they may be readmitted on probation. They are not required to file an application for reentry; they must contact the Undergraduate Program Office for advising before they register. Their reentry is approved regardless of any changes in admission requirements during their absence. Not in good standing is defined as being on probation or being dismissed from the Tippie College of Business due to unsatisfactory scholarship, academic misconduct at The University of Iowa or at another institution, or a violation of the Tippie College of Business Honor Code. Students who have been dismissed officially follow the procedures for reinstatement.

**All returning students:** Students who have been enrolled in another college or university since leaving The University of Iowa are required to submit official transcripts along with their application for reentry. Completed application materials must be received at least two weeks before the opening of classes. Students may be approved to reenter with direct or accelerated admission status. Students are held to the General Catalog requirements that were in effect at the time of their reentry.

## **Academic Rules and Procedures**

### **Academic Recognition**

#### **DEAN'S LIST**

Students in the undergraduate Tippie College of Business, Colleges of Engineering, Liberal Arts and Sciences, and Nursing, and undergraduate programs in the Carver College of Medicine who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work (including Guided Independent Study courses) during a semester (or summer session) and who have no hours of I (incomplete) or O (no grade reported) for that enrollment are recognized by inclusion on the Dean's List for that semester (or session).

#### **PRESIDENT'S LIST**

University of Iowa undergraduate students who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded course work (including Guided Independent Study courses) and who have no hours of I (incomplete) or O (no grade reported) for two consecutive semesters (including summer session) are recognized by inclusion on the President's List.

### **GRADUATION WITH HONORS**

Graduation with honors recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the student's major. To graduate with honors, students must maintain a cumulative, University of Iowa, business, and UI business g.p.a. of 3.50 and must successfully complete an honors project under the supervision of a faculty member. See "Honors Program" under Bachelor of Business Administration.

### **GRADUATION WITH DISTINCTION**

Graduation with distinction recognizes high scholastic achievement based on grades. The Office of the Registrar certifies to the Tippie College of Business associate dean the names of students eligible to graduate with distinction. The college awards degrees "with highest distinction" to students in the highest two percent of the graduating class, "with high distinction" to students in the next highest three percent, and "with distinction" to the next highest five percent. Ranking is based on students' grade-point averages for all college-level study undertaken before their final registration.

To be eligible to be considered for graduation with distinction, a student must complete 60 s.h. in residence as an undergraduate at The University of Iowa; 45 s.h. of that must be completed before the final registration.

## **Credit and Grading**

### **CREDIT BY EXAMINATION**

Students may earn up to 30 s.h. of credit by examination by taking selected tests from the College-Level Examination Program (CLEP) and the Advanced Placement (AP) program of the College Board. For information on the CLEP and AP examinations, contact the University's Evaluation and Examination Service. The Tippie College of Business Undergraduate Program Office has information on scores, credit, and course duplicates for all Advanced Placement and CLEP tests accepted by the college.

### **MAXIMUM SCHEDULE**

During early registration, students admitted to the Tippie College of Business may register for a maximum of 16 s.h. Course schedules that exceed 16 s.h. require approval from the Undergraduate Program Office. After early registration, students may register for a maximum of 18 s.h. Course schedules of more than 18 s.h. for a fall or spring semester, 9 s.h. for the six- or eight-week summer session, or 3 s.h. for the three-week session require approval from the Undergraduate Program Office.

### **ADDING AND DROPPING COURSES**

Students may drop courses, except College of Law courses, any time before the deadline published in the University's academic deadline calendar. Deadlines are different for regular and off-cycle courses. See Academic Deadlines for The University of Iowa on the Office of the Registrar web site (<http://www.registrar.uiowa.edu>).

Students must obtain approval from the college that offers the course in order to request permission to add or drop a course after these deadlines.

### **ADMINISTRATIVE DROPS FOR LACK OF PREREQUISITES**

Students are responsible for making sure that they have satisfied all prerequisites for any course for which they register. Instructors and departments also have the option to drop a student from a course if the student has not satisfied the required prerequisites. Administrative drops must be processed by the first eight calendar days of the semester; the first two calendar days of the winter session, the three-week summer session, or the start of an off-cycle course; or the first four days of the six- or eight-week summer session. Administrative drops are made without assignment of a W (withdrawn). Students who are dropped from courses are notified. Students should not assume that they have been dropped from a course because they do not have the prerequisites.

### **ADMINISTRATIVE DROPS FOR NONATTENDANCE**

Instructors have the option to drop a student who has missed the first two class periods of a course, unless the student has offered an acceptable reason for beginning the course late. Administrative drops must be processed by the first eight calendar days of the semester; the first two calendar days of the winter session, the three-week summer session, or the start of an off-cycle course. These administrative drops are made without assignment of a W (withdrawn). Students who are dropped from courses are notified. Students should not assume that they have been dropped from a course because they have not attended it.

### **PASS/NONPASS**

Up to 15 s.h. of course work required for the B.B.A. may be taken pass/nonpass with the consent of an advisor and the instructor. Students must be in good academic standing to be eligible for the pass/nonpass option. A maximum of two pass/nonpass courses may be taken in one semester. Courses taken pass/nonpass may not be used to satisfy general education, core, or major business requirements. (Major business requirements include any course that fulfills a major course requirement or is offered by the major department.) Pass/nonpass registration must be completed during the first 10 days of a fall or spring semester or the first one-and-one-half weeks of a summer session, and it requires the approval of the advisor and the instructor. For courses taken pass/nonpass, an earned grade of C-minus or higher is recorded as a P; an earned grade of D-plus or lower is recorded as an N. Pass/nonpass credit is not included in grade-point-average calculations.

### **SATISFACTORY/FAIL, SATISFACTORY/UNSATISFACTORY**

Certain courses are offered satisfactory/fail (S/F) or satisfactory/unsatisfactory (S/U). All students registered for these courses receive one of these marks.

Special forms are not necessary to register for S/F or S/U courses, since all students enrolled in such courses automatically receive an S, an F, or a U.

Semester hours of S or U graded course work are not used in computing grade-point averages, but hours of F graded course work are used.

Semester hours of S graded course work are counted as semester hours earned toward graduation; semester hours of F or U graded course work do not count as semester hours earned toward graduation.

A maximum of 15 s.h. of S credit from The University of Iowa is accepted toward a bachelor's degree.

## **SECOND-GRADE-ONLY OPTION**

The second-grade-only option is not available to third- and fourth-year students in the Tippie College of Business, including those in joint degree programs. Students in the direct and accelerated admission programs are eligible to apply for the second-grade-only option during their first two years of enrollment; they must follow the second-grade-only grading rules established by the College of Liberal Arts and Sciences. See the CLAS Academic Handbook or visit the College of Liberal Arts and Sciences web site.

Pre-business majors admitted to the College of Liberal Arts and Sciences must follow the rules established by that college.

Business majors (students admitted to the Tippie College of Business) may use the second-grade-only option for any course except Tippie College of Business courses numbered 101 or above; business courses include those with prefix 06A, 06B, 06E, 06F, 06J, 06K, 06M, or 06T. This policy was effective as of summer 2010 and is retroactive, so students who repeated a course before then may be eligible to file for a second-grade-only option. Contact the Undergraduate Program Office for more information.

Business students may apply the option to a maximum of three different courses while they are enrolled at The University of Iowa; any second-grade-only option used before the student entered the Tippie College of Business counts as one of the three second-grade-only options allowed. The option may be used only once per course; once the option is placed on the record, it may not be retracted.

Courses taken at other colleges or universities may not be repeated at The University of Iowa under the second-grade-only option. University of Iowa courses may not be repeated at other institutions under the second-grade-only option.

If the course was taken for a grade the first time, it must be taken for a grade the second time. If the course was taken pass/nonpass the first time, the student may take it either pass/nonpass or for a grade the second time.

Any University of Iowa course taken in any mode of delivery (e.g., during a regular semester, summer session, or intensive session, or through distance learning and the Division of Continuing Education) may be repeated in the same delivery mode or in any other delivery mode.

The second-grade-only option may not be used by a student who has been awarded a degree from The University of Iowa for a course the student took before the degree was awarded.

Graduate or professional colleges may recalculate grade-point averages using all grades visible on the permanent record.

Business students must register as usual for the course that is to be repeated. After the beginning of the session in which the course is being repeated, students must request the second-grade-only option by contacting their assigned Undergraduate Program Office advisor.

The Office of the Registrar marks the permanent record with a pound symbol (#) to show that the first grade has been replaced by the second grade in the grade-point-average calculations and to show that only the hours from the second registration have been counted as hours earned.

## **INCOMPLETE GRADES**

Instructors may report a mark of I (incomplete) only if the unfinished part of the student's work in a course other than research, thesis, or independent study is small; if the work is unfinished for reasons acceptable to the instructor; and if the student's standing in the course is satisfactory.

Students should not re-enroll in a course for which they have an incomplete. Incomplete grades must be removed by completing the unfinished part of the work. Faculty and students are encouraged to state clearly in a written agreement how the incomplete is to be completed. Both the faculty member and the student should keep a record of the written agreement.

Failure to remove the incomplete before the end of the next full semester, excluding summer and winter sessions, results in replacement of the I with a grade of F, regardless of whether the student is enrolled during that semester. A grade change may be submitted to convert a grade of F to another letter grade, with the instructor's approval.

**GUIDED INDEPENDENT STUDY**

University of Iowa Guided Independent Study is counted as resident credit and may be applied to all requirements for graduation, subject to approval by the student's major department. Guided Independent Study courses can be taken any semester, up to four courses at a time.

Students eligible for the second-grade-only option may retake the course through Guided Independent Study for the second-grade-only option. Likewise, students eligible for the second-grade-only option in a Guided Independent Study course may retake the course on campus for the second-grade-only option.

**PROBATION AND DISMISSAL**

Students are placed on academic probation when their grade-point average in any of the following categories falls below 2.00: all course work taken, all course work taken at The University of Iowa, all business course work taken, all business course work taken at The University of Iowa, all course work taken to satisfy requirements for the major(s), and all course work taken at The University of Iowa to satisfy requirements for the major(s). In probation decisions, a 3 s.h. minimum is used to calculate the grade-point average for all course work taken to satisfy requirements for the major(s), and all course work taken at The University of Iowa to satisfy requirements for the major(s).

When all of the above grade-point averages equal or surpass 2.00, students are removed from probation. Students usually are allowed only one session to return to good academic standing. They are required to meet with an academic advisor. Students on academic probation who withdraw registration after the deadline for dropping courses may be dismissed.

Students may be dismissed from the college at any time for unsatisfactory scholarship. While some probationary period usually precedes a dismissal, students in good academic standing who complete a term with extremely unsatisfactory grades may be placed on academic probation or dismissed immediately. Students dropped from the college for poor scholarship may petition for permission to reregister, but usually only after one year following the end of the term in which they were dismissed.

**REINSTATEMENT**

Students dismissed for unsatisfactory scholarship for the first time ordinarily are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Requests for reinstatement must be made in writing and should be addressed to the associate dean in the Undergraduate Program Office. Students seeking reinstatement must make an appointment with an advisor in the Undergraduate Program Office. Reinstatements are limited to one major and may include a limit on the number of semester hours the student may take upon reinstatement. Late requests are deferred to the following semester.

Students who are permitted to register following dismissal are registered on academic probation and ordinarily are allowed two semesters to achieve good standing. Very poor academic work in the first semester of a reinstatement may result in dismissal at the close of that semester.

**Returning for Baccalaureate Degrees****RETURNING FOR A SECOND BUSINESS MAJOR**

Graduates who have a B.B.A. from The University of Iowa and who are not enrolled in a graduate or professional program may complete the requirements for another business major except accounting (see "Reentry" earlier in this section). Those interested in pursuing a degree in accounting must be admitted to the Graduate College to earn the Master of Accountancy degree; see Accounting.

Students who return to The University of Iowa to complete another business major must meet the requirements for that major. It is their responsibility to notify the Office of the Registrar upon completion of the requirements for the second major so that a notation can be placed on their permanent record.

Students who hold a degree from another college or university may not complete a second business major at The University of Iowa. (see "Returning for an Additional Bachelor's Degree").

**RETURNING FOR AN ADDITIONAL BACHELOR'S DEGREE**

Students who hold a bachelor's degree from another college at The University of Iowa and who are not enrolled in a graduate or professional program may return for an additional bachelor's degree from the Tippie College of Business. They must satisfy all requirements for undergraduate admission to the business college. Once admitted, they must satisfy all requirements for the B.B.A. in their chosen major.

For information about pursuing an additional bachelor's degree in accounting, see "Accounting as a Second Degree" below.

#### **STUDENTS WITH BACCALAUREATES FROM OTHER INSTITUTIONS**

Students with a bachelor's degree from another college or university may apply for admission to The University of Iowa to earn an additional undergraduate degree from the Tippie College of Business. The requirements are the same as those listed under "Returning for an Additional Bachelor's Degree" above.

For information about pursuing an additional bachelor's degree in accounting, see "Accounting as a Second Degree" below.

#### **ACCOUNTING AS A SECOND DEGREE**

Graduates who have a non-business bachelor's degree, either from The University of Iowa or from another college or university, may in some cases be considered for admission to the Tippie College of Business to pursue a second undergraduate major in accounting. Individuals interested in earning a second degree with a major in accounting should contact the Department of Accounting to discuss the B.B.A. or Master of Accountancy (M.Ac.); see Accounting in the Catalog.

Students may not earn a second major in accounting if they already have a B.B.A. from The University of Iowa or any undergraduate business degree from another college or university.

## **Graduate Programs**

The Tippie College of Business offers two interdepartmental graduate programs: Master of Business Administration (M.B.A.) and Doctor of Philosophy (Ph.D.) in business administration. M.B.A. candidates may pursue a second graduate degree in another college. See "Doctor of Philosophy" below and the Master of Business Administration Program section of the Catalog.

The Master of Arts in business administration is a nonthesis degree awarded only to students who begin the Ph.D. program and decide not to continue. Incoming students may not elect to pursue an M.A.

### **Doctor of Philosophy**

The Doctor of Philosophy in business administration requires a minimum of 72 s.h., including accepted transfer credit. The program prepares students for research positions in business and government or for research and teaching positions at academic institutions. It is flexible, permitting students to choose a specialization area according to their interests. Course work and related experience enable students to achieve competence in economic theory, statistical methods, and behavioral science as well as expertise in a major and minor study area. Students also have opportunities to develop research and teaching skills.

Ph.D. course work consists of prerequisites (as necessary), the Ph.D. core, major and minor study areas, and dissertation research, described in brief below. For more detailed information about Ph.D. requirements, contact the individual Tippie College of Business departments, visit their web sites, or visit <http://www.biz.uiowa.edu/phd>.

#### **CORE COURSES**

Core courses develop research competence and provide background for specialized study. Doctoral students consult with their advisors to develop a study plan that reflects the individual students' background and interests and satisfies core requirements.

#### **MAJOR STUDY AREA**

At least 12 s.h. of approved doctoral-level courses must be completed in one of the following areas: accounting, finance, human resource management, management information systems, marketing, operations management, organizational behavior, or quantitative methods.

#### **MINOR STUDY AREA**

Students must complete a minimum of 9 s.h. of doctoral-level courses beyond the Ph.D. core course requirements in one of the major study areas listed above or in a concentration outside the Tippie College of Business.

#### **COMPREHENSIVE EXAMINATIONS**



Students must satisfactorily complete a comprehensive examination, consisting of written or oral parts or both, at the discretion of their major department.

## **DISSERTATION**

Students must present a dissertation proposal at a forum attended by dissertation committee members and open to interested faculty members and graduate students, as established by the student's major department. Researching and writing the dissertation typically require two years of full-time effort.

## **FINAL EXAMINATION**

Ph.D. candidates defend the dissertation in an oral examination attended by dissertation committee members and open to interested faculty members and graduate students.

## **Admission**

Applicants to the Ph.D. program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants must take the Graduate Record Examination (GRE) General Test or the Graduate Management Admission Test (GMAT) and have their scores sent to the University in order to be considered for admission. The Departments of Finance, Management and Organizations, Management Sciences, and Marketing accept test scores for either the GRE or GMAT. The Department of Accounting accepts only GMAT scores and the Department of Economics accepts only GRE scores. Required scores on these tests and their weight in admission decisions vary by department.

Applicants whose first language is not English must take the Test of English as a Foreign Language (TOEFL) and have their scores sent to the University.

Applicants must submit a completed Application for Graduate Admissions, official transcripts from all institutions attended, official test scores, and three letters of recommendation. Applications must be complete before admission decisions can be made.

Admission is for fall entry. Applications should be submitted as early as possible and no later than the following deadlines.

Accounting: January 15  
Economics: January 15  
Finance: January 15  
Management and Organizations: February 1  
Management Sciences: February 15  
Marketing: January 15

## **Other Graduate Programs**

The college offers the Master of Accountancy (M.Ac.) degree and a Ph.D. in economics; see Accounting and Economics in the Catalog.

## **Study Abroad**

The Consortium of Universities for International Studies (CUIS) offers semester and summer programs at Paderno del Grappa, Italy, for undergraduate students and at Asolo, Italy, for graduate students. Both campuses are located just northwest of Venice. Students and faculty in the programs come from 30-plus public universities in the United States that are CUIS member schools. The program's rigorous, high-quality courses are taught in English and emphasize current international events. Students are encouraged to study the Italian language and to participate in executive lectures, plant tours, and unique personal development opportunities.

## **Centers and Institutes**

### **Emmett J. Vaughan Institute of Risk Management and Insurance**

The Tippie College of Business, in partnership with the Iowa insurance industry, has established the Emmett J. Vaughan Institute of Risk Management and Insurance to provide innovative education and research in modern risk management and insurance.

The institute collaborates with the Department of Finance to offer the Certificate in Risk Management and Insurance. The certificate program provides undergraduate students with a foundation for careers in corporate risk management, risk management consulting, employee benefits management, insurance brokerage, underwriting, personal banking

and asset management, financial analysis, claims adjustment, and auditing. See Risk Management and Insurance in the Catalog.

### **Hawkinson Institute of Business Finance**

The Hawkinson Institute of Business Finance facilitates career opportunities in investment banking, sales and trading, and related areas for students in the Tippie College of Business. The institute sponsors the Hawkinson Scholars Program, which trains high-achieving undergraduates for interviews, internships, and full-time jobs in the financial services industry. Criteria for admission to the institute include a strong academic record, involvement in campus and community activities, high motivation, good interpersonal skills, and demonstrated interest in business, markets, and corporate finance.

Hawkinson scholars participate in a class that is taught by former investment bankers and that features guest speakers from investment banking, private equity, hedge funds, start-ups, and other sectors. Hawkinson scholars also receive intensive education in equity valuation, financial market dynamics, and more. An extensive network of dedicated Hawkinson alumni serve as mentors.

The Institute has worked to broaden entry-level employment opportunities for Iowa graduates, who land jobs at prestigious firms such as Goldman Sachs, Credit Suisse, Barclays, Merrill Lynch, JP Morgan, and UBS. Graduating Hawkinson scholars typically enjoy a placement rate of 100 percent.

The Hawkinson institute also supports research in the Department of Finance and participates in outreach to the financial services industry.

### **Institute for Economic Research**

The Institute for Economic Research responds to requests for information and analysis from the Department of Management, State of Iowa, with focus on the analysis and forecasting of economic conditions and state tax revenues. It also responds to requests for information and analysis from the Board of Regents, State of Iowa, with focus on the costs of higher education.

### **Institute for International Business**

The Institute for International Business is dedicated to the development and advancement of knowledge related to international business. The institute coordinates and augments resources at the Henry B. Tippie College of Business to provide students at all levels with the education, experience, and skills they will need for success in the global marketplace. The institute facilitates international internships, collaborates with departments in developing courses with international content, and assists programs in implementing short courses overseas.

### **Iowa Electronic Markets Institute**

The Iowa Electronic Markets Institute supports scholarship in prediction markets and experimental economics. It operates the Iowa Electronic Markets (IEM), online futures markets where contract payoffs are based on real-world events such as political outcomes, companies' earnings per share, and stock price returns. The Iowa Electronic Markets are known internationally as the genesis of modern prediction markets and are used as research and teaching tools.

### **John Pappajohn Entrepreneurial Center**

The John Pappajohn Entrepreneurial Center (JPEC) has developed a comprehensive, interdisciplinary program that combines advanced course work with experiential learning for University of Iowa students. The program prepares students to launch new ventures, manage growing companies, and apply entrepreneurship concepts in their careers.

The entrepreneurship curriculum incorporates experiential learning opportunities in which students apply their knowledge and skills in their own ventures or in emerging or growing Iowa companies. JPEC's Bedell Entrepreneurship Learning Laboratory is dedicated to student entrepreneurs pursuing the creation of new ventures. Students can also participate in a wide variety of extra-curricular programs such as business plan competitions, lecture series, conferences, workshops, a living-learning community, and the I-Envision student organization.

Undergraduate students in several University of Iowa colleges may earn the Certificate in Entrepreneurial Management (or a program-specific entrepreneurship certificate) in addition to their bachelor's degrees; see Entrepreneurship in the Catalog. Several advanced entrepreneurship courses are available to all graduate and professional students across campus and in the MBA PM program. See Master of Business Administration Program in the Catalog.

JPEC also offers the Certificate in Entrepreneurial Management through distance education. Participants may choose from a variety of course delivery options, including introductory course work offered through a collaboration with Iowa community colleges, online course work that incorporates regular interactive sessions with Iowa faculty and students, and local experiential learning projects. Students may earn the certificate alone or in conjunction with the Bachelor of Applied Studies or the Bachelor of Liberal Studies.

The center offers several programs for entrepreneurial businesses and individuals, including student field study projects, training, consulting, seminars, and conferences. In partnership with the Jacobson Institute for Youth Entrepreneurship, it provides training and a specialized curriculum to Iowa high school teachers to foster the development of innovative, creative, and entrepreneurial young Iowans. JPEC also partners with Iowa community colleges to deliver entrepreneurship training statewide.

### **Judith R. Frank Business Communications Center**

The Judith R. Frank Business Communications Center provides one-on-one tutoring to Tippie College of Business undergraduates for writing assignments, projects, and case studies. The center's staff includes graduate students with expertise in writing and undergraduate peer tutors who have completed a semester-long peer tutor training course. Communication consultants are available on staff to help students with speech presentations or other oral communication assignments.

The center's course-dedicated consulting program helps faculty and students plan and prepare for required writing projects. Center staff work closely with faculty to study assignment requirements, develop handouts and assessment rubrics, and deliver class or workshop presentations to students on how to meet the expectations of the assignment. They also provide ongoing training and mentoring to the center's undergraduate peer tutors.

The Frank Business Communications Center oversees the B.B.A. core course 06B:100 Business Communication and Protocol; the peer tutor training courses 06B:130 Business Communication Internship I and 06B:131 Business Communication Internship II; and the electives 06B:140 Business Writing and 06B:110 Business Presentations Workshop. In addition, the center's staff adjudicates the annual Mary Thomas Prappas Business Ethics Essay Competition and helps prepare Tippie College of Business undergraduates for national case competitions.

### **Pomerantz Career Center**

Career development and on-campus recruiting services are provided by the Marvin A. and Rose Lee Pomerantz Career Center. The center's career advisors and online resources provide University undergraduate students and alumni with help on résumés, cover letters, career choice, internship and job searches, employer research, interviewing skills, negotiation of job offers, and more. The center also presents several fall and spring semester career fairs. Campus recruitment is facilitated through web-based software, and on-campus interviews occur throughout the year for full-time internship positions as well as mock interviews. The center also offers career-related courses and a career leadership academy. Contact the Pomerantz Career Center for more information.

### **RSM McGladrey Institute of Accounting Education and Research**

The RSM McGladrey Institute of Accounting Education and Research fosters educational excellence in accounting at The University of Iowa and encourages high-quality research by Iowa accounting faculty members. The institute sponsors varied educational initiatives and activities, including an annual national speaker series and the biennial Sidney Winter Lecture Series. It helps faculty members initiate and carry out research projects, as well as to disseminate the findings to the academic, business, government, and professional accounting communities.

### **Small Business Development Center**

Since 1981, The University of Iowa Small Business Development Center has played an important role in helping enterprising Iowans manage or start their own successful businesses. The center provides support for small business owners and entrepreneurs. Its personnel are trained to meet the varied needs of small business management, including market, business, financial, and human resource planning; cash flow analysis; product commercialization; market research and analysis; strategic planning; international trade; and advertising and public relations.

### **Tippie Business Solutions Center**

The Tippie Business Solutions Center provides the opportunity for MBA students to engage in strategic consulting projects with companies. The firms involved range from mid-sized Iowa based companies to fortune 500 companies. The center brings together diverse teams possessing a variety of skills, knowledge, and experience. They apply rigorous business tools and techniques in order to research circumstances surrounding a business problem for a real-world client. Students meet with representatives from the client company, analyze the situation, and present recommendations.

## **Facilities and Resources**

The Henry B. Tippie College of Business is located in the John Pappajohn Business Building, at the heart of the campus. The Pappajohn Business Building contains seminar and conference rooms, a computer laboratory, two auditoriums, three computer classrooms, a behavioral laboratory, a restaurant (Pat's Diner), the Marvin A. Pomerantz Business Library, and a variety of classroom facilities.

The computer laboratory in the John Pappajohn Business Building serves the instructional programs of the college,

and the staff maintains a current library of computational programs, CD-ROMs, and data tapes to accommodate users' needs. Business students also have access to the full range of services offered by the University's Information Technology Services and the extensive research materials and other resources of the University of Iowa Libraries.

## Alumni Relations

Relationships with alumni are maintained by staff in the Undergraduate Program Office and the Tippie School of Management Office and by the college's assistant director of alumni engagement. The college circulates its magazine, *B@I* (Business at Iowa), to individuals who support the college, and each semester it hosts alumni events ranging from individual visits to receptions on campus and in cities nationwide and worldwide. Members of the Business Student Ambassadors, an undergraduate student organization, serve as hosts and guides for alumni who visit the college. The Young Alumni Board works to strengthen ties between the college and younger alumni.

## Interdepartmental Undergraduate Courses

- 06B:010 Tippie Scholars Seminar** 1-3 s.h.  
Introduction to majors and academic departments, research opportunities, and professional enrichment activities in the Tippie College of Business. Requirements: enrollment in Tippie Scholars Program.
- 06B:020 Tippie College Direct Admit Seminar** 1 s.h.  
Facilitates a successful transition to college; Tippie college traditions and expectations, academic and personal success skills; majors and academic opportunities; advisor and advisee responsibilities; campus resources; career exploration skills; ethics; team and group work; multicultural and global society existence. Requirements: admitted to the direct admission program.
- 06B:030 Diversity Awareness for Business** 1-3 s.h.  
Opportunity to develop awareness and appreciation of multiculturalism and diversity; importance of diversity in the workplace; development of skills for working in a diverse environment; development of cultural competencies through classroom activities, discussions, group projects, readings, and personal reflections.
- 06B:040 Academic Leadership Seminar** 1 s.h.  
Orientation to service learning; service learning project, professional enrichment activities, academic skill enhancement; for students living on the Business and Entrepreneurship Living-Learning Community Floor.
- 06B:050 Competitive Intelligence Resources** 1 s.h.  
Search concepts and sources specific to business information; print, CD-ROM, online search services, the Internet.
- 06B:060 Tippie Senate** 1 s.h.  
For elected student representatives on the Tippie Senate.
- 06B:080 Business Student Ambassador Seminar** 1 s.h.  
Experiences as a Business Student Ambassador providing tours of the John Pappajohn Building, acting as hosts at college functions, providing information and assistance to visiting groups, assisting student recruitment activities. Requirements: admission to Tippie College of Business and acceptance as a Business Student Ambassador.
- 06B:090 International Perspectives Program Seminar** 1-3 s.h.  
Requirements of the International Perspectives Program; planning for business and foreign language majors, study abroad, academics, and career goals; exploration of international business, current world and business events. Requirements: admission to the International Perspectives Program.
- 06B:100 Business Communication and Protocol** 3 s.h.  
Foundation in business communication and protocol; composing business messages, organizing and reporting workplace data, developing business presentation and team-building skills, exploring issues pertaining to business ethics and professional behavior. Requirements: admission to Tippie College of Business and 30 s.h. earned.
- 06B:101 Topics in Business** arr.
- 06B:110 Business Presentations Workshop** arr.

Effective business presentation skills and practice for professional speaking engagements; mastering subject content, planning effective presentations for specific audiences, clarifying communication goals, and gaining speaker confidence; effective integration of presentation technologies; evaluation of other speakers; speaking clearly, using gestures appropriately; audience engagement during speech and question and answer sessions. Requirements: business major.

**06B:115 Technical and Professional Editing**

1-3 s.h.

Introduction to editorial skills required for production of high-quality professional and technical documents; hands-on workshop.

**06B:130 Business Communication Internship I**

arr.

Opportunity for students to earn academic credit for serving as a peer tutor, an orientation and training assistant, or an administrative intern in the Judith R. Frank Business Communications Center. Repeatable.

**06B:131 Business Communication Internship II**

3 s.h.

Continuation of 06B:130; opportunity for students to earn academic credit for serving as a peer tutor, an orientation and training assistant, or an administrative intern in the Judith R. Frank Business Communications Center. Prerequisites: 06B:130.

**06B:140 Business Writing**

3 s.h.

Development of communication and analytical skills; cover letter and résumé preparation, interviewing techniques, editing and proofreading, research, presentations, entrepreneurship, creative problem solving; group business plan presentation, individual written business plan.

**06B:187 Global Business Perspectives**

3 s.h.

Classroom component of summer internships in London, Madrid, Paris; preparation for internships; value of international work assignments, work as part of cross-cultural teams, skills and perspectives for living and working in a culturally diverse world; students set goals for professional development, analyze the cultural and political environment of their internship sites, develop a professional portfolio. Corequisites: 409:112 or 409:114 or 409:115.

**06B:194 Honors Seminar**

1-3 s.h.

Research topics and methods in business. Requirements: honors standing. Same as 06E:194.

**06B:195 Honors Thesis in Business**

3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194. Requirements: admission to the Tippie College of Business honors program.

**06B:199 Academic Internship**

arr.

Professional internship experience with associated academic content (e.g., paper, course work). Repeatable.

# Accounting

**Chair:** Douglas V. DeJong

**Director, Professional Program in Accounting:** Sonja O. Rego

**Director, RSM McGladrey Institute of Accounting Education and Research:** Ramji Balakrishnan

**Professors:** Ramji Balakrishnan (Carlson-KPMG Research Professor of Accounting), Joyce E. Berg (Pioneer Hi-Bred Research Fellow), Daniel W. Collins (Henry B. Tippie Research Chair in Accounting), Douglas V. DeJong (Arthur Andersen Alumni/Faculty Professor of Accounting), W. Bruce Johnson (Sidney G. Winter Professor of Accounting), Mark C. Penno (Soumyo Sarkar Research Fellow in Accounting), Albert A. Schepanski

**Professor emeritus:** Valdean C. Lembke

**Associate professors:** Cristi A. Gleason (Larry and Lori Wright Research Fellow), Paul Hribar (Lloyd J. and Thelma W. Palmer Research Fellow), Sonja Olhoft Rego (Lloyd J. and Thelma W. Palmer Research Fellow)

**Associate professors emeriti:** Richard A. Grimlund, Richard M. Tubbs

**Assistant professors:** Richard Mergenthaler, Ryan J. Wilson

**Lecturers:** Amy An, Thomas J. Carroll, Kevin Den Adel, Robert J. Hartman, Mary Murphy

**Undergraduate degree:** B.B.A. in Accounting

**Graduate degrees:** M.Ac.; Ph.D. in Business Administration

**Web site:** <http://tippie.uiowa.edu/accounting>

The Department of Accounting offers a broad education that prepares undergraduate and graduate students for careers in public accounting, private industry, government, nonprofit organizations, and academia.

## Professional Program in Accounting

The Professional Program in Accounting draws on curricula that provide a strong base of traditional technical subject matter and the skills needed for solving complex business problems. This framework of study enables students to continue professional growth over the entire span of their careers. The program emphasizes communication skills and provides the academic background required for leadership positions in business, government, and public accounting. It also qualifies students to take the Certified Public Accountant (CPA) and Certified Management Accountant (CMA) examinations.

The Professional Program in Accounting leads to a Bachelor of Business Administration in accounting, which requires 120 s.h. of credit (see "Undergraduate Program" below), and the Master of Accounting, which requires 30 s.h. of graduate credit (see "Graduate Programs" later in this section). Students are granted the B.B.A. upon successful completion of the third and fourth years of the Professional Program in Accounting, and the M.Ac. after successful completion of 30 s.h. beyond the B.B.A.

## Undergraduate Program

The Department of Accounting offers the Bachelor of Business Administration in accounting for students admitted to the Professional Program in Accounting. Undergraduate accounting majors are subject to the probation and dismissal rules described in the Tippie College of Business section of the Catalog and are governed by the Tippie College of Business Honor Code.

The B.B.A. is not sufficient preparation for CPA licensure in states that have passed a 150 hour law, including Iowa.

## Bachelor of Business Administration

The Bachelor of Business Administration in accounting requires a minimum of 120 s.h., including at least 25 s.h. of work for the major. The major in accounting is for undergraduate students admitted to the Professional Program in Accounting. Course work in the program provides concentrated coverage of professional accounting subjects and closely related topics in commercial law, business, and information systems.

To enter the Professional Program in Accounting, undergraduates must complete 60 s.h. of course work at The University of Iowa (or equivalent course work at another institution) and must be admitted to the Tippie College of Business. Students already admitted to the business college who wish to declare accounting as a major may be admitted to the professional program if they have a University of Iowa g.p.a. of at least 3.00, a cumulative g.p.a. of at least 3.00, and a B-minus average in 06A:001 Introduction to Financial Accounting and 06A:002 Managerial Accounting. Students who wish to declare accounting as a major but do not satisfy the automatic admission requirements may still apply to the professional program; applications are reviewed case-by-case.

Students must complete the following prerequisite courses before admission to the Professional Program in Accounting.

06A:001 Introduction to Financial Accounting	3 s.h.
06A:002 Managerial Accounting	3 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

Professional Program in Accounting requirements for the third and fourth years are as follows. For B.B.A. common requirements, see Bachelor of Business Administration in the Tippie College of Business section of the Catalog.

### THIRD YEAR

#### Fall Semester

06A:131 Income Measurement and Asset Valuation	3 s.h.
06A:133 Introduction to Taxation	3 s.h.
06A:150 Professional Orientation Seminar Series (must be taken during first or second semester in the professional program)	1 s.h.
06B:100 Business Communication and Protocol (taken first year after admission to the college)	3 s.h.
Two business core requirements	6 s.h.

The business core requirements (06F:100 Introductory Financial Management, 06J:047 Introduction to Law, 06J:048 Introduction to Management, 06K:100 Operations Management, 06M:100 Introduction to Marketing Strategy) may be taken in any sequence, preferably before the fourth year; 06J:047 Introduction to Law is a prerequisite to 06A:148 Business Law, so it should be taken before spring semester of the fourth year. Students must complete 06B:100 Business Communication and Protocol during their first year after admission to the Tippie College of Business.

#### Spring Semester

06A:132 Valuation of Financial Claims	3 s.h.
06K:180 Applied Information Systems	3 s.h.
Two business core requirements	6 s.h.
Elective	3 s.h.

Due to the overlap in course content, accounting majors may not receive degree credit for 06A:120 Financial Accounting and Reporting.

### SUMMER: GMAT AND ADMISSION TO THE M.AC.

Students who intend to continue in the Professional Program in Accounting after receiving the B.B.A. should take the Graduate Management Admission Test (GMAT) during the summer before their senior year, as preparation for applying to the Master of Accountancy program.

### FOURTH YEAR

Students must choose one of the following accounting electives during their fourth year.

06A:141 Advanced Tax Topics	3 s.h.
06A:145 Advanced Financial Accounting	3 s.h.

#### Fall Semester

06A:144 Auditing	3 s.h.
One accounting elective	3 s.h.
One business core requirement	3 s.h.
Two electives	6 s.h.

#### Spring Semester

06A:130 Accounting for Management Analysis and Control	3 s.h.
06A:148 Business Law	3 s.h.
One accounting elective (if not taken fall semester)	3 s.h.
Two or three electives	6-9 s.h.

**OPTIONAL ACCOUNTING ELECTIVE**

All undergraduates, whether admitted to the M.Ac. program or not, may take 06A:199 Academic Internship for 1 s.h. in fall, spring, or summer. Department consent is required.

**Graduate Programs**

The Department of Accounting offers the Master of Accountancy (M.Ac.) and a Doctor of Philosophy (Ph.D.) in business administration. Ph.D. requirements are described under "Graduate Programs" in the Tippie College of Business section of the Catalog and on the Department of Accounting web site.

The department also offers a joint M.Ac./J.D. with the College of Law; see "Joint M.Ac./J.D." later in this Catalog section.

Graduate students in accounting are subject to the probation and dismissal rules of the Graduate College and are governed by the Tippie College of Business Honor Code.

**Master of Accountancy**

The Master of Accountancy requires 30 s.h. beyond the B.B.A. The program permits students to specialize in accounting areas according to their interests and objectives. It builds on the technical skills acquired in the undergraduate program, broadens students' perspectives of the role of accounting in organizations and decision making, and further develops written and oral communication skills.

Students from a variety of academic backgrounds enter the M.Ac. program. Those who enter with an undergraduate degree in accounting can expect to complete the degree in 12 months. Those who enter with a non-accounting undergraduate degree typically require four semesters to complete the M.Ac. Study plans are adjusted to reflect each student's particular academic background; see "Course Work for Students Without Undergraduate Degrees in Accounting" later in this section.

The M.Ac. is a nonthesis program. Course work focuses on the conceptual and economic foundations of accounting with applications to current and emerging problems of professional practice. M.Ac. students also have the opportunity to acquire expertise in one of four specialization areas: financial accounting/auditing, management information systems, taxation, and managerial accounting.

The required 30 s.h. must include at least 12 s.h. earned in graduate-level accounting courses and at least 21 s.h. earned in 200-level courses.

Courses leading to specialization areas and those required for the core program are as follows. Because of the cross-disciplinary nature of the subject matter included in the specialization areas, courses in a number of other departments are included.

**SPECIALIZATION IN FINANCIAL ACCOUNTING/AUDITING****Accounting Courses**

Total of 12 s.h.

All of these:

06A:221 Financial Reporting: Theory and Practice	3 s.h.
06A:230 Advanced Auditing	3 s.h.
06A:245 Financial Information and Capital Markets	3 s.h.

One of these:

06A:220 Design and Use of Cost Management Systems	3 s.h.
06A:231 Taxes and Business Strategy	3 s.h.

**Finance Courses**

Total of 6 s.h.

06N:225 Managerial Finance (requires consent of M.B.A. office)	3 s.h.
--	--------



One additional 200-level finance course 3 s.h.

#### **Management Information Systems Courses**

Total of 3-6 s.h.

06K:226 Visual Basic Programming (if not already taken) 3 s.h.

06K:230 Database Systems 3 s.h.

#### **General Electives**

Total of 6-9 s.h.

#### **SPECIALIZATION IN MANAGEMENT INFORMATION SYSTEMS**

Due to the timing of course offerings, students who do not begin the M.Ac. program in the summer session should take a computer programming course while they are undergraduates. This decreases the number of required management information systems courses and increases electives by 3 s.h. in the M.Ac. program.

#### **Accounting Courses**

Total of 12 s.h.

06A:220 Design and Use of Cost Management Systems 3 s.h.

Two of these:

06A:221 Financial Reporting: Theory and Practice 3 s.h.

06A:230 Advanced Auditing 3 s.h.

06A:231 Taxes and Business Strategy 3 s.h.

One of these (not already taken):

06A:221 Financial Reporting: Theory and Practice 3 s.h.

06A:230 Advanced Auditing 3 s.h.

06A:231 Taxes and Business Strategy 3 s.h.

06A:241 Tax Research 3 s.h.

06A:245 Financial Information and Capital Markets 3 s.h.

#### **Management Information Systems Courses**

Total of 9-12 s.h.

06K:226 Visual Basic Programming (if not already taken) 3 s.h.

Three 200-level information systems courses (06K or 22C) 9 s.h.

#### **General Electives**

Total of 6-9 s.h.

#### **SPECIALIZATION IN TAXATION**

#### **Accounting Courses**

Total of 9 s.h.

Two of these:

06A:220 Design and Use of Cost Management Systems 3 s.h.

06A:221 Financial Reporting: Theory and Practice	3 s.h.
06A:230 Advanced Auditing	3 s.h.

One of these (not already taken):

06A:220 Design and Use of Cost Management Systems	3 s.h.
06A:221 Financial Reporting: Theory and Practice	3 s.h.
06A:230 Advanced Auditing	3 s.h.
06A:241 Tax Research	3 s.h.
06A:245 Financial Information and Capital Markets	3 s.h.

#### **Taxation Courses**

Total of 12 s.h.

06A:231 Taxes and Business Strategy	3 s.h.
06A:241 Tax Research	3 s.h.
College of Law tax courses	6 s.h.

#### **General Electives**

Total of 9 s.h.

College of Law courses (prefix 091) follow a different calendar than do business courses. Some courses may require consent of instructor.

#### **SPECIALIZATION IN MANAGERIAL ACCOUNTING**

##### **Accounting Courses**

Total of 12 s.h.

06A:220 Design and Use of Cost Management Systems	3 s.h.
---	--------

Two of these:

06A:221 Financial Reporting: Theory and Practice	3 s.h.
06A:230 Advanced Auditing	3 s.h.
06A:231 Taxes and Business Strategy	3 s.h.

One of these (not already taken):

06A:221 Financial Reporting: Theory and Practice	3 s.h.
06A:230 Advanced Auditing	3 s.h.
06A:231 Taxes and Business Strategy	3 s.h.
06A:241 Tax Research	3 s.h.
06A:245 Financial Information and Capital Markets	3 s.h.

##### **Management Information Systems Courses**

Total of 3-6 s.h.

06K:226 Visual Basic Programming (if not already taken)	3 s.h.
06K:230 Database Systems	3 s.h.

##### **Non-accounting Business Electives**

Two 200-level business electives	6 s.h.
----------------------------------	--------

**General Electives**

Total of 6-9 s.h.

**CORE PROGRAM COURSE REQUIREMENTS**

Students who do not wish to pursue a specialization area must complete 30 s.h. beyond the B.B.A. At least 15 s.h. must be earned in graduate-level accounting courses and at least 21 s.h. must be earned in 200-level courses. The following courses are required.

**Accounting Courses**

Total of 15 s.h.

06A:220 Design and Use of Cost Management Systems (taken spring semester)	3 s.h.
06A:221 Financial Reporting: Theory and Practice (taken fall semester)	3 s.h.
06A:230 Advanced Auditing (taken spring semester)	3 s.h.
06A:231 Taxes and Business Strategy (taken fall semester)	3 s.h.

One of these (not already taken):

06A:241 Tax Research	3 s.h.
06A:245 Financial Information and Capital Markets	3 s.h.

**Management Information Systems Courses**

Total of 3-6 s.h.

06K:226 Visual Basic Programming (if not already taken)	3 s.h.
06K:230 Database Systems	3 s.h.

**General Electives**

Total of 9-12 s.h.

**Course Work for Students Without Undergraduate Accounting Degrees**

Courses taken by students who enter the program with a non-accounting bachelor's degree are determined by each student's background and interest area. In addition to meeting the core program requirements for the M.Ac., students typically take a combination of undergraduate and M.B.A. courses to remove academic deficiencies in quantitative methods, business, and accounting. Students with a bachelor's degree in another area of business typically are required to take 45-51 s.h. in order to complete the M.Ac. program. Those with degrees outside of business and with no accounting courses typically are required to take 57-60 s.h.

**CPA Examination and the Iowa Accountancy Act**

The Iowa Accountancy Act that became effective in January 2001 requires individuals who wish to take the CPA examination to have a bachelor's degree, 24 s.h. of business course work, and 24 s.h. of accounting course work beyond 06A:001 Introduction to Financial Accounting.

**Admission**

Admission to the M.Ac. program is competitive. The admissions committee reviews applications individually, considering quantitative aspects (grade-point average and GMAT scores) and qualitative aspects of each applicant's background and professional experience (if applicable) to assess the applicant's potential for academic success and professional growth.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Application materials must include the following: the Application for Graduate Admission; official transcripts of all undergraduate and graduate course work submitted by each institution the applicant has attended; official scores on the Graduate Management Admission Test (GMAT); a supplemental application form with essay responses; a résumé

and cover letter; and at least three letters of reference from former instructors or employers. (B.B.A. accounting students at The University of Iowa are not required to provide letters of reference.)

Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

University of Iowa undergraduate accounting students are encouraged to take the Graduate Management Admission Test (GMAT) the summer before their senior year. They may apply to the M.Ac. after December 1 of their fourth year. See "Application Deadlines" below.

For complete information about application procedures, contact the University's Office of Admissions or the Department of Accounting.

#### **APPLICATION DEADLINES**

The Department of Accounting admissions committee reviews completed M.Ac. application files (which must include official GMAT scores) on five dates: March 1, April 15, July 15, October 1, and December 1. Applications are reviewed on these dates regardless of whether the applicant plans to begin the M.Ac. program in the fall semester (August), spring semester (January), or summer session (June). Final Graduate College application deadlines are as follows.

Fall semester entry: July 15 (April 15 for international students)

Spring semester entry: December 1 (October 1 for international students)

Summer session entry: April 15 (March 1 for international students)

Students who wish to apply for a teaching assistantship must apply to the M.Ac. program no later than March 1.

#### **Joint M.Ac./J.D.**

The Department of Accounting and the College of Law offer the joint Master of Accountancy/Juris Doctor. The joint M.Ac./J.D. requires a minimum of 18 s.h. of graduate course work in accounting. Students in the program may count up to 12 s.h. of College of Law courses as electives for the M.Ac., and up to 12 s.h. of graduate accounting courses as electives for the J.D.; see Juris Doctor in the College of Law section of the Catalog.

Separate application to each degree program is required. Applicants must be admitted to each program before they may be admitted to the joint program.

#### **Doctor of Philosophy**

Students majoring in accounting may earn a Ph.D. in business administration. Ph.D. requirements are described under "Graduate Programs" in the Tippie College of Business section of the Catalog and on the Department of Accounting web site.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Application materials must include the applicant's score on the Graduate Management Admission Test (GMAT).

## **Faculty**

The department's faculty members stay current in their discipline by producing and disseminating accounting-related knowledge. They keep abreast of the latest developments in the field of education and the profession by participating in educational conferences and seminars and publishing in leading academic journals.

## **Accounting Courses**

### **Primarily for Undergraduates**

#### **06A:001 Introduction to Financial Accounting**

3 s.h.

Accounting and financial reporting procedures used by business and not-for-profit entities; emphasis on accounting concepts and use of accounting information in making economic decisions. Requirements: sophomore or higher standing.

#### **06A:002 Managerial Accounting**

3 s.h.

Basic topics in cost behavior, measurement, accumulation; use of cost data for relevant analysis, budgeting, performance evaluation. Prerequisites: 06A:001, 06E:001, and 22M:017.

## For Undergraduate and Graduate Students

- 06A:101 Directed Readings in Accounting** arr.  
Individual guided readings in accounting topics. Requirements: admission to Professional Program in Accounting.
- 06A:120 Financial Accounting and Reporting** 3 s.h.  
External financial reporting practices in context of decisions by management, current and potential stockholders, financial analysts; emphasis on interpretation, use of financial statements. Prerequisites: 06A:002. Requirements: non-accounting major.
- 06A:130 Accounting for Management Analysis and Control** 3 s.h.  
Advanced topics in cost estimation, measurement, accumulation; use of cost data for decision making, performance evaluation in multi-unit organizations. Prerequisites: 06E:071 and 06K:070. Requirements: admission to Professional Program in Accounting.
- 06A:131 Income Measurement and Asset Valuation** 3 s.h.  
Accounting rules that determine how economic events and transactions are described in published financial reports; emphasis on revenue and expense recognition, asset valuation, accrual accounting model. Requirements: admission to Professional Program in Accounting or pre-accounting major.
- 06A:132 Valuation of Financial Claims** 3 s.h.  
Current and long-term liabilities and stockholders' equity, off-balance sheet financing, cash flow statement, earnings-per-share, financial instruments. Prerequisites: 06A:131.
- 06A:133 Introduction to Taxation** 3 s.h.  
Federal income taxation; individual, corporate, partnership income tax laws, regulations; emphasis on developing a broad perspective on structure, administration, rationale of federal income tax system. Requirements: admission to Professional Program in Accounting or pre-accounting major.
- 06A:141 Advanced Tax Topics** 3 s.h.  
Taxation of corporations, partnerships from organization through liquidation; relative merits of conducting business through partnership, corporation, proprietorship, S corporation; introduction to tax research. Prerequisites: 06A:133. Requirements: senior standing.
- 06A:144 Auditing** 3 s.h.  
General framework underlying auditing, role of audit standards in planning and conduct of audits, effect of regulation, ethics, liability on audit practices. Prerequisites: 06A:132, 06A:150, 06E:071, and 06K:180. Requirements: senior standing.
- 06A:145 Advanced Financial Accounting** 3 s.h.  
Accounting and reporting standards for business combinations, including mergers, consolidations, and multinational enterprises; accounting for partnerships, business segments, transactions denominated in foreign currency, including hedges using foreign currency derivative instruments; reporting standards for interim financial statements and fund accounting applied to government and nonprofit entities. Prerequisites: 06A:132. Requirements: senior standing.
- 06A:148 Business Law** 3 s.h.  
Contracts, sales, debtor-creditor relations, business organizations, other aspects of law applied to business. Prerequisites: 06J:047. Requirements: senior standing.
- 06A:149 Financial Statement Analysis** 3 s.h.  
How to analyze published financial statements; practical experience using financial statement information to assess accounting quality, historical performance, forecasted performance, credit risk, firm value. Prerequisites: 06A:120.
- 06A:150 Professional Orientation Seminar Series** 1 s.h.  
Accounting careers, advising, curriculum, M.Ac. program, internships, CPA examination, Beta Alpha Psi, UI Employment Expo. Offered fall semesters. Corequisites: 06A:131 or 06A:132.

**06A:170 Special Topics in Accounting**

arr.

**06A:195 Honors Thesis in Accounting**

3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194. Requirements: admission to the Tippie College of Business honors program.

**06A:199 Academic Internship**

arr.

Professional internship experience.

**Primarily for Graduate Students****06A:220 Design and Use of Cost Management Systems**

3 s.h.

Development of cost accumulation and reporting systems that complement a firm's strategy and structure; how activity-based cost management systems increase competitiveness by helping a firm manage its costs, processes, people. Prerequisites: 06A:130 or 06A:235.

**06A:221 Financial Reporting: Theory and Practice**

3 s.h.

Corporate accounting choices in framework of traditional accounting theory, economic consequences, firm valuation. Prerequisites: 06A:132. Requirements: graduate standing in business.

**06A:230 Advanced Auditing**

3 s.h.

Advanced issues such as ethics, independence, regulation and litigation, audit evidence, models of audit testing. Prerequisites: 06A:144. Requirements: graduate standing in business.

**06A:231 Taxes and Business Strategy**

3 s.h.

Effect of taxes on business decisions, including investment strategies, financial policies; emphasis on tax planning, evaluating tax consequences of business decisions. Prerequisites: 06N:215. Requirements: graduate standing in business.

**06A:235 Strategic Cost Analysis**

3 s.h.

Introduction to cost accumulation, reporting, cost management systems; managerial and divisional performance evaluation; appropriate use of cost data for short- and long-run decisions; product costing in manufacturing and service industries. Prerequisites: 06N:215.

**06A:240 Financial Accounting Standards and Analysis**

3 s.h.

Accounting model, underlying measurement concepts, valuation rules for assets, liabilities, related issues of income determination; emphasis on economic substance of transactions, evaluation and interpretation of financial data. Prerequisites: 06N:215.

**06A:241 Tax Research**

3 s.h.

Deciding what research is needed, evaluating tax materials, developing facility with electronic and printed tax materials. Requirements: 06A:141 for undergraduates.

**06A:245 Financial Information and Capital Markets**

3 s.h.

Use of corporate financial statements for investment and lending decisions; emphasis on financial analysis techniques, valuation, business analysis, cash flow projections, credit scoring, related research evidence. Prerequisites: 06A:240.

**06A:246 Corporate Governance**

3 s.h.

How to evaluate and implement mechanisms for good corporate governance; to ensure returns for investors and firms' access to capital markets on reasonable terms; perspectives of investor, firm, regulator.

**06A:286 Seminar in Accounting Research**

arr.

Forum on current research in accounting, related disciplines; faculty, student, guest papers, Ph.D. dissertation proposals. Requirements: Ph.D. enrollment.

**06A:287 Seminar in Selected Accounting Topics**

arr.

Individual study, research paper preparation. Requirements: Ph.D. enrollment.

**06A:290 Thesis: Accounting**  
Requirements: Ph.D. enrollment.

arr.

## Economics

**Chair:** John L. Solow

**Professors:** Gary C. Fethke (Leonard A. Hadley Professor of Leadership), John W. Fuller, Srihari Govindan (Lloyd J. and Thelma W. Palmer Research Fellow), Marlynn Beth Ingram (Henry B. Tippie Professor of Economics), Daniel J. Kovenock (J. Edward Lundy Professor), Forrest D. Nelson (Henry B. Tippie Research Fellow), George R. Neumann (George Daly Professor of Economics), B. Ravikumar (Henry B. Tippie Research Professor of Economics), Raymond G. Riezman (C. Woody Thompson Professor), Charles H. Whiteman (Leonard A. Hadley Chair in Leadership)

**Professors emeriti:** William P. Albrecht, Carol C. Fethke, John F. Geweke, Hyman Joseph, Gerald L. Nordquist, Thomas F. Pogue, N.E. Savin, Larry G. Sgontz, Calvin D. Siebert, S.Y. Wu

**Associate professors:** John L. Solow (Michael Sandler Research Fellow), Gustavo J. Ventura (Dore Research Fellow)

**Assistant professors:** Antonio Galvao Jr., Ayca Kaya, Kyungmin (Teddy) Kim, Elena Pastorino, Guillaume Vandenbroucke, Yuzhe Zhang

**Lecturers:** Stacey L. Brook, Jennifer L. Fuhrman, Blake Whitten

**Undergraduate degrees:** B.A., B.S., B.B.A. in Economics

**Undergraduate nondegree program:** Minor in Economics

**Graduate degrees:** M.A., Ph.D. in Economics

**Web site:** <http://www.tippie.uiowa.edu/economics>

Economics is the study of how societies allocate limited resources to achieve competing ends. Using both empirical and deductive methods, economics analyzes incentives, constraints, organizational forms, and market forces to understand patterns of production, exchange, and consumption of goods and services. It treats diverse issues such as wealth and poverty, government expenditures and taxation, prosperity and depression, inflation and unemployment, relations between management and labor, economic growth, environmental protection, health care delivery, the war on drug abuse, free trade versus protectionism, U.S. competitiveness in international markets, and the quality of American education.

The Department of Economics offers degree programs for undergraduates and for graduate students. It also partners with the Departments of Philosophy and Sociology to offer a Bachelor of Arts in ethics and public policy, an interdisciplinary major administered by the Department of Philosophy in the College of Liberal Arts and Sciences; see Ethics and Public Policy in the Catalog.

## Undergraduate Programs

The department offers three undergraduate degrees: a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) in economics awarded by the College of Liberal Arts and Sciences, and a Bachelor of Business Administration (B.B.A.) in economics awarded by the Tippie College of Business.

The department also partners with the Departments of Philosophy and Sociology to offer a Bachelor of Arts in ethics and public policy, an interdisciplinary major administered by the Department of Philosophy in the College of Liberal Arts and Sciences; see Ethics and Public Policy in the Catalog.

The B.A. in economics is designed to achieve a balance of economic theory, mathematical tools, and field applications. The B.S. maintains a similar balance but emphasizes development of analytical tools; it prepares students for graduate work in economics or related business and technical fields. The B.B.A. emphasizes economic foundations of business fields: accounting, finance, marketing, business law, and management.

Each program provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. Economics also provides excellent preparation for the study of law and for graduate study in fields such as business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

All students majoring in economics choose one of three tracks: business economics, policy economics, or analytical economics. The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

Each degree program (B.A., B.S., and B.B.A.) has three sets of requirements: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The applied field course requirement varies, depending on the student's choice of track.

### Bachelor of Arts

The Bachelor of Arts in economics requires a minimum of 120 s.h., including 32 s.h. of work for the major. The program provides a balance of economic theory, mathematical tools, and field applications. It offers good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The major requires a set of courses in mathematics and statistics (11 s.h.), a set in economic theory (6 s.h.), and a set



of applied field courses (15 s.h.). Students must choose one of three tracks: business economics, policy economics, or analytical economics. The applied field courses vary depending on the student's choice of track.

The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

All B.A. students in economics must complete the College of Liberal Arts and Sciences General Education Program.

Students may count a maximum of 6 s.h. of transfer or correspondence credit toward the required 21 s.h. in 100-level economics courses; additional transfer or correspondence credit must be approved by the director of undergraduate studies. Students should take the economic theory courses (06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics, and 06E:105 Macroeconomics) at The University of Iowa.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see "Prerequisites" below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.A.) requires the following courses.

#### **MATHEMATICS AND STATISTICS COURSES**

06E:071 Statistics for Strategy Problems	3 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

#### **ECONOMIC THEORY COURSES**

06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics	3 s.h.  3 s.h.
06E:105 Macroeconomics	3 s.h.

#### **APPLIED FIELD COURSES**

Five courses are required; course selection is determined by the student's choice of track.

##### **Business Economics Track**

Five of these:

06A:002 Managerial Accounting	3 s.h.
06E:111 Personnel Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:160 Household Finance	3 s.h.
06J:048 Introduction to Management	3 s.h.

##### **Policy Economics Track**

Four of these:

06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:145 Transportation Economics	3 s.h.

06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.
06E:172 Law and Economics	3 s.h.

One additional economics course numbered 06E:111 - 06E:189

### **Analytical Economics Track**

Four of these:

06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

One additional economics course numbered 06E:111 - 06E:189

### **Prerequisites**

Prerequisites for most 100-level courses in economics: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics

Prerequisites for 06E:104 Microeconomic Theory: 06E:001 Principles of Microeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for 06E:105 Macroeconomics: 06E:002 Principles of Macroeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisite for 06E:071 Statistics for Strategy Problems: 22S:008 Statistics for Business

Prerequisites for courses numbered 06E:171 and above: 06E:104 Microeconomic Theory or 06E:105 Macroeconomics, or both, depending on the course

### **Bachelor of Science**

The Bachelor of Science in economics requires a minimum of 120 s.h., including 33-35 s.h. of work for the major. The program addresses economic theory, mathematical tools, and field applications, with an emphasis on developing skill using analytic tools. It offers good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The major requires a set of courses in mathematics and statistics (15-17 s.h.), a set in economic theory (6 s.h.), and a set of applied field courses (12 s.h.). Students must choose one of three tracks: business economics, policy economics, or analytical economics. The applied field courses vary depending on the student's choice of track.

The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

All B.S. students in economics must complete the College of Liberal Arts and Sciences General Education Program.

Students may count a maximum of 6 s.h. of transfer or correspondence credit toward the required 18 s.h. in 100-level economics courses; additional transfer or correspondence credit must be approved by the director of undergraduate studies. Students should take the economic theory courses (06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics, and 06E:105 Macroeconomics) at The University of Iowa.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see "Prerequisites" below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.S.) requires the following courses.

**MATHEMATICS AND STATISTICS COURSES**

06E:184 Introduction to Econometrics	3 s.h.
22M:025 Calculus I	4 s.h.
22M:026 Calculus II	4 s.h.
22S:120 Probability and Statistics	4 s.h.
or	
22S:130-22S:131 Introduction to Mathematical Statistics I-II	6 s.h.

The department recommends that students planning to pursue a graduate degree in economics take 22S:130 Introduction to Mathematical Statistics I and 22S:131 Introduction to Mathematical Statistics II in place of 22S:120 Probability and Statistics, and that they take additional courses in mathematics, including 22M:027 Introduction to Linear Algebra, 22M:028 Calculus III, and 22M:100 Introduction to Ordinary Differential Equations.

**ECONOMIC THEORY COURSES**

06E:104 Microeconomic Theory	3 s.h.
or	
06E:106 Advanced Microeconomics	3 s.h.
06E:105 Macroeconomics	3 s.h.

**APPLIED FIELD COURSES**

Four courses are required; course selection is determined by the student's choice of track.

**Business Economics Track**

Four of these:

06A:002 Managerial Accounting	3 s.h.
06E:111 Personnel Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:160 Household Finance	3 s.h.
06J:048 Introduction to Management	3 s.h.

**Policy Economics Track**

Three of these:

06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:145 Transportation Economics	3 s.h.
06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.
06E:172 Law and Economics	3 s.h.

One additional economics course numbered 06E:111 - 06E:189

**Analytical Economics Track**

Three of these:

06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

One additional economics course numbered 06E:111 - 06E:189

**Prerequisites**

Prerequisite for 22S:120 Probability and Statistics and 22S:130 Introduction to Mathematical Statistics I: 22M:026 Calculus II or 22M:032 Engineering Mathematics II: Multivariable Calculus

Prerequisites for most 100-level courses in economics: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics

Prerequisites for 06E:104 Microeconomic Theory: 06E:001 Principles of Microeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for 06E:105 Macroeconomics: 06E:002 Principles of Macroeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for courses numbered 06E:171 and above: 06E:104 Microeconomic Theory or 06E:105 Macroeconomics, or both, depending on the course

Prerequisite for 06E:184 Introduction to Econometrics: 22S:120 Probability and Statistics or 22S:131 Introduction to Mathematical Statistics II

**Bachelor of Business Administration**

The Bachelor of Business Administration in economics requires a minimum of 120 s.h., including 18 s.h. of work for the major. The program emphasizes economic foundations of business fields: accounting, finance, marketing, business law, and management. It provides good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

All students must complete the B.B.A. common requirements: the General Education courses, the prerequisites for admission to the Tippie College of Business, and the business core; see "Common Requirements" under Bachelor of Business Administration in the Tippie College of Business section of the Catalog.

The major requires a set of courses in mathematics and statistics, which students take as part of the B.B.A. common requirements; a set in economic theory (6 s.h.); and a set of applied field courses (12 s.h.). Students majoring in economics choose one of three tracks: business economics, policy economics, or analytical economics. The applied field courses vary depending on the student's choice of track.

The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector. The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector.

Students may request permission to apply a limited amount of transfer or correspondence credit toward requirements for the major, but they should take the economic theory courses (06E:104 Microeconomic Theory or 06E:106 Advanced Microeconomics, and 06E:105 Macroeconomics) at The University of Iowa.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see "Prerequisites" below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.B.A.) requires the following courses.

**MATHEMATICS AND STATISTICS COURSES**

Students take these courses as part of the B.B.A. common requirements.

06E:071 Statistics for Strategy Problems	3 s.h.
22M:017 Calculus and Matrix Algebra for Business	4 s.h.
22S:008 Statistics for Business	4 s.h.

#### **ECONOMIC THEORY COURSES**

06E:104 Microeconomic Theory	3 s.h.
or	
06E:106 Advanced Microeconomics	3 s.h.
06E:105 Macroeconomics	3 s.h.

#### **APPLIED FIELD COURSES**

Four courses are required; course selection is determined by the student's choice of track.

##### **Business Economics Track**

Four of these:

06E:111 Personnel Economics	3 s.h.
06E:117 Money, Banking, and Financial Markets	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:141 Industry Analysis	3 s.h.
06E:160 Household Finance	3 s.h.

##### **Policy Economics Track**

Three of these:

06E:113 Health Economics	3 s.h.
06E:119 Policy Analysis	3 s.h.
06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:135 Regional and Urban Economics	3 s.h.
06E:145 Transportation Economics	3 s.h.
06E:165 Sports Economics	3 s.h.
06E:169 Topics in Policy Economics	arr.
06E:171 Antitrust Economics	3 s.h.
06E:172 Law and Economics	3 s.h.

One additional economics course numbered 06E:111 - 06E:189

##### **Analytical Economics Track**

Three of these:

06E:173 International Economics	3 s.h.
06E:174 Monetary Economics	3 s.h.
06E:175 Labor Economics	3 s.h.
06E:176 Public Sector Economics	3 s.h.
06E:177 Industrial Organization	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
06E:187 Mathematical Economics	3 s.h.
06E:189 Topics in Analytical Economics	arr.

One additional economics course numbered 06E:111 - 06E:189

### **Prerequisites**

Prerequisites for most 100-level courses in economics: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics

Prerequisites for 06E:104 Microeconomic Theory: 06E:001 Principles of Microeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisites for 06E:105 Macroeconomics: 06E:002 Principles of Macroeconomics and 22M:017 Calculus and Matrix Algebra for Business

Prerequisite for 06E:071 Statistics for Strategy Problems: 22S:008 Statistics for Business

Prerequisites for courses numbered 06E:171 and above: 06E:104 Microeconomic Theory or 06E:105 Macroeconomics, or both, depending on the course

## **Four-Year Graduation Plan**

### **Bachelor of Arts, Bachelor of Science**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

These checkpoints apply to both the Bachelor of Arts and the Bachelor of Science.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** at least one-half of the semester hours required for graduation, 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics, and the math component of quantitative courses required for major

**Before the seventh semester begins:** three-quarters of the semester hours required for graduation, 06E:104 Microeconomic Theory and 06E:105 Macroeconomics, and one 100-level economics course

**Before the eighth semester begins:** three 100-level economics courses and the statistics component of the quantitative course requirement

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### **Bachelor of Business Administration**

The following checkpoints are designed for students who enter the University as first-year pre-business students. In order to stay on the plan, students must maintain the grade-point average required for guaranteed admission to the Tippie College of Business and must apply for admission to the college by the established deadline.

Students must take 06B:100 Business Communication and Protocol during their first year after admission to the Tippie College of Business.

**Before the third semester begins:** 06E:001 Principles of Microeconomics or 06E:002 Principles of Macroeconomics, 22M:017 Calculus and Matrix Algebra for Business, and 22S:008 Statistics for Business, or equivalents; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 06A:001 Introduction to Financial Accounting, 06A:002 Managerial Accounting, and 06E:001 Principles of Microeconomics or 06E:002 Principles of Macroeconomics (whichever has not already been taken), or equivalents; all General Education requirements; and at least half of the semester hours required for graduation

**Before the seventh semester begins:** business core requirements, approximately half of the course work in the major (varies by major), and three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** approximately three-quarters of course work in the major

**During the eighth semester:** all remaining course work in the major, and a sufficient number of semester hours to graduate

## **Honors**

## **Bachelor of Arts, Bachelor of Science**

Students in the College of Liberal Arts and Sciences working toward a B.A. or B.S. in economics are encouraged to take part in the honors program in economics, which provides opportunities for high-achieving students to pursue special research interests. Honors students in economics must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information).

To enter the honors program in economics, students must complete 06E:104 Microeconomic Theory and 06E:105 Macroeconomics before the senior year. Honors students typically register for 06E:194 Honors Seminar in the fall of the senior year. Then they define and complete a research project under the guidance of a supervising faculty member, earning up to 6 s.h. in 06E:195 Honors Thesis in Economics. The thesis is presented orally to a committee of three faculty members, typically the undergraduate honors advisor, the student's research supervisor, and a third faculty member agreed upon by the student and the honors advisor.

Interested students should consult the honors advisor by the second semester of their junior year.

## **Bachelor of Business Administration**

The Tippie College of Business offers qualified B.B.A. students the opportunity to pursue honors study. For more information, contact the Undergraduate Program Office or see "B.B.A. with Honors" in the Tippie College of Business section of the Catalog.

## **Minor**

The minor in economics requires a minimum of 15 s.h. in economics courses, including 12 s.h. taken at The University of Iowa in courses numbered above 06E:100. Students must maintain a g.p.a. of at least 2.00 in the minor.

## **Course Work for Nonmajors**

Students in the College of Liberal Arts and Sciences may wish to use economics courses as part of other majors or the General Education Program. The introductory courses 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics are approved for General Education in social sciences; they introduce the field of economics and the specialized topics of upper-division courses. The intermediate theory courses 06E:104 Microeconomic Theory and 06E:105 Macroeconomics provide a deeper foundation in the core theories and methods of the discipline. They serve as preparation for upper-division field courses or as terminal courses in an economics study plan.

Course work in economics can be related to majors in many other fields. For example, political science majors could elect 06E:119 Policy Analysis and 06E:125 Global Economics and Business; global studies majors, 06E:133 Environmental and Natural Resource Economics; pre-law students, 06E:171 Antitrust Economics and 06E:172 Law and Economics; mathematics and engineering majors, 06E:104 Microeconomic Theory and 06E:187 Mathematical Economics; and statistics majors, 06E:184 Introduction to Econometrics.

Some students combine related interests by pursuing double majors in economics and another field, such as computer science, geography, global studies, history, mathematics, political science, sociology, or statistics.

## **Undergraduate Economics Forum**

Students are invited to join the undergraduate Economics Forum. The group sponsors programs to help students plan for careers or graduate study and holds social events, special lectures, and round-table discussions. It provides opportunities for students to meet other economics majors and department faculty members.

## **Graduate Programs**

The department offers a Master of Arts and a Doctor of Philosophy in economics. It also offers a joint Doctor of Philosophy/Juris Doctor with the College of Law; see "Joint Ph.D./J.D." later in this section.

### **Master of Arts**

The Master of Arts is offered only to students working toward a Ph.D. in economics.

### **Doctor of Philosophy**

The Doctor of Philosophy in economics requires a minimum of 72 s.h. of graduate credit. The program provides rigorous training in economic theory, econometrics, and applied economics. It has six components: a coordinated

sequence of core courses, a qualifying examination, a research paper, a set of major field courses, a dissertation proposal and comprehensive examination, and a dissertation. Requirements are as follows.

## **CORE SEQUENCE**

### **First Semester**

06E:200 Economic Analysis I	3 s.h.
06E:203 Microeconomics I	3 s.h.
06E:204 Macroeconomics I	3 s.h.

### **Second Semester**

06E:201 Economic Analysis II	3 s.h.
06E:205 Microeconomics II	3 s.h.
06E:206 Macroeconomics II	3 s.h.

### **Third Semester**

06E:221 Econometrics	3 s.h.
----------------------	--------

### **Fourth Semester**

06E:222 Applied Econometrics	3 s.h.
------------------------------	--------

## **QUALIFYING EXAMINATION**

The qualifying examination is normally taken the summer after the first year.

## **RESEARCH PAPER**

The research paper is normally completed the summer after the second year.

## **MAJOR FIELD COURSES**

Each student chooses a major study area in addition to the core courses. The requirement for the major area is a minimum of 24 s.h. of intensive study in a field and in courses that enable students to understand the relationship between their specialty and related fields.

## **DISSERTATION PROPOSAL AND COMPREHENSIVE EXAMINATION**

Students must defend a dissertation proposal in a comprehensive examination within one year of completing the research paper requirement.

## **DISSERTATION**

Submission of the completed dissertation and an oral defense of the dissertation research completes the Ph.D. program.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Application deadline for admission and financial support is January 15 for fall semester entry.

Applicants must take the Graduate Record Examination (GRE) General Test and have their scores sent to the University. Those whose first language is not English and who do not hold a baccalaureate or advanced degree from



an accredited college or university in the United States must take the Test of English as a Foreign Language (TOEFL) and have their scores sent to the University.

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions. They may upload unofficial transcripts, statements of purpose, résumés, and reference information to the Tippie College of Business Ph.D. Applicant Portal.

### **Joint Ph.D./J.D.**

The Department of Economics and the College of Law offer a joint Ph.D./J.D. program; see Juris Doctor in the College of Law section of the Catalog. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

## **Special Seminar**

Each year the department offers a seminar program that brings eminent economists from other universities and from government agencies to The University of Iowa campus. Presentations by Department of Economics faculty members and students also are featured.

## **Economics Courses**

### **Primarily for Undergraduates**

Note: 06E:001 Principles of Microeconomics and 06E:002 Principles of Macroeconomics may be taken in either order or simultaneously. They are approved for General Education in social sciences for B.A. and B.S. students.

#### **06E:001 Principles of Microeconomics**

4 s.h.

Organization, workings of modern economic systems; role of markets, prices, competition in efficient allocation of resources and promotion of economic welfare; alternative systems; international trade. Requirements: B.B.A. students cannot use this course for General Education social sciences. GE: Social Sciences.

#### **06E:002 Principles of Macroeconomics**

4 s.h.

National income and output, employment and inflation; money, credit; government finance; monetary, fiscal policy; economic growth, development; international finance. Requirements: B.B.A. students cannot use this course for General Education social sciences. GE: Social Sciences.

#### **06E:029 First-Year Seminar**

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

#### **06E:071 Statistics for Strategy Problems**

3 s.h.

Continuation of 22S:008; working knowledge of statistical techniques, scientific data-based approach to problem formulation and solution, statistical techniques in the context of real data analysis, assessment of defects in statistical analyses, using data for making business decisions, choosing appropriate statistical procedures, developing skill in communicating statistical results to audiences without knowledge of statistics. Prerequisites: 22M:017 and 22S:008.

#### **06E:104 Microeconomic Theory**

3 s.h.

Economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity, conditions that markets require for efficient allocation of resources; market imperfections; strategic behavior of economic actors. Prerequisites: 06E:001 and 22M:017.

#### **06E:105 Macroeconomics**

3 s.h.

Measurement of macroeconomic indicators; economic growth and business cycles; use of macroeconomic models to study the role of government fiscal and monetary policies. Prerequisites: 06E:002 and 22M:017.

#### **06E:106 Advanced Microeconomics**

3 s.h.

Mathematical treatment of the economic theory of the behavior of consumers, producers, and other economic agents; the role of markets in coordinating economic activity and the conditions required by those markets for an efficient allocation of resources; market imperfections; and the strategic behavior of economic actors. Prerequisites: 06E:001, and 22M:017 or 22M:025. Recommendations: 22M:025.

**06E:111 Personnel Economics**

3 s.h.

Microeconomic analysis of labor markets, related institutions; labor supply decisions made by workers, labor demand decisions made by firms, market equilibrium; economic analysis of unions; returns to education; family decisions.

Prerequisites: 06E:001 and 06E:002.

**06E:113 Health Economics**

3 s.h.

Structure of America's health care industry, economic analysis applied to its problems of production, pricing, distribution; cost-effectiveness, financing of medical costs, role of government. Prerequisites: 06E:001 and 06E:002.

**06E:117 Money, Banking, and Financial Markets**

3 s.h.

Role of money, institutions in determination of income, employment, prices in domestic and world economy.

Prerequisites: 06E:001 and 06E:002.

**06E:119 Policy Analysis**

3 s.h.

Economic functions of government in modern economies; economic decision making; budgetary processes; effects of government expenditures, taxation on allocation of resources, distribution of income, economic growth, stability.

Prerequisites: 06E:001 and 06E:002.

**06E:125 Global Economics and Business**

3 s.h.

Modern theories of international trade and investment; role of tariffs and other restrictions of international trade; foreign exchange markets, international monetary arrangements, international economic policy. Prerequisites: 06E:001 and 06E:002.

**06E:129 Economic Growth and Development**

3 s.h.

Determinants of rising living standards; accumulation of physical and human capital; predictions of economic growth models compared to observed changes in living standards. Prerequisites: 06E:001 and 06E:002.

**06E:133 Environmental and Natural Resource Economics**

3 s.h.

Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: 06E:001 and 06E:002.

**06E:135 Regional and Urban Economics**

3 s.h.

Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: 06E:001 and 06E:002.

**06E:141 Industry Analysis**

3 s.h.

Structural evolution; imperfect competition, resource allocation; development of public policy on monopoly; selected industries. Prerequisites: 06E:001 and 06E:002.

**06E:145 Transportation Economics**

3 s.h.

Overview of transportation markets--intercity, rural, urban; transportation modes--rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Prerequisites: 06E:001 and 06E:002. Same as 044:133, 102:133.

**06E:158 American Economic History**

3 s.h.

Emphasis on role of population and technology. Requirements: 06E:001 and 06E:002 for economics majors; 06E:001 and 16A:061 for non-economics majors. Same as 16A:144.

**06E:160 Household Finance**

3 s.h.

Micro- and macroeconomic theory applied to economic decisions of families, households; practical and theoretical issues in income generation, spending and saving decisions, risk management and asset allocation, investments, and intergenerational wealth transfers. Prerequisites: 06E:001 and 06E:002.

**06E:165 Sports Economics**

3 s.h.

Theory and literature of economic issues in professional sports; issues such as relative advantages of large-and small-market teams, city subsidies for baseball and football stadiums, star players' true value to their teams; ideas from introductory economics (such as demand and cost curves) combined with additional economic theory, statistical evidence, and information about particular sports. Prerequisites: 06E:001 and 06E:002.

**06E:169 Topics in Policy Economics**

arr.

Topics vary. Prerequisites: 06E:001 and 06E:002.

**06E:171 Antitrust Economics**

3 s.h.

Topics in federal antitrust policy; merger policy, monopolization, predatory pricing, collusion, vertical restrictions, resale price maintenance, enforcement; case law, economics literature. Prerequisites: 06E:104 or 091:208.

**06E:172 Law and Economics**

3 s.h.

Law examined through analytic tools of microeconomics; impact of legal rules on resource allocation, risk bearing, distribution of economic well-being. Prerequisites: 06E:001.

**06E:173 International Economics**

3 s.h.

Neoclassical model of international trade, imperfect competition and international trade and investment, role of trade barriers; regional trade agreements and the World Trade Organization. Requirements: 06E:104 and 06E:105, or graduate standing.

**06E:174 Monetary Economics**

3 s.h.

Demand for and supply of money; money's role in economy; empirical studies of money's impact; problems with monetary control. Prerequisites: 06E:104 and 06E:105.

**06E:175 Labor Economics**

3 s.h.

Labor supply and demand; investments in human capital, compensating wage differentials, discrimination, long-term contracts, occupational choice, family decisions, unions, immigration. Prerequisites: 06E:104.

**06E:176 Public Sector Economics**

3 s.h.

Economic functions of government; budgetary processes; effects of government expenditures, taxation on resource allocation, income distribution, economic growth and stability. Prerequisites: 06E:104 and 06E:105.

**06E:177 Industrial Organization**

3 s.h.

Market structure; effects of business practices, informational problems on market structure; appraisal of antitrust policies, government regulation of business. Prerequisites: 06E:104.

**06E:179 History of Economic Thought**

3 s.h.

Evolution of economics as a social science; ideas of Smith, Ricardo, Malthus, Marx, Marshall, Keynes, and their major critics. Prerequisites: 06E:104 and 06E:105.

**06E:183 Natural Resource Economics**

3 s.h.

Economics of natural resources; interaction between economic theory, empirical evidence, and public policy; land, water, fish, trees, minerals; externalities. Prerequisites: 06E:104.

**06E:184 Introduction to Econometrics**

3 s.h.

Single equation linear statistical models, estimation and hypothesis testing; serial correlation, heteroscedasticity, generalized least squares estimation; specification analysis; errors in variables; emphasis on interpretation, application of econometric models, methods, use of computers. Prerequisites: 22S:120.

**06E:187 Mathematical Economics**

3 s.h.

Mathematical structure of economic principles, problems, systems; may include constrained optimization, choice under uncertainty, general equilibrium and welfare economics, dynamical systems and control theory, game theory. Prerequisites: 06E:104 and 06E:105.

**06E:189 Topics in Analytical Economics**

arr.

Topics vary. Prerequisites: 06E:104 and 06E:105.

**06E:190 Federal Reserve Challenge**

3 s.h.

Experience doing what Federal Reserve economists do every day: study the real U.S. economy, make forecasts and policy recommendations, defend their views to academic and professional economists; development of analytical skills, teamwork, how to build presentations. Prerequisites: 06E:104 and 06E:105.

## For Advanced Undergraduates

- 06E:194 Honors Seminar** 1-3 s.h.  
Research topics and methods in business. Requirements: honors standing. Same as 06B:194.
- 06E:195 Honors Thesis in Economics** 3 s.h.  
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194, and admission to the Tippie College of Business honors program.
- 06E:196 Readings and Independent Study in Economics** arr.
- 06E:199 Academic Internship** arr.  
Participation in approved internship program (e.g., Washington Center Internships).

## Primarily for Graduate Students

With consent of the department chair, qualified undergraduates may enroll in courses listed for graduate students.

- 06E:200 Economic Analysis I** 3 s.h.  
Basic metric topology, convex analysis, function spaces, measure theory and integration.
- 06E:201 Economic Analysis II** 3 s.h.  
Behavior under uncertainty, macroeconomic models; dynamic programming, asset pricing, saving, consumption.
- 06E:203 Microeconomics I** 3 s.h.  
Consumer choice theory, producer theory, choice under uncertainty, basic game theory. Offered fall semesters.
- 06E:204 Macroeconomics I** 3 s.h.  
Economic growth, business cycles, money and inflation. Offered fall semesters. Prerequisites: 06E:201.
- 06E:205 Microeconomics II** 3 s.h.  
General equilibrium and welfare analysis, adverse selection, the principal-agent problem, social choice, mechanism design. Offered spring semesters. Prerequisites: 06E:203.
- 06E:206 Macroeconomics II** 3 s.h.  
Dynamic macroeconomic models; stochastic macroeconomics; time consistency equilibrium business cycle theory. Offered spring semesters. Prerequisites: 06E:204.
- 06E:211 Mathematical Economics I** 3 s.h.  
Convex analysis in economic theory; ordinal and cardinal preference relations; quasiconcave, concave numerical representations; separation principle for convex sets--linear programming, concave programming; Brouwer fixed point theorem; existence of competitive equilibrium. Prerequisites: 06E:205.
- 06E:221 Econometrics** 3 s.h.  
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests. Prerequisites: 22S:154.
- 06E:222 Applied Econometrics** 3 s.h.  
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms. Prerequisites: 06E:221.
- 06E:223 Econometric Theory I** 3 s.h.  
Inference from data and theory in economic models; emphasis on decision making and simulation methods. Prerequisites: 06E:222.

<b>06E:234 International Business-M.B.A.</b>	3 s.h.
Problems in international business; how to export, how to deal with import competition, international joint ventures; country studies.	
<b>06E:235 International Trade Theory</b>	3 s.h.
The theory of international trade, including basic models of international trade; capital and labor mobility and trade; protection of international trade; the political economy of international trade; empirical applications of international trade.	
<b>06E:241 Macroeconomics III</b>	3 s.h.
Current research in macroeconomics; development of research topics with emphasis on theoretical and empirical analysis. Prerequisites: 06E:205 and 06E:221.	
<b>06E:245 Monetary Theory</b>	3 s.h.
Research at the frontier of monetary theory and policy; overlapping generations models, search models of money, representative agent monetary models, intermediation and banking theory, and financial contracts.	
<b>06E:250 Labor Economics</b>	3 s.h.
Problems and models, including intertemporal models of labor markets; uncertainty and labor market activity; retirement decisions, economic theories of fertility; economics of discrimination; job search models; economic models of unions; bargaining and strikes, public sector labor markets; determinants of income distribution; emphasis on empirical verification of theory. Prerequisites: 06E:205, and 06E:184 or 06E:221.	
<b>06E:271 Industrial Organization</b>	3 s.h.
The firm, monopolistic competition, oligopoly and workable competition; industrial organization, nature of equilibrium under uncertainty. Prerequisites: 06E:205 and 06E:211.	
<b>06E:299 Contemporary Topics in Economics</b>	3 s.h.
Topics not offered in other courses. Repeatable.	
<b>06E:300 Readings in Economics</b>	arr.
<b>06E:301 Thesis in Economics</b>	arr.
<b>Advanced Graduate Seminars</b>	
<b>06E:310 Seminar in Economic Theory</b>	arr.
<b>06E:311 Seminar in Economic Theory II</b>	arr.
<b>06E:321 Workshop in Microeconomics</b>	1 s.h.
<b>06E:322 Workshop in Macro and Monetary Economics</b>	1 s.h.

# Entrepreneurship

**Director:** David K. Hensley

**Undergraduate nondegree programs:** Certificate in Entrepreneurial Management, Certificate in Technological Entrepreneurship

**Web site:** <http://www.iowajpec.org/>

The Tippie College of Business and the John Pappajohn Entrepreneurial Center offer the undergraduate Certificate in Entrepreneurial Management. The Colleges of Engineering and Liberal Arts and Sciences and the University of Iowa health sciences colleges also collaborate in the program.

The certificate may be completed on campus, or it may be completed online or by distance education in conjunction with the Bachelor of Applied Studies (University College) or the Bachelor of Liberal Studies (College of Liberal Arts and Sciences). It is open to all University of Iowa undergraduates and to individuals who hold a bachelor's degree and are not currently enrolled in a graduate or professional program. See "Admission" below.

The Tippie College of Business and the College of Engineering offer an entrepreneurship certificate program; see "Certificate in Technological Entrepreneurship" below.

The John Pappajohn Entrepreneurial Center and the Division of Performing Arts also offer an entrepreneurship certificate program; see Performing Arts Entrepreneurship (College of Liberal Arts and Sciences) in the Catalog.

## Certificate in Entrepreneurial Management

The Certificate in Entrepreneurial Management requires a minimum of 18 s.h. in course work related to entrepreneurship. The program is designed to help students acquire the entrepreneurial mindset that will enable them to launch new ventures or manage growing companies. It focuses on qualities and skills essential for entrepreneurs and successful business leaders: innovation and creativity; recognizing, evaluating, and seizing opportunities; professional communication skills; strategic business planning; financial analysis; leadership; and team building.

Entrepreneurship students learn from a select team of faculty members and business leaders distinguished by their ability to teach, model, and inspire the entrepreneurial process. They gain understanding of the entrepreneurial approach to acquiring and managing resources; develop team-building skills critical to both small and large companies, network with successful entrepreneurs and business leaders, and participate in experiential learning opportunities.

Students may begin working toward the Certificate in Entrepreneurial Management in their sophomore year. They must declare their intention to pursue the certificate; see "Admission" later in this section. The certificate is noted on students' permanent records when their undergraduate degrees are added to their transcripts.

Students may count a maximum of 6 s.h. of transfer credit toward the certificate, with approval of the entrepreneurship program director. Credit from entrepreneurship courses (prefix 06T) is counted as semester hours earned in business on the degree evaluation. Students must satisfy all prerequisites before enrolling in a required course.

Certificate requirements are as follows.

06T:120 Entrepreneurship and Innovation	3 s.h.
or	
06T:125 New Ventures in the Arts	3 s.h.
06T:133 Entrepreneurial Finance	3 s.h.
06T:134 Entrepreneurial Marketing	3 s.h.
06T:150 Managing the Growth Business	3 s.h.

Students earn an additional 6 s.h. in elective courses chosen from the following list. Students who wish to use a course not on the list must consult with the Pappajohn Entrepreneurial Center director.

06J:125 Entrepreneurial Strategy (for B.B.A. in management)	3 s.h.
06J:156 Dynamics of Negotiations	3 s.h.
06T:101 Directed Readings in Entrepreneurship	arr.
06T:144 Nonprofit Organizational Effectiveness I	3 s.h.
06T:145 Legal Aspects of Entrepreneurship	3 s.h.
06T:146 Strategic Management of Technology and Innovation	3 s.h.
06T:147 Social Entrepreneurship	3 s.h.
06T:148 E-Commerce Strategies for Entrepreneurs	3 s.h.
06T:155 Arts Leadership Seminar	3 s.h.
06T:190 Seminar in Entrepreneurship	3 s.h.

06T:191 Practicum in Entrepreneurship	3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.
06T:194 Entrepreneurship: Advanced Business Planning	3 s.h.
06T:199 Academic Internship	3 s.h.
06M:105 Web Business Strategy	3 s.h.

### Admission

University of Iowa undergraduate students and individuals who hold an undergraduate degree from an accredited institution and are not currently enrolled in a graduate or professional program are eligible to earn the certificate. Students pursuing the Bachelor of Applied Studies or the Bachelor of Liberal Studies are eligible to complete the certificate by distance education or online, in conjunction with those degrees.

Undergraduate students must declare their intention to pursue the certificate. Business students should contact the Tippie College of Business Undergraduate Program Office. Liberal arts and sciences students should contact CLAS Academic Programs & Services.

Individuals interested in earning the certificate by distance education in conjunction with a B.A.S. or B.L.S. degree must apply and be accepted to one of those programs; for admission requirements, see Bachelor of Applied Studies or Bachelor of Liberal Studies in the Catalog.

### Certificate in Technological Entrepreneurship

The Tippie College of Business and the College of Engineering offer a program leading to the Certificate in Technological Entrepreneurship. The program focuses on the entrepreneurial process as it relates to technology. It is designed for students who intend to run their own businesses as well as for others interested in gaining a better understanding of the entrepreneurial process. For more information, see College of Engineering in the Catalog. For application information, contact the College of Engineering Office of the Dean.

## Entrepreneurship Courses

<b>06T:029 First-Year Seminar</b>	1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).	
<b>06T:050 Foundations in Entrepreneurship</b>	2 s.h.
Basic core business concepts faced by entrepreneurial managers in small business accounting, marketing, and business planning. Recommendations: non-business major interested in studying entrepreneurship.	
<b>06T:101 Directed Readings in Entrepreneurship</b>	arr.
Independent study; topics and assignments approved by instructor.	
<b>06T:113 Basics of Small Business Accounting</b>	1 s.h.
Duplicates 06A:001; financial statements of small companies; basics of balance sheets, income statements, cash flow statements; development of assumptions for projections; simple comparative analysis. Requirements: closed to business and pre-business students.	
<b>06T:116 Basics of Small Business Marketing</b>	1 s.h.
Duplicates 06M:100; basic marketing concepts for nonbusiness majors; traditional and guerrilla marketing strategies; focus on marketing information required in a business plan. Requirements: closed to business and pre-business students.	
<b>06T:120 Entrepreneurship and Innovation</b>	3 s.h.
The entrepreneurial process from conception to birth of a new venture; attributes of successful entrepreneurs, innovation and creativity, recognition of opportunity, venture screening, identification of resources, feasibility analysis. Duplicates 06T:125. Corequisites: 06T:050, or 06A:001 and 06M:100.	
<b>06T:125 New Ventures in the Arts</b>	3 s.h.
Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates 06J:125 and 06T:120. Corequisites: 06T:050, or 06A:001 and 06M:100. Same as 049:111, 145:111, 188:111.	

**06T:133 Entrepreneurial Finance**

3 s.h.

Understanding financial aspects of new and growing ventures; focus on preparing financial projections, analyzing financial performance, managing cash flow, and determining financial feasibility; detailed overview of various sources of capital available for start-up and growing ventures. Prerequisites: 06J:125 or 06T:120 or 06T:125.

**06T:134 Entrepreneurial Marketing**

3 s.h.

Practical marketing concepts for evaluating the market potential for new products, services, or business opportunities; how to obtain and evaluate market data, determine customer demand, analyze the competition, design effective promotions, develop and implement effective sales strategies, and write a successful marketing plan. Prerequisites: 06J:125 or 06T:120 or 06T:125.

**06T:144 Nonprofit Organizational Effectiveness I**

3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 024:147, 032:127, 042:157, 06J:147, 096:168.

**06T:145 Legal Aspects of Entrepreneurship**

3 s.h.

Areas of law significant to new and emerging businesses; legal system pitfalls, constraints, opportunities; overview. Prerequisites: 06T:120, and 06T:133 or 06T:134.

**06T:146 Strategic Management of Technology and Innovation**

3 s.h.

Role of technology in creation, growth, and survival of industries; process, risks, and rewards of technological innovation, commercialization; successful approaches to developing technological strategy and products. Prerequisites: 06T:120, and 06T:133 or 06T:134.

**06T:147 Social Entrepreneurship**

3 s.h.

Introduction to the growing field of social entrepreneurship, the creation of ventures with dual missions of social benefit and return on investment; issues related to evaluating market opportunities, acquiring and managing scarce resources, and maximizing social and economic value. Prerequisites: 06T:120 and 06T:133.

**06T:148 E-Commerce Strategies for Entrepreneurs**

3 s.h.

E-commerce opportunities and Internet business strategies for entrepreneurial ventures; business-to-consumer and business-to-business scenarios; hands-on experience building and managing a web site. Prerequisites: 06T:120 and 06T:133.

**06T:150 Managing the Growth Business**

3 s.h.

Issues faced by new, rapidly growing businesses; adapting organizational structure as business expands, building a management team, hiring new employees, managing strategic growth; case studies, particularly in technology sector. Prerequisites: 06T:120, 06T:133, and 06T:134.

**06T:155 Arts Leadership Seminar**

3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Requirements: (for 049:195) 049:109 or 049:111 or graduate standing in an arts discipline. Same as 049:195, 145:195, 188:195.

**06T:190 Seminar in Entrepreneurship**

2-3 s.h.

Topics such as franchising, business acquisition, real estate development, technology transfer. Prerequisites: 06T:120, and 06T:133 or 06T:134.

**06T:191 Practicum in Entrepreneurship**

3 s.h.

Simulation of team-based entrepreneurial new venture; seminars with successful entrepreneurs, business, and community leaders; opportunities for networking and mentoring to foster development of entrepreneurial management skills. Prerequisites: 06T:120 and 06T:133.

**06T:192 Entrepreneurship: Business Consulting**

3 s.h.

Experience on teams providing consulting services to start-up and early-stage companies; the consulting process--proposal development, data collection and analysis, final report preparation and presentation; projects--marketing studies, financial projections, strategic planning. Prerequisites: 06T:120, 06T:133, and 06T:134.



**06T:194 Entrepreneurship: Advanced Business Planning**

arr.

Mentoring for individuals in final stages of preparing to launch their own business. Prerequisites: 06T:120, 06T:133, and 06T:134.

**06T:199 Academic Internship**

arr.

Professional internship experience with academic credit (e.g., paper, course work). Repeatable.

**06T:201 Introduction to Entrepreneurial Management**

1 s.h.

The entrepreneurial process as it applies to new ventures and existing organizations; entrepreneurship and corporate entrepreneurship, attributes of successful entrepreneurial leaders, innovation and creativity, feasibility analysis.

**06T:202 Evaluating Entrepreneurial Opportunities**

1 s.h.

Strategies to identify, assess, and capitalize on sustainable commercial opportunities; opportunity recognition, environmental analysis, intellectual property, strategic business planning.

**06T:203 Basics of Entrepreneurial Marketing**

1 s.h.

Core marketing concepts facing entrepreneurial organizations; types of markets, product management, distribution, pricing, market research and analysis, market planning.

**06T:204 Basics of Entrepreneurial Finance**

1 s.h.

Core financial concepts facing entrepreneurial organizations; accounting systems, financial statements, financial statement analysis, financial projections, sources of financing.

**06T:210 Developing Professional Service Business**

2-3 s.h.

Use of professional skills and functional knowledge in creating a specialized service business. Same as 053:210.

**06T:220 Entrepreneurship and Innovation**

3 s.h.

The entrepreneurial process from conception to birth of a new venture; attributes of successful entrepreneurs, innovation and creativity, opportunity recognition, venture screening, identification of resources, feasibility analysis.

**06T:233 Finance for Entrepreneurs**

3 s.h.

Understanding the process of capital acquisition and cash flow management; techniques, projections, and measurements used in valuing and funding new and growing ventures; sources and strategies for raising capital. Same as 06F:219.

**06T:246 Strategic Management of Technology and Innovation**

3 s.h.

Role of technology in creation, growth, and survival of industries; process, risks, and rewards of technological innovation, commercialization; successful approaches to developing technological strategy and products.

**06T:250 Managing the Growth Business**

3 s.h.

Issues faced by new, rapidly growing businesses; adapting organizational structure as business expands, building a management team, hiring new employees, managing strategic growth of a business; case studies, particularly in technology sector.

**06T:256 Commercializing New Technology**

3 s.h.

Hands-on experience with the process of technology commercialization; real-world opportunity in the form of a technology developed in an academic environment or in the private sector and creation of a plan to transfer that technology to the marketplace; identifying a specific application of that technology (the product); identifying and sizing relevant market segments; determining the appropriate business and financial model; designing a business plan; presentation of business plans/opportunities to simulated venture capitalists.

**06T:290 Seminar in Entrepreneurship**

1-3 s.h.

Topics such as franchising, business acquisition, real estate development, e-commerce, technology transfer. Repeatable.

**06T:292 Entrepreneurship: Business Consulting**

3 s.h.

Experience on teams providing consulting services to start-up and early-stage companies; the consulting process--proposal development, data collection and analysis, final report preparation and presentation; projects--marketing studies, financial projections, strategic planning.

**06T:294 Entrepreneurship: Advanced Business Planning**

3 s.h.

Mentoring for individuals in final stages of preparing to launch their own business.

## Finance

**Chair:** Paul A. Weller

**Professors:** David S. Bates (W. A. Krause Research Fellow), Matthew T. Billett (Henry B. Tippie Research Fellow), William C. (Curt) Hunter (Henry B. Tippie Dean), Erik Lie (Henry B. Tippie Research Professor of Finance), Jarjis Sa-Aadu (Chester A. Phillips Professor of Business Finance and Real Estate), Anand M. Vijn (Marvin and Rose Lee Pomerantz Chair in Finance), Paul A. Weller (John F. Murray Professor of Finance)

**Professors emeriti:** Charles E. Marberry, Richard A. Stevenson

**Clinical professor:** John H. Spitzer

**Associate professors:** Jon A. Garfinkel (Waugh Business Fellow), Yiming Qian, Thomas A. Rietz (Huneke Research Fellow), Gerry L. Suchanek, Ashish Tiwari (Michael Sandler Research Fellow)

**Associate professor emeritus:** G. Carl Schweser

**Assistant professors:** Redouane Elkamhi, James T. Leverty (TRISTAR Risk Management Fellow), Wei Li, Tong Yao, Yu Yuan

**Lecturers:** Heidi Dybevik, John G. Gallo, Larry Hershberger, Todd I. Houge (Curt and Carol Lane Faculty Fellow), Brian Richman

**Undergraduate degree:** B.B.A. in Finance

**Undergraduate nondegree program:** Certificate in Risk Management and Insurance

**Graduate degrees:** M.B.A.; Ph.D. in Business Administration

**Web site:** <http://tippie.uiowa.edu/finance>

The Department of Finance is committed to delivering undergraduate and graduate degree programs that integrate the technology and analytics of today's global financial community. The department's goal is to provide students with the technical skills they will need to enhance their managerial effectiveness, whether they work in large corporations, small organizations, or private consulting.

## Undergraduate Program

The department offers a Bachelor of Business Administration in finance and the undergraduate Certificate in Risk Management and Insurance.

### Bachelor of Business Administration

The Bachelor of Business Administration in finance requires a minimum of 120 s.h., including 20 s.h. of work for the major. The program provides a balance of theory, applications, and financial information technology that facilitates students' transition from classroom to workplace. Through fundamental finance principles and state-of-the-art financial market information technologies, students develop analytical abilities to interpret financial market data, implement the latest trading and investment strategies, and make effective managerial decisions in national as well as international settings.

The program stresses learning by doing, partnership with industry, and internships, with the goal of enhancing students' career development. Students receive a balanced education consistent with the globalization of business and the explosion in financial markets and information technology.

Careers for students majoring in finance include corporate treasury operations, cash management, mergers and acquisitions, investment banking, sales and security trading, security analysis, commercial banking and financial services, credit analysis, mortgage lending, financial planning, consulting, public administration, and venture capital.

Requirements for the finance major are as follows. For B.B.A. common requirements, see Bachelor of Business Administration (Undergraduate Program) in the Tippie College of Business section of the Catalog.

06A:120 Financial Accounting and Reporting	3 s.h.
06F:110 Financial Information Technology	2 s.h.
06F:111 Investment Management	3 s.h.
06F:117 Corporate Finance	3 s.h.

Note: students may count only two of these courses toward the finance major: 06F:102 Principles of Risk Management and Insurance, 06F:103 Property and Liability Insurance, 06F:104 Corporate and Financial Risk Management, 06F:105 Life and Health Insurance, 06F:106 Employee Benefit Plans.

Three of these:

06F:102 Principles of Risk Management and Insurance	3 s.h.
06F:103 Property and Liability Insurance	3 s.h.
06F:104 Corporate and Financial Risk Management	3 s.h.
06F:105 Life and Health Insurance	3 s.h.
06F:106 Employee Benefit Plans	3 s.h.
06F:108 Topics in Finance I (does not count toward major if taken S/F)	3 s.h.
06F:109 Topics in Finance II	3 s.h.
06F:112 Applied Equity Valuation	3 s.h.
06F:113 Fixed Income Securities	3 s.h.
06F:114 Commercial Banking	3 s.h.

06F:115 Investment Banking	3 s.h.
06F:116 Futures and Options	3 s.h.
06F:118 Advanced Corporate Finance	3 s.h.
06F:119 Wealth Management	3 s.h.
06F:126 Real Estate Process	3 s.h.
06F:130 International Finance	3 s.h.

## Certificate in Risk Management and Insurance

The Department of Finance and the Emmett J. Vaughan Institute of Risk Management and Insurance offer the Certificate in Risk Management and Insurance. The certificate program provides undergraduate students with a foundation for careers in corporate risk management, risk management consulting, employee benefits management, insurance brokerage, and underwriting. Noncertificate students University-wide also find risk management and insurance (RMI) courses valuable. See Risk Management and Insurance in the Catalog.

## Graduate Program

The Department of Finance offers the Doctor of Philosophy in business administration. Ph.D. requirements are described under "Graduate Programs" in the Tippie College of Business section of the Catalog and on the Department of Finance web site.

The Master of Arts in business administration is a nonthesis degree awarded only to students who begin the Ph.D. program and decide not to continue. Incoming students may not elect to pursue the M.A.

For information about the M.B.A., see Master of Business Administration Program in the Catalog or contact the Tippie School of Management.

## Finance Courses

### Primarily for Upper-Division Undergraduates

**06F:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**06F:100 Introductory Financial Management** 3 s.h.  
Financial management goals and decision making; valuation of bonds and stocks, risk and return analysis, portfolio diversification, market efficiency, asset pricing, cost of capital, agency theory, capital budgeting, financial planning. Prerequisites: 06A:002, 06E:001, and 06E:002. Requirements: junior standing.

**06F:101 Directed Readings in Finance** arr.  
Individually guided readings in selected topics.

**06F:102 Principles of Risk Management and Insurance** 3 s.h.  
Introduction to risk and insurance; risk identification and evaluation, demand for insurance, effects of limited liability, theory of moral hazard and adverse selection; business and personal risk; insurance as a risk management tool. Corequisites: 06F:100.

**06F:103 Property and Liability Insurance** 3 s.h.  
Fundamentals of commercial property and liability insurance; commercial property and liability contracts, functions of property and liability insurers; regulation and financial analysis of property and liability insurers; marketing, underwriting, rate making, claim settlements. Prerequisites: 06F:102.

**06F:104 Corporate and Financial Risk Management** 3 s.h.  
Analysis and treatment of pure and financial risks faced by business organizations; development and implementation of the risk management process, application of varied risk management techniques to identified exposures; how businesses manage risk and how insurance is used to manage the cost of risk; case studies. Prerequisites: 06F:102. Corequisites: 06F:110.

**06F:105 Life and Health Insurance** 3 s.h.

Types of life insurance and annuity contracts and their uses; regulation of life and health insurers; development of financial plans using life insurance products; Social Security, group, and individual health insurance products, including major medical, disability income, long-term care policies; marketplace analysis; contractual provisions, determination of human life values, mathematics of life contingencies and pricing. Prerequisites: 06F:102.

**06F:106 Employee Benefit Plans**

3 s.h.

Management of employee benefit plans (e.g., group life and health insurance, retirement programs); design, administration, and financing of employee benefits; federal administration of employee benefit plans; funding requirements, financial alternatives; funding and vesting of retirement annuities; design and management of health care plans, including "cafeteria" approach and nonqualified deferred compensation arrangements; economic effects and financing employee benefits and retirement plans in private and public sectors. Prerequisites: 06F:102.

**06F:108 Topics in Finance I**

3 s.h.

Contemporary issues in finance. Prerequisites: 06F:100.

**06F:109 Topics in Finance II**

3 s.h.

Contemporary issues in finance. Prerequisites: 06F:100.

**06F:110 Financial Information Technology**

2 s.h.

Applications of commonly used financial software and data systems reviewed by student teams. Corequisites: 06F:100.

**06F:111 Investment Management**

3 s.h.

Investment in marketable securities in domestic and international markets; financial markets, securities trading, evaluation of risk/return trade-off, formulation and implementation of investment strategies, efficient portfolio formation. Prerequisites: 06F:100. Corequisites: 06F:110.

**06F:112 Applied Equity Valuation**

3 s.h.

Equity valuation and portfolio management techniques by investment professionals; economic forecasting, industry analysis, financial statement analysis, spreadsheet modeling, cost of capital estimation, equity valuation and portfolio construction; students manage The University of Iowa's Krause Fund (an endowed equity portfolio that blends academic rigor with real-world portfolio management experience). Prerequisites: 06F:100. Requirements: UI cumulative g.p.a. of at least 2.80.

**06F:113 Fixed Income Securities**

3 s.h.

Theories of fixed income securities, term structure of interest rates; asset pricing models, valuation of fixed income securities and contingent claims, fixed income portfolio management, immunization strategies, yield curve analysis. Prerequisites: 06F:100. Corequisites: 06F:110.

**06F:114 Commercial Banking**

3 s.h.

Management of commercial banks and financial service firms; asset and liability management, credit policy, capital risk, liquidity planning, use of swaps and derivatives to hedge interest rate risk, global banking, investment strategies. Prerequisites: 06F:100. Corequisites: 06F:110.

**06F:115 Investment Banking**

3 s.h.

How investment bankers interact with clients in access to growth capital, sales, trading, and investment banking; role of investment bankers through varied perspectives, including those of the client (e.g., corporate CFO, treasurer, corporate development officer) and service provider (e.g., investment banking professional). Prerequisites: 06F:100 and 06F:117.

**06F:116 Futures and Options**

3 s.h.

Use of options, futures, and other derivative securities in financial management; understanding types of derivative securities, markets, trading technology; applications of risk management and speculation; pricing relations with underlying securities. Prerequisites: 06F:111.

**06F:117 Corporate Finance**

3 s.h.

Advanced managerial decision making; corporate financial policy, dividend policy, agency theory, corporate restructuring, capital structure strategies, mergers and acquisitions, option pricing fundamentals, convertible debt, callable debt, warrants. Prerequisites: 06F:100. Corequisites: 06F:110.

**06F:118 Advanced Corporate Finance**

3 s.h.

Issues relevant to financial management, payout policy, financial distress and bankruptcy, restructuring, market for corporate control; recent research and cases from the corporate arena; other topics (e.g., bankruptcy) to broaden application and understanding of finance theory. Prerequisites: 06F:117.

**06F:119 Wealth Management** 3 s.h.

Financial services for client wealth management; how to make personal investment decisions and build diversified, comprehensive investment portfolios; investment theory; common behavioral biases that lead to investment pitfalls, mistakes; wealth management objectives, portfolio risk and reward, asset allocation, portfolio diversification, tax shield structures, retirement plans, wealth protection, risk management, behavioral finance, psychology of investing. Prerequisites: 06F:100.

**06F:126 Real Estate Process** 3 s.h.

Fundamentals of real estate finance and investments; economic base analysis, asset analysis, market analysis, mortgage markets, underwriting, alternative mortgages, mortgage-backed securities, real estate securitization, land development, valuation principles, investment analysis, tax consideration, portfolio management. Prerequisites: 06F:100. Corequisites: 06F:110.

**06F:130 International Finance** 3 s.h.

International monetary systems, exchange rate determination, use of currency derivative in hedging and risk management, currency swaps, foreign direct investment, international corporate finance, international capital budgeting, international portfolio investment, Third World debt, privatization, joint ventures. Prerequisites: 06F:100. Corequisites: 06F:110.

**06F:190 Hawkinson Scholar Seminar** 1 s.h.

Advanced skill and understanding required for pursuit of investment banking, management consulting careers; specialized résumé and interview training, industry presentations, relevant case assignments. Repeatable.

**06F:191 Hawkinson Scholar Seminar: Topics in Finance** 0 s.h.

Subsectors in the financial services industry, including hedge funds, investment banking, commercial banking; valuation techniques used in real-world mergers, acquisitions, equity offerings, debt financing, and so forth.

**06F:195 Honors Thesis in Finance** 3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194. Requirements: admission to the Tippie College of Business honors program.

**06F:199 Academic Internship** 1-3 s.h.

Professional internship experience with associated academic content. Repeatable.

**Primarily for Graduate Students**

**06F:201 Directed Readings in Finance-M.B.A.** arr.

**06F:205 Contemporary Topics in Finance** arr.

**06F:206 Financial Modeling and Firm Valuation** 3 s.h.

How to model firm value from a discounted cash flow perspective; identify a company's key value drivers, create spreadsheet valuation models; projected financial valuation integrates projected pro forma accounting statements; forecasting, free cash flow estimation, industry competitive analysis. Prerequisites: 06N:225.

**06F:207 Wealth Management** 3 s.h.

Rapid growth of the field of wealth management over several decades, driven by general increase in personal wealth and increased responsibility for individuals to manage their own wealth; knowledge and tools to enter the financial services industry; financial planning industry, client characteristics, tax shield structures, insurance, asset allocation plans, estate planning, behavioral finance. Prerequisites: 06N:225.

**06F:208 Structured Finance-Securitization** 3 s.h.

Design of debt, equity, and hybrid financing techniques to resolve issuer and investor problems that conventional methods cannot address; why and when corporations and financial institutions issue structured securities; how securities are designed and priced; how securities meet investors' needs; securitized assets, mortgages, asset-backed securities, collateralized debt obligations, credit risk, valuation, cost of capital; legal, tax, and regulatory issues; design and implementation of structured-financed products. Prerequisites: 06N:225.

**06F:210 Financial Information Technology**

1 s.h.

Applications of commonly used financial software and data systems reviewed by student teams.

**06F:212 Portfolio Management**

3 s.h.

Introduction to fundamental elements of modern portfolio theory, application to investment analysis; investment environment, instruments, types of investors; concepts of risk and return, broad perspective on historical risk and return of various asset classes; asset allocation decision, risk and return dynamics of a multiple securities portfolio; varied asset pricing models, how capital markets work for investors and users of capital. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:213 Derivatives**

3 s.h.

Examination of the wide range of derivative securities that cover the financial landscape; the market place, trading, and investors; different derivative securities in existence, their relationship with the underlying securities, and pricing; applications of derivative securities to risk management and speculation; application of principles to fixed income, international finance, real estate, and securitization. Prerequisites: 06N:225.

**06F:214 Real Estate Finance and Investments**

3 s.h.

In-depth understanding of concepts and techniques of real estate financial analysis, equity investment decision making; real estate investing from analysis of developments through the securitization of mortgages; mortgage markets and pricing, real estate finance and investments, mortgage-backed securities, development process, real estate valuation, tax effects, securitized real estate, real estate cycles, application of derivative instruments, strategic asset allocation. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:215 Corporate Investment and Financing Decisions**

3 s.h.

Underpinnings and optimization of corporations' investment and financing decisions; firm-wide and project-specific cost of capital, optimal capital structure decisions; in-depth capital budgeting methods, including real options techniques; corporate investment module of the class includes simulation analysis using Crystal Ball; cost of capital, valuation techniques, advanced capital budgeting, capital structure and dividend policy, option pricing models applied to corporate finance. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:216 Fixed Income Securities**

3 s.h.

Conceptual framework and tools to undertake the valuation of fixed income securities and the management of fixed income portfolios; varied fixed income instruments and the markets in which they trade; introduction to basic building blocks of fixed income analysis, including concepts of duration, convexity, and term structure of interest rates; application of concepts in bond portfolio immunization strategies; use of interest rate derivatives in portfolio hedging applications. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:217 Alternative Investments and Portfolio Strategies**

3 s.h.

Continuation of 06F:212; alternative investments, including hedge funds, private equity funds, and venture capital vehicles; purpose of alternative investments, including the risk/return profile of alternatives and correlations with traditional asset classes; specific hedge fund styles, strategies, risk profiles; portfolio strategy topics, including diversification benefits, management of downside risk, international diversification, behavioral finance, performance measures, and performance attribution analysis. Prerequisites: 06F:212 and 06N:225.

**06F:218 Corporate Financial Strategy**

3 s.h.

Major strategic decisions within the corporate form; risk management, including why firms engage in it, their methods for doing so, and exercises in the simulation of uncertainty; dividends and repurchases under the payout policy decision; corporate governance topics, including executive compensation, board structure, and institutional monitoring; merger and acquisitions analysis, including regulation, valuation, anti-takeover devices, payment method, and LBOs; divestitures and other restructuring topics, including corporate diversification, spin-offs, carve-outs, private workouts, and Chapter 11. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:219 Finance for Entrepreneurs**

3 s.h.

Understanding the process of capital acquisition and cash flow management; techniques, projections, and measurements used in valuing and funding new and growing ventures; sources and strategies for raising capital. Same as 06T:233.

**06F:220 Commercial and Investment Banking** 3 s.h.  
Overview of commercial and investment banks; principles of underwriting securities, IPOs, mergers and acquisitions, commercial lending, funding sources, asset liability management, capital management. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:221 Applied Securities Analysis - Henry Fund I** 3 s.h.  
Manage Henry Fund portfolio, learn legal environment in which the fund operates, analyze potential investments, implement controls to monitor the fund's performance; decisions and investment recommendations made by students; each student analyzes an economic sector and geographic region (i.e., utilities analyst and specialist in South East Asia); while the fund cannot currently invest directly in foreign listed stocks, it holds US listed stocks with significant overseas interests and students are able to invest in a number of ADR's. Prerequisites: 06N:225.

**06F:222 Applied Securities Analysis - Henry Fund II** 3 s.h.  
Continuation of 06F:221. Prerequisites: 06F:221 and 06N:225.

**06F:223 International Finance** 3 s.h.  
Introduction to structure and functioning of global financial markets; currency market, international equity markets; use of derivatives in currency risk management for corporate and investment needs; corporate investment decisions in an international context. Prerequisites: 06N:225. Corequisites: 06F:210.

**06F:224 Security Analysis** 3 s.h.  
Valuation of financial securities (primarily equities) using discounted cash flow model; industry, regulatory analysis; financial statement analysis; active portfolio management; value-based management techniques; valuation of firms outside the United States. Prerequisites: 06N:225.

**06F:225 Finance Theory I** 3 s.h.  
Consumption-based models of asset pricing; arbitrage, contingent claims; market efficiency and information economics, behavioral models; emphasis on theory. Requirements: Ph.D. enrollment.

**06F:226 Seminar in Corporate Finance** 3 s.h.  
Valuation (DCF and CAPM); valuation under certainty, uncertainty; financial structure, cost of capital; dividend policy; firm investment in perfect, imperfect capital markets. Requirements: Ph.D. enrollment.

**06F:227 Finance Theory II** 3 s.h.  
Continuous time theories of financial markets, including connection between an arbitrage-free pricing system and martingales; pricing of contingent claims, general equilibrium and term structure theory. Requirements: Ph.D. enrollment.

**06F:228 Advanced Empirical Finance** 3 s.h.  
Market efficiency and term structure theory tests; tests of asset pricing models, dividend policy and financial structure issues. Requirements: Ph.D. enrollment.

**06F:229 Seminar in Finance** 0 s.h.  
Requirements: Ph.D. enrollment.

**06F:230 Putting Finance into Practice** 3 s.h.  
Hands-on practical experience in corporate finance or investments; work in teams on a corporate finance project or an investment project for a corporate or institutional client; partner companies identify financial issues, challenges, and opportunities for students to help solve; students work with the companies and a faculty member to provide an analysis of the situation and proposals of actions to be taken. Prerequisites: 06N:225.

**06F:288 Directed Reading in Finance-Ph.D.** arr.  
Requirements: Ph.D. enrollment.

**06F:290 Thesis in Business** arr.





# International Business

**Coordinators:** Patricia Mason-Browne (Liberal Arts and Sciences), Andy Tinkham (Tippie College of Business)

**Undergraduate nondegree program:** Certificate in International Business

**Web site:** <http://tippie.uiowa.edu/undergraduate/programs/IBC.cfm>

The Tippie College of Business and the College of Liberal Arts and Sciences offer the undergraduate Certificate in International Business. The program is open to all University of Iowa undergraduate students and individuals who hold a bachelor's degree from The University of Iowa or another institution and are not enrolled in a graduate or professional program. See "Admission" at the end of this Catalog section.

## Certificate in International Business

The Certificate in International Business requires 29 s.h. and satisfaction of the certificate's foreign language requirement (required credit varies according to the language studied). The program is designed for undergraduate students who intend to pursue careers in international business as well as those interested in gaining a better understanding of the global economy and a broader awareness of the political, historical, and social environment in which international business operates.

The certificate program includes study of international business and economics, international relations and institutions, a foreign language, and the contemporary art, literature, culture, and/or politics of the related geographical area. The range of courses permits students to tailor areas of specialization suited to their individual interests and to complement majors in business and in liberal arts and sciences.

Students must maintain a g.p.a. of at least 2.00 on all certificate course work. Certificate courses may not be taken pass/nonpass. A course may not be used to satisfy more than one certificate requirement.

A minimum of 20 s.h. of certificate course work (other than language courses) must be completed at The University of Iowa or in approved study abroad programs. Students who want to use credit earned while studying abroad should consult an international business certificate advisor before leaving campus. University of Iowa Guided Independent Study (correspondence study) is accepted toward the certificate.

When students complete the certificate requirements and graduate, the Certificate in International Business is noted on their transcript. Contact the Tippie College of Business Undergraduate Program Office or the CLAS Academic Programs & Services office for more information.

The certificate requires course work in international business, international relations and institutions, foreign language, and area studies, as follows.

### INTERNATIONAL BUSINESS

These courses provide students with an essential understanding of economics, which is central to all business operation. They also help students develop knowledge of the functional areas of international business.

Both of these:

06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.

Three of these (total of 9 s.h.):

06E:125 Global Economics and Business	3 s.h.
06E:129 Economic Growth and Development	3 s.h.
06E:173 International Economics	3 s.h.
06F:130 International Finance	3 s.h.
06J:146 International Business Environment	3 s.h.
06M:151 International Marketing	3 s.h.
091:282 International Business Transactions	3 s.h.
091:287 International Trade Law: Basic Norms and Regulations	3 s.h.

### INTERNATIONAL RELATIONS AND INSTITUTIONS

These courses familiarize students with comparative politics, social geography, foreign policy, and issues related to world population and the environment--topics relevant to decision making in the international business world.

Two of these (total of 6 s.h.):

16A:148 Race, Gender, U.S. International History	3 s.h.
16A:152 United States in World Affairs	3 s.h.
16W:138/152:138 History of Global Health	3 s.h.
16W:155 Europe and the U.S. in the Twentieth Century	3 s.h.
019:156 Comparative Communication Systems	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:060 Introduction to International Relations	3 s.h.
030:061 Introduction to American Foreign Policy	3 s.h.
030:130 Consequences of War	3 s.h.
030:137 Introduction to Political Economy	3 s.h.
030:142 European Integration	3 s.h.
030:149 Problems in Comparative Politics	3 s.h.
030:150 Public Policy Around the World	3 s.h.
030:151 Political Leadership	3 s.h.
030:155 International Courts: The Intersection of Law and Politics	3 s.h.
030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
030:160 Women and Politics in Global Perspective	3 s.h.
030:161 International Organization and World Order	3 s.h.
030:162 American Foreign Policies	3 s.h.
030:163 Chinese Foreign Policy	3 s.h.
030:165 International Conflict	3 s.h.
030:166 Global Communication and Politics	3 s.h.
030:167 Politics and the Multinational Enterprise	3 s.h.
030:168 Politics of Terrorism	3 s.h.
030:169 Problems of International Politics	3 s.h.
030:170 The Politics of International Economics	3 s.h.
030:173 State Failure in the Developing World	3 s.h.
030:177 Globalization	3 s.h.
030:178 Causes, Consequences, and Management of Civil War	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
034:159 Families in Comparative Perspective	3 s.h.
036:042/042:042/187:042 Intercultural Communication	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:015 Introduction to Political Geography	3 s.h.
044:030 The Global Economy	3 s.h.
044:035 World Cities	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.
091:193 Human Rights in the World Community	3 s.h.
091:195 Introduction to Public International Law	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
113:104 Cultural Politics	3 s.h.
113:106 The Anthropology of War and Peace	3 s.h.
113:114 Environmentalisms	3 s.h.
113:116 Urban Anthropology	3 s.h.
113:134 Gender and Indian Diaspora	3 s.h.
113:143 Environment and Culture	3 s.h.
113:144 Culture and Consumption	3 s.h.

#### FOREIGN LANGUAGE

This component enables students to develop an intermediate level of competence in a second language. Through language study, students not only gain insight into the culture of another region of the world, they also develop a deeper understanding of their own language and culture.

Students must complete an approved foreign language sequence. For questions about languages not listed below or about study abroad course work, see an international business certificate advisor.

**Arabic**

All of these:

195:101 Elementary Modern Standard Arabic I	5 s.h.
195:102 Elementary Modern Standard Arabic II	5 s.h.
195:111 Intermediate Modern Standard Arabic I	5 s.h.
195:112 Intermediate Modern Standard Arabic II	5 s.h.

**Chinese**

All of these:

039:008-039:009 First-Year Chinese: First Semester - First-Year Chinese: Second Semester	10 s.h.
039:105-039:106 Second-Year Chinese: First Semester - Second-Year Chinese: Second Semester	10 s.h.

**French**

One of these sequences:

009:001-009:002 Elementary French I-II	10 s.h.
009:010 First-Year French Review	5 s.h.

All of these:

009:011-009:012 Intermediate French I-II	8 s.h.
One course for which 009:012 is prerequisite (may include Iowa Regents Program credit)	

**German**

One of these:

013:011-013:012 Elementary German I-II (both courses)	8 s.h.
013:014 First-Year German Review	5 s.h.

All of these:

013:021 Intermediate German I	4 s.h.
013:022 Intermediate German II	4 s.h.
One course for which 013:022 is prerequisite	

**Hindi**

039:123 First-Year Hindi: First Semester	5 s.h.
039:124 First-Year Hindi: Second Semester	5 s.h.
039:126 Second-Year Hindi: First Semester	4 s.h.
039:127 Second-Year Hindi: Second Semester	4 s.h.

**Italian**

One of these:

018:001-018:002 Elementary Italian-II (both courses)	10 s.h.
018:103 Intensive Elementary Italian	6 s.h.

All of these:

018:011-018:012 Intermediate Italian-II 8 s.h.  
One course for which 018:012 is prerequisite

### Japanese

One of these sequences:

39J:010-39J:012 First-Year Japanese: First Semester - First-Year Japanese: Second Semester 10 s.h.  
39J:011-39J:012 Elementary Japanese: Review - First-Year Japanese: Second Semester 8 s.h.

Both of these:

39J:101-39J:102 Second-Year Japanese: First Semester - Second-Year Japanese: Second Semester 10 s.h.

### Portuguese

One of these:

038:100-038:101 Accelerated Elementary Portuguese - Accelerated Intermediate Portuguese (both courses) 12 s.h.  
038:102 Portuguese for Spanish Speakers 3 s.h.

One course for which 038:101 or 038:102 is prerequisite

### Russian

All of these:

041:001-041:002 First-Year Russian I-II 8 s.h.  
041:003-041:004 Second-Year Russian I-II 8 s.h.

One course for which 041:004 is prerequisite

### Spanish

035:001-035:002 Elementary Spanish I-II (both courses) 10 s.h.

One of these:

035:011-035:012 Intermediate Spanish I-II (both courses) 10 s.h.  
035:013 Accelerated Intermediate Spanish 6 s.h.

One course for which 035:012 is prerequisite

### Swahili

All of these:

211:125-211:126 Elementary Swahili I-II 6-8 s.h.  
211:127-211:128 Intermediate Swahili I-II 6-8 s.h.

**AREA STUDIES**

These courses help students learn about the culture, contemporary history, art, literature, and politics of the geographic region in which their second language is spoken. They cover topics critical to understanding sociocultural influences on individuals with whom students share the world, and with whom they may conduct business.

Students complete 6 s.h. from one geographic area. The area should be appropriate to the language the student chooses for the language requirement.

**Asia**

Appropriate for these languages: Chinese, Hindi, or Japanese

01H:016/039:016 Asian Art and Culture	3 s.h.
01H:031/039:028 Introduction to the Art of China	3 s.h.
01H:033/39J:033 Introduction to the Art of Japan	3 s.h.
01H:119/039:159 Chinese Art and Culture	3 s.h.
01H:120/039:120 Chinese Painting I	3 s.h.
01H:123/39J:123 Japanese Painting	3 s.h.
008:132 Literature of the Indian Subcontinent	3 s.h.
016:005/039:055 Civilizations of Asia: China	3 s.h.
016:006/039:056 Civilizations of Asia: Japan	3 s.h.
16W:140 Disease, Politics, and Health in South Asia	3 s.h.
16W:172/39J:172 Japan--Age of the Samurai	3 s.h.
16W:173/39J:173 Modern Japan	3 s.h.
16W:175/39J:175 Japan--U.S. Relations	3 s.h.
16W:183 Vietnam War on Film	3-4 s.h.
16W:198/039:196 China Since 1927	3 s.h.
026:145/032:175 Buddhist Philosophy	3 s.h.
030:143/039:178 Government and Politics of the Far East	3 s.h.
030:148 Government and Politics of China	3 s.h.
030:163 Chinese Foreign Policy	3 s.h.
030:179 Human Rights and Asian Values	3 s.h.
032:004/039:064 Living Religions of the East	3 s.h.
032:006/039:006 Introduction to Buddhism	3 s.h.
032:008/039:018 Asian Humanities: India	3 s.h.
032:010/039:007 Chinese Religions	3 s.h.
032:014 Introduction to Indian Religions	3 s.h.
032:017/39J:017 Japanese Religions	3 s.h.
032:075/039:075 Asian Religious Classics	3 s.h.
032:081 Hindu Religion and Art	3 s.h.
032:116/39J:109 Japanese Religion and Thought	3 s.h.
032:163/039:162 Turning East	3 s.h.
032:171/039:163 Indian Religious Texts	3 s.h.
032:188/039:170 Zen Buddhism	3 s.h.
039:015 Introduction to Chinese Culture	3 s.h.
039:019/032:009 Asian Humanities: China	3 s.h.
039:020 Asian Humanities: Japan	3 s.h.
039:032 Chinese Popular Culture	3 s.h.
039:034 The Languages of Asia in Cultural and Historical Perspective	3 s.h.
039:036 Understanding Korean Culture Wave	3 s.h.
039:057/016:007 Civilizations of Asia: South Asia	3 s.h.
039:122/113:129 Language/Politics of Culture in South Asia	3 s.h.
039:136/032:177 Indian Literature	3 s.h.
039:140/032:186 The Literature of Daoism	3 s.h.
039:141 Chinese Literature: Poetry	3 s.h.
039:142 Chinese Literature: Prose	3 s.h.
039:145 Topics in Asian Cinema	3 s.h.

039:158/048:158 East-West Literary Relations	3 s.h.
039:180 Modern Chinese Writers	3 s.h.
039:192/048:192 East Meets West: A Cross-Cultural Course	3 s.h.
039:199 Asian Studies	arr.
39J:103 Language in Japanese Society	3 s.h.
39J:125/113:125 Japanese Society and Culture	3 s.h.
39J:141/048:143 Traditional Japanese Literature in Translation	3 s.h.
39J:142/048:142 Modern Japanese Fiction in Translation	3 s.h.
39J:144 Major Authors in Modern Japanese Literature	3 s.h.
39J:155 Contemporary Japanese Culture	3 s.h.
113:107/131:107 Gendering India	4 s.h.
113:120 Popular Culture in South Asia	3 s.h.

## Europe

Appropriate for these languages: French, German, Italian, Portuguese, or Spanish

01H:157/009:130/033:130 Paris and the Art of Urban Life	3 s.h.
008:110 Literature and Culture of 20th- and 21st-Century Britain	3 s.h.
009:030 Cultural Misunderstandings: France and U.S.A.	3 s.h.
009:114 French Civilization	3 s.h.
009:120 French-Speaking Cultures	3 s.h.
009:147/048:105 French Cinema	3 s.h.
009:148 Gender and Sexuality in French Cinema	3 s.h.
009:157 Twentieth-Century Europe in Literature and Film	3 s.h.
009:168/048:168 Post-Colonial Literature in France	3 s.h.
013:101 Introduction to German Literature	3 s.h.
013:105 German Cultural History	3 s.h.
013:108 The German Media	3 s.h.
013:115 Contemporary German Civilization	3 s.h.
13E:075 Scandinavian Crime Fiction	3 s.h.
13E:119 German Film	3 s.h.
13E:120 Germany in the World	3 s.h.
13E:151 New Literature and Film from Switzerland: Beyond Heidi and Lucerne	arr.
013:140 Literature in Film	3 s.h.
013:142 Twentieth-Century Children's Literature	3 s.h.
013:145 Twentieth-Century Literary History in Scenes/Stories	3 s.h.
16E:130 Modern European Imperialism	3 s.h.
16E:135 Twentieth-Century Europe: The Nazi Era	3 s.h.
16E:136 Twentieth-Century Europe: The Cold War and After	3 s.h.
16E:144 Modern France 1870-Present	3 s.h.
16E:146 France from 1815-Present	3 s.h.
16E:152 Modern Britain: The Twentieth Century	3 s.h.
16E:156 Germany Since 1914: Weimar, Hitler, and After	3 s.h.
16W:155 Europe and the U.S. in the Twentieth Century	3 s.h.
018:105 Modern Italian Fiction	3 s.h.
018:106 Modern Italian Poetry and Drama	3 s.h.
018:132 Images of Modern Italy	3 s.h.
030:140 Government and Politics of Europe	3 s.h.
030:142 European Integration	3 s.h.
030:147 Parties and Elections Around the World	3 s.h.
030:172 France in the 21st Century	3 s.h.
035:110 Readings in Spanish Literature	3 s.h.
035:150 Cultures of Spain	3 s.h.
035:161 Modern and Contemporary Spanish Literature	3 s.h.
038:107 Introduction to Portuguese Literature	3 s.h.
048:021 Introduction to European Film	3 s.h.
048:104 Topics in European Film	3 s.h.

048:157 Twentieth-Century Europe in Literature and Film	3 s.h.
048:163 Studies in 20th-Century European Literature	arr.
048:167 Gender and Sexuality in French Cinema	3 s.h.

#### Latin America

Appropriate for these languages: Portuguese or Spanish

008:082 Latina/o Studies	3 s.h.
008:114 Caribbean Literature and Culture	3 s.h.
008:133 Inter-American Studies	3 s.h.
16A:112 Mexican American History	3 s.h.
16A:113 Latina/o Immigration	3 s.h.
16W:106 Society and Revolution in Cuba	3 s.h.
16W:107 History of Mexico	3 s.h.
16W:110 Topics in Latin American History	3 s.h.
16W:112 Introduction to Modern Latin America	3 s.h.
16W:114 Latin America and the U.S.: The Historical Perspective	3 s.h.
16W:115 Latin American Revolution	3 s.h.
030:144 Latin American Politics	3 s.h.
030:145 Latin American Political Parties	3 s.h.
035:020 Contemporary Spanish American Narrative	3 s.h.
035:111 Readings in Spanish American Literature	3 s.h.
035:130 Cultures of Spanish America	3 s.h.
035:131 Contemporary Spanish American Fiction	3 s.h.
035:132 Spanish American Poetry	3 s.h.
035:134 Spanish American Short Story	3 s.h.
035:135 Latinos in the United States	3 s.h.
035:144/131:162 Latin American Women Writers	3 s.h.
035:145/048:145 Latin America Cinema	3 s.h.
035:171 Pan-Caribbean Literary Currents	3 s.h.
035:175 Cultural Identity in Caribbean Literature	3 s.h.
035:191/048:178 Topics in Latin American Cinema	3 s.h.
038:020 Contemporary Brazilian Narrative	3 s.h.
038:077 Brazil: The Erotic/Exotic Lure	3 s.h.
038:106 Brazilian Literature After 1900	3 s.h.
038:112 Topics in Luso-Brazilian Literature	3 s.h.
038:115 Writing Brazil in the U.S.	3 s.h.
113:131 Latin American Economy and Society	3 s.h.
113:166 The Aztecs, Their Predecessors, and Their Contemporaries	3 s.h.
130:070 Introduction to Latin American Studies	3 s.h.
130:176/038:176/048:153/113:132/035:176 Latin American Studies Seminar	3 s.h.

#### Middle East/Africa

Appropriate for these languages: Swahili, or proficiency in another contemporary Middle Eastern or African language

01H:002 Arts of Africa	3 s.h.
01H:021 Introduction to the Art of West Africa	3 s.h.
01H:022 Introduction to the Art of Central Africa	3 s.h.
01H:107 Art of West Africa	3 s.h.
008:119/129:119 African Literature	3 s.h.
008:157 Topics in African Cinema	3 s.h.
08G:014/129:008 Literatures of the African Peoples	3 s.h.
009:120 French-Speaking Cultures	3 s.h.
009:146 Francophone Cinema	3 s.h.
009:163 Francophone Literature of the African Diaspora	3 s.h.



16W:121/129:164 African History Since 1880	3 s.h.
16W:125 Women and Gender in African History	3 s.h.
16W:126 Islam in Sub-Saharan Africa	3 s.h.
16W:152 History of the Modern Middle East	3 s.h.
16W:153 Topics in the Modern Middle East	3 s.h.
030:043 Introduction to Politics in the Muslim World	3 s.h.
030:156 Ethnic and Religious Conflict in the Muslim World	3 s.h.
030:176 Governance in the Middle East	3 s.h.
032:030 Introduction to Islam	3 s.h.
032:052 Women in Islam and the Middle East	3 s.h.
032:155 Human Rights and Islam	3 s.h.
032:157 Religion and Politics: The Islamic World	3 s.h.
032:159 Comparative Islamic Law	3 s.h.
032:167 Islamic Ethics and Political Thought	3 s.h.
044:161 African Development	3 s.h.
044:164 The Middle East	3 s.h.
048:159/187:159 African Literature Today	3 s.h.
187:060 The Middle East Today: A Social Inquiry	3 s.h.
187:160 Modern Arab Narrative Identities	3 s.h.

### **Russia/Eastern Europe**

Appropriate for these languages: Russian, or proficiency in a modern Slavic language

16E:178 Soviet Union 1917-1945	3 s.h.
16E:179 Soviet Union 1945-1991	3 s.h.
030:041 Introduction to the Politics of Russia and Eurasia	3 s.h.
030:141 Russian/Post-Soviet Politics	3 s.h.
030:142 European Integration	3 s.h.
030:146 Russian Foreign Policy	3 s.h.
030:159 Politics Under Authoritarian Rule	3 s.h.
041:082 Youth Subcultures After Socialism	3 s.h.
041:086 Russian Media Today	3 s.h.
041:093 Slavic Folklore	3 s.h.
041:094 Religion and Culture of Slavs	3 s.h.
041:096 Islamic Women in Russia	3 s.h.
041:098 Introduction to Russian Culture	3 s.h.
041:099 Russia Today	3 s.h.
041:104/152:170 Health Care and Health Reforms in Russia	3 s.h.
041:126 Cult Films of the Last Soviet Generation	3 s.h.
041:134 Forbidden Masterpieces: Russian and Czech Authors Who Changed History	3 s.h.
041:155/008:155 Tolstoy and Dostoevsky	3-4 s.h.
041:160 Women in Russian Society	3 s.h.
041:164/048:164 Topics in Russian, East European, and Eurasian Studies	3 s.h.
041:165 West and East: Women in the Slavic World	3 s.h.
041:168/048:154 Twentieth-Century Czech Authors	3 s.h.
187:050 Introduction: East European and Central Asian Cultures	3 s.h.

### **Admission**

Undergraduate students pursuing a degree from The University of Iowa are eligible to work toward the Certificate in International Business. Students who already have earned a baccalaureate degree from The University of Iowa may return to complete or earn a certificate in international business if they are not enrolled in a graduate or professional program. Holders of baccalaureate degrees from other institutions who are not enrolled in a graduate or professional program may enroll at The University of Iowa to complete a Certificate in International Business. Contact the Office of Admissions.

Interested students must declare their intention to pursue the certificate with an international business certificate advisor and must submit a plan of study. Students admitted to the Tippie College of Business or advised at the college's Undergraduate Program Office should consult the advising staff in that office. Students in the College of

Liberal Arts and Sciences should consult an international business certificate advisor in the Academic Advising Center.

# Management and Organizations

**Chair:** Jay J. Christensen-Szalanski

**Professors:** Jay J. Christensen-Szalanski, Nancy R. Hauserman (Williams Teaching Professor), Amy L. Kristof-Brown (Henry B. Tippie Research Professor of Human Resource Management), Michael K. Mount (Henry B. Tippie Research Professor of Human Resource Management), Sara L. Rynes (John F. Murray Professor), Frank L. Schmidt (Gary C. Fethke Chair in Leadership), Greg L. Stewart (Henry B. Tippie Research Fellow)

**Professors emeriti:** Norman F. Kallaus, Charles R. Klasson, Lola L. Lopes, Gerald L. Rose, Peter P. Schoderbek, Duane E. Thompson, Jude P. West

**Clinical professors:** David K. Hensley, Lon D. Moeller

**Associate professors:** Terry L. Boles (Henry B. Tippie Research Fellow), Kenneth G. Brown (Henry B. Tippie Research Fellow), Amy E. Colbert (Martin and Barbara Johnson Research Fellow), Maria L. Kraimer (Gary C. Fethke Research Fellow), Scott E. Seibert (Henry B. Tippie Research Fellow)

**Lecturers:** Joseph George, Richard C. McCarty, Gale J. Mote, Dennis M. Schrag, Joseph N. Sulentic

**Undergraduate degree:** B.B.A. in Management

**Graduate degrees:** M.B.A.; M.A., Ph.D. in Business Administration

**Web site:** <http://tippie.uiowa.edu/management-organizations>

The Department of Management and Organizations offers study of human resource management; individual, team, and organizational behavior; employment law and ethics; leadership and personal development; negotiations; training and development; and organizational design.

## Undergraduate Program

The department offers a Bachelor of Business Administration in management.

### Bachelor of Business Administration

The Bachelor of Business Administration in management requires a minimum of 120 s.h., including 21 s.h. of work for the major. The program is designed to give students a thorough background in the department's study areas as well as an understanding of their application to real-life situations. Specific courses, research projects, and other experiences, such as simulations, are blended to include both theoretical and pragmatic aspects of the field.

All B.B.A. students in management choose one of three tracks: human resource management, leadership and management, or entrepreneurial management. The human resource management track covers business and employment law and prepares students to pursue careers in human resources or to earn a degree in law. The leadership and management track focuses on practical skills; it is best suited for students considering consulting or management careers. The entrepreneurial management track is intended for students who plan to start their own business or work in a small business. Each track provides a solid background in general management principles in addition to a specialized focus.

The major in management requires the following course work. For B.B.A. common requirements, see Bachelor of Business Administration in the Tippie College of Business section of the Catalog.

#### COMMON REQUIRED COURSES

Students in all tracks must complete the following three courses.

06J:130 Individuals, Teams, and Organizations	3 s.h.
06J:131 Strategic Human Resource Management	3 s.h.
06J:156 Dynamics of Negotiations	3 s.h.

#### HUMAN RESOURCE MANAGEMENT TRACK

Students in the human resource management track complete all of these:

06J:132 Law and Ethics in Management	3 s.h.
06J:160 Staffing and Talent Management	3 s.h.
06J:171 Performance Management and Reward Systems	3 s.h.

And 3 s.h. from these:

06J:145 Training and Developing Human Resources	3 s.h.
06J:146 International Business Environment	3 s.h.
06J:162 Leadership and Personal Development	3 s.h.
06T:150 Managing the Growth Business	3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.

**LEADERSHIP AND MANAGEMENT TRACK**

Students in the leadership and management track complete all of these:

06J:132 Law and Ethics in Management	3 s.h.
06J:162 Leadership and Personal Development	3 s.h.
06J:167 Team and Project Management	3 s.h.

And 3 s.h. from these:

06J:125 Entrepreneurial Strategy	3 s.h.
06J:145 Training and Developing Human Resources	3 s.h.
06J:146 International Business Environment	3 s.h.
06J:147 Nonprofit Organizational Effectiveness I	3 s.h.
06J:160 Staffing and Talent Management	3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.

**ENTREPRENEURIAL MANAGEMENT TRACK**

Students in the entrepreneurial management track complete all of these:

06J:125 Entrepreneurial Strategy	3 s.h.
06T:134 Entrepreneurial Marketing	3 s.h.
06T:150 Managing the Growth Business	3 s.h.

And 3 s.h. from these:

06T:191 Practicum in Entrepreneurship	3 s.h.
06T:192 Entrepreneurship: Business Consulting	3 s.h.
06T:194 Entrepreneurship: Advanced Business Planning	3 s.h.
06T:199 Academic Internship	arr.

**Graduate Programs**

The Department of Management and Organizations offers the Doctor of Philosophy in business administration. Ph.D. requirements are described under "Graduate Programs" in the Tippie College of Business section of the Catalog and on the Department of Management and Organizations web site.

The Master of Arts in business administration is a nonthesis degree awarded only to students who begin the Ph.D. program and decide not to continue. Incoming students may not elect to pursue the M.A.

For information about the M.B.A., see Master of Business Administration Program in the Catalog or contact the Tippie School of Management.

**Management and Organizations Courses****Primarily for Upper-Division Undergraduates**

<b>06J:020 Career Preparation</b>	arr.
<b>06J:029 First-Year Seminar</b>	1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).	
<b>06J:047 Introduction to Law</b>	3 s.h.
General history, structure of law; law's action in guiding changing economic, social patterns. Requirements: sophomore standing.	
<b>06J:048 Introduction to Management</b>	3 s.h.

Principles of management, organizational structure, decision making, leadership, line-staff relationships, administration of organizations. Requirements: sophomore standing.

**06J:101 Directed Readings in Management and Organizations** arr.

**06J:125 Entrepreneurial Strategy** 3 s.h.

The synergistic effect of entrepreneurial attributes (e.g., innovation, creativity, opportunity recognition) and managerial attributes (e.g., strategic management, planning, budgeting) on profit and nonprofit organizations.

**06J:130 Individuals, Teams, and Organizations** 3 s.h.

Theories of organizational behavior applied to current business trends for individuals, teams, organizations; personality, managing diversity, work-family conflict, self-managed teams, charismatic leadership, work motivation, managing conflict, organizational culture. Prerequisites: 06J:047 and 06J:048.

**06J:131 Strategic Human Resource Management** 3 s.h.

People management activities, policies, and practices that promote effective organizations; how changes in technology, business restructuring, legal and social concerns, other issues affect human resource management. Prerequisites: 06J:047 and 06J:048.

**06J:132 Law and Ethics in Management** 3 s.h.

Laws affecting employers and employees, such as regulatory health and safety policies, unemployment and retirement benefits, and employment discrimination including hiring, termination, testing issues. Prerequisites: 06J:047 and 06J:048.

**06J:145 Training and Developing Human Resources** 3 s.h.

Concepts, practices in training and development; strategic issues affecting the design, implementation, and evaluation of training programs and of career management and organizational development activities. Prerequisites: 06J:130, 06J:131, and 06J:132.

**06J:146 International Business Environment** 3 s.h.

Differences in international and domestic business; cultural, legal, political factors for managers. Requirements: junior or higher standing.

**06J:147 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 024:147, 032:127, 042:157, 06T:144, 096:168.

**06J:148 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as 024:148, 032:128, 042:158, 096:169.

**06J:156 Dynamics of Negotiations** 3 s.h.

Predictable aspects and dynamics of bargaining experiences; simulations, experiential exercises to foster skills needed for effective negotiation in almost any situation. Requirements: senior standing.

**06J:159 Introduction to the U.S. Health Care System** 3 s.h.

The U.S. health care system; socioeconomic, political, and environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy, concepts, terminology. Same as 174:102.

**06J:160 Staffing and Talent Management** 3 s.h.

Staffing processes; external influences such as labor markets, the legal environment; support activities such as job analysis, employment planning; staffing activities such as internal and external recruiting, selection. Prerequisites: 06J:130, 06J:131, and 06J:132.

**06J:162 Leadership and Personal Development** 3 s.h.

Practical development and application of leadership and managerial skills to enhance individual and organizational effectiveness. Prerequisites: 06J:130 and 06J:131. Requirements: senior standing.

**06J:167 Team and Project Management** 3 s.h.

Fundamentals of managing teams and group projects; emphasis on practical application, using case studies, and interactive and experiential exercises. Prerequisites: 06J:130, 06J:131, and 06J:132.

**06J:168 Topics in Management** 3 s.h.

Topics not regularly offered in other courses. Prerequisites: 06J:047 and 06J:048.

**06J:171 Performance Management and Reward Systems** 3 s.h.

Role of pay and other rewards on organizational objectives; compensation's impact on employee behavior and performance; mix of pay and benefits in compensation systems; legal environment regulating pay and benefits; nonmonetary forms of reward. Prerequisites: 06J:131.

**06J:195 Honors Thesis in Management and Organizations** 3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194. Requirements: admission to the Tippie College of Business honors program.

**06J:199 Academic Internship** arr.

Professional internship experience with associated academic content. Repeatable.

## Primarily for Graduate Students

**06J:201 Directed Readings in Management and Organizations** arr.

**06J:202 M.A. Research Report** 1 s.h.

Requirements: nonthesis M.A. enrollment.

**06J:205 Contemporary Topics in Management and Organizations** arr.

Research topics in human resources and organizational behavior.

**06J:227 Human Resource Management** 3 s.h.

Systematic approach to managing human resources through practices consistent with validated theories and empirical research; human resources practices and business strategies; human resources strategy, recruitment and selection, training and development, employment law, international human resources, career management, compensation. Requirements: graduate standing.

**06J:232 Legal Environment of Business** 3 s.h.

Legal issues surrounding start-up and day-to-day management of a business; contract law, standard business formations, tort law, employment law, business ethics, alternative dispute resolution. Prerequisites: 06N:212.

**06J:235 Maximizing Team Performance** 3 s.h.

Current approaches to implementing effective teams within organizations; team selection and formation, group dynamics, facilitation skills, performance and obstacle management.

**06J:242 Managing and Preventing Conflict** 3 s.h.

Skills for management of high-conflict situations in the workplace and for long-term business success and job satisfaction; experience developing mediation-based skills and communication techniques to prevent and resolve workplace conflicts.

**06J:244 Managing Organizational Performance** 3 s.h.

Concepts and practices for effective management, measurement, and improvement of organizational performance; establishing and communicating organizational expectations, the manager as coach and motivator, measurement and methodologies, performance improvement methods. Requirements: 06N:212 or a management course.

**06J:245 Strategic Employee Development** 3 s.h.

Concepts, practices in training and development; strategic issues affecting the design, implementation, and evaluation of training programs and of career management and organizational development activities. Prerequisites: 06N:212.

**06J:246 International Management** 3 s.h.

Management issues encountered in international business settings; assessing international politico-economic and sociocultural environments; managing a multicultural workforce; forming international structures and alliances; developing international business strategy.

**06J:247 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 024:247, 028:257, 032:227, 042:247, 091:320, 102:278, 174:247.

**06J:248 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 024:248, 028:258, 032:228, 042:248, 091:322, 102:279, 174:248.

**06J:256 Dynamics of Negotiations** 3 s.h.

Predictable aspects and dynamics of bargaining experiences; simulations, experiential exercises to foster skills needed for effective negotiation in almost any situation. Requirements: M.B.A. enrollment.

**06J:257 Legal Issues in Human Resources Management** 3 s.h.

Laws, regulations governing human resource management policies, practices; employee discipline, termination, layoffs, privacy, involvement programs; occupational safety and health; workers' compensation; discrimination. Prerequisites: 06N:212.

**06J:261 Motivating Employees in Changing Environment** 3 s.h.

Contemporary motivation theories and their application; role of intrinsic motivation, justice, incentive pay, job design, goals, feedback, social influence, attitudes, creativity. Prerequisites: 06N:212 and 06N:227.

**06J:262 Leadership and Personal Development** 3 s.h.

Major theories; determinants of leader effectiveness, personal and career success; practical development of leadership, managerial skills to enhance individual, organizational effectiveness. Prerequisites: 06N:212.

**06J:263 Strategic Management of Change** 3 s.h.

How congruence in organizational strategy, structure and culture, job design, and employee characteristics produces effective organizations; emphasis on managing organizational change, implementing and working in teams, project management. Prerequisites: 06N:212.

**06J:265 Methods for Qualitative Research** 2 s.h.

Qualitative methods available to researchers; role and contributions of qualitative methods in research; reasons why qualitative research papers get rejected by journals and strategies to avoiding them; work with qualitative data; philosophy of science, formulating research questions, sampling and gaining access, alternative qualitative data collection methods, ways of coding and analyzing qualitative data, building theory from qualitative data.

**06J:266 Methods for Experimental Research** 2 s.h.

Research and principles of experimental design, including heterogeneity of variance, analysis of variance (ANOVA), multi-attribute analysis of variance (MANOVA); orthogonal, planned and unplanned comparisons, factorial experiments, including policy capturing designs, repeated measures and nested-factors design, Latin square designs; data sets with SPSS.

**06J:267 Organizational Theory Ph.D.** 2 s.h.

Organizational theory; effect of changing environment and technological factors on organizational structure and effectiveness; resource dependency and power, conflict, interorganizational network, population ecology, economic theories of organization, institutional theory.

**06J:268 Seminar in Management** 3 s.h.

Topics vary.

- 06J:269 Meta-Analysis in Behavioral Social Sciences (Ph.D.)** 3 s.h.  
Methods for quantitative integration of findings in behavioral and social sciences; overall effect size or correlation, whether conflicting findings documented in research literature are due to moderators (interactions) or statistical and measurement artifacts.
- 06J:270 Methods for Field Research (Ph.D.)** 2 s.h.  
Methods commonly used in behavioral research; critical evaluation of research; research process from idea generation to publication; practice in generating hypotheses, drafting surveys, analyzing data, reviewing manuscripts.
- 06J:271 Performance Management** 2 s.h.  
Theories and research pertaining to employee work performance and evaluation; conceptual definitions of work performance; theories concerning the determinants of work performance; theory and research explaining the effectiveness and biases of performance evaluation systems; theories and empirical research on performance feedback; areas for future theoretical and empirical investigation in performance management.
- 06J:272 Training and Careers (Ph.D.)** 2 s.h.  
Research-based examination of training and development programs; emphasis on societal, legal, organizational factors that affect training program design, implementation, evaluation; systemic relationships among training, careers, organizational development management.
- 06J:273 Measurement Theory and Methods in the Behavioral and Social Sciences (Ph.D.)** 3 s.h.  
Classical measurement theory, methods applied to psychological tests, questionnaires, ratings of work-related and other performances, behaviors; reliability theory and methods, instrument construction and item analysis, criterion construction, validity, combining and weighting instruments, cross-validation. Requirements: basic statistical methods course.
- 06J:274 Staffing Organizations (Ph.D.)** 3 s.h.  
Aspects of selection, including professional and legal standards, job analysis techniques, validation strategies, criterion development, selection techniques (e.g., psychological tests, interviews, biographical data, assessment centers), ethical issues.
- 06J:275 Group Processes and Conflict (Ph.D.)** 2 s.h.  
Understanding and implementing work groups in organizations; social influence and group processes, including communications, conflict, intergroup relations.
- 06J:276 Leadership (Ph.D.)** 3 s.h.  
Understanding and implementing leadership in organizations; focus on reading and analysis of basic research-related leadership theories; "great person" theories in contrast to traditional behavioral and situational theories.
- 06J:277 Motivation and Attitudes (Ph.D.)** 3 s.h.  
Motivational processes, attitudes, communication and interorganizational networks; emphasis on motivational antecedents and consequences, theoretical implications for models of work performance.
- 06J:278 Reward Systems (Ph.D.)** 2 s.h.  
Compensation systems, government influences, equity in compensation and individual wage determination; research-based examination of performance evaluation and appraisal, theories of work performance.
- 06J:279 Individual Differences in Traits/Abilities (Ph.D.)** 3 s.h.  
Research on individual and group differences in intelligence, personality, interests, values, other traits; findings related to performance in work world.
- 06J:290 Thesis in Management and Organizations** arr.
- 06J:295 Mentored Research** arr.  
Management research conducted by doctoral students under faculty supervision; culminates in second-year research paper.





## Management Sciences

**Chair:** Kurt M. Anstreicher

**Professors:** Kurt M. Anstreicher (Henry B. Tippie Research Professor of Management Sciences), Warren J. Boe (Charles A. Taff Research Fellow), Gary C. Fethke (Leonard A. Hadley Professor of Leadership), Philip C. Jones (Clement T. and Sylvia H. Hanson Chair in Manufacturing Productivity), Johannes Ledolter (C. Maxwell Stanley Professor of International Operations Management), Timothy J. Lowe (Chester A. Phillips Professor of Operations Management), Padmini Srinivasan (Henry B. Tippie Research Fellow), W. Nick Street (Henry B. Tippie Research Fellow),

**Professors emeriti:** Colin E. Bell, Raj Jagannathan, Kenneth Kortanek

**Associate professors:** Samuel Burer (Martha and Dennis Hesse Research Fellow), Ann M. Campbell (Martha and Dennis Hesse Research Fellow), Renato E. de Matta (Henry B. Tippie Research Fellow), Jeffrey W. Ohlmann, Barrett W. Thomas

**Associate professor emerita:** Eleanor M. Birch

**Assistant professor:** Faiz Currim

**Lecturers:** Michael Colbert, Kevin Felker, Yvonne Galusha

**Undergraduate degree:** B.B.A. in Management Information Systems

**Graduate degrees:** M.B.A.; Ph.D. in Business Administration

**Web site:** <http://www.tippie.uiowa.edu/management-sciences/>

The Department of Management Sciences specializes in using advanced computation and mathematical techniques to solve critical business problems. Its research and instruction strengths include operations management, information systems, and quantitative methods.

## Undergraduate Program

The department offers a Bachelor of Business Administration in management information systems.

### Bachelor of Business Administration

The Bachelor of Business Administration in management information systems requires a minimum of 120 s.h., including 22 s.h. of work for the major. The program provides a variety of educational experiences that develop students' knowledge of managerial decision-making systems. Students acquire skill in applying this knowledge by constructing quantitative models, using computer technology, and creating database systems.

Students majoring in management information systems prepare for career opportunities in both manufacturing and service organizations. Graduates find entry-level work as computer programmers, systems analysts, sales representatives with computer companies, and management trainees. Entry-level work in operations management is found in materials management, line supervision, purchasing, and manufacturing systems.

Requirements for the management information systems major are as follows. For B.B.A. common requirements, see Bachelor of Business Administration in the Tippie College of Business section of the Catalog.

06K:126 Visual Basic Programming	3 s.h.
06K:182 Applications Database Management Systems	3 s.h.
06K:183 Systems Analysis and Design	3 s.h.
06K:184 Introduction to Data Communications	3 s.h.
06K:185 MIS Capstone Project	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.
One additional course from approved list of management sciences courses	3 s.h.

## Graduate Programs

The Department of Management Sciences offers the Doctor of Philosophy in business administration. Ph.D. requirements are described under "Graduate Programs" in the Tippie College of Business section of the Catalog and on the Department of Management Sciences web site.

The Master of Arts in business administration is a nonthesis degree awarded only to students who begin the Ph.D. program and decide not to continue. Incoming students may not elect to pursue the M.A.

For information about the M.B.A., see Master of Business Administration Program in the Catalog or contact the Tippie School of Management.

## Management Sciences Courses

### Primarily for Undergraduates

#### 06K:029 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**06K:070 Computer Analysis**

3 s.h.

The computer and its uses in organization operation, management; computer systems terminology, programming, management information systems, use of applications software.

**For Undergraduate and Graduate Students****06K:100 Operations Management**

3 s.h.

Strategic, tactical, operational issues that arise in management of production and service operations; product and process design, facilities planning, quality management, materials management, operations planning and scheduling, emerging technologies in production and service management. Prerequisites: 22S:008. Corequisites: 06K:070, if not taken as a prerequisite. Requirements: junior standing.

**06K:101 Directed Readings**

arr.

**06K:126 Visual Basic Programming**

3 s.h.

Introduction to programming using Visual Basic. Prerequisites: 06K:070 or 06K:170.

**06K:128 Web and Multimedia**

3 s.h.

How multimedia tech is accomplished; tools used with each tech and modifications needed to function efficiently on the web; projects culminating in a web site.

**06K:170 Advanced Computer Analysis**

3 s.h.

Advanced spreadsheet and database application for decision analysis with macro coding and exploration of Web 2.0 technologies.

**06K:176 Managerial Decision Models**

3 s.h.

Mathematical programming, including linear, nonlinear, and dynamic programming, with applications in economics and management; classical optimization techniques, transportation, network flow problems.

**06K:177 Management Sciences Topics**

arr.

Special topics in management sciences and information systems.

**06K:180 Applied Information Systems**

3 s.h.

Application of computer technology to accounting and transaction processing systems; information systems infrastructure and trends; problem solving with microcomputer spreadsheets, databases; accounting cycle operations using accounting software. Prerequisites: 06A:001, 06A:002, and 06K:070 or 06K:170.

**06K:182 Applications Database Management Systems**

3 s.h.

Design and implementation of a database using relational DBMS; emphasis on issues of logical and physical design, database administration, concurrency control, maintenance. Prerequisites: 06K:070 or 06K:170.

**06K:183 Systems Analysis and Design**

3 s.h.

Design and implementation of an information system; student projects in determination of information needs, system design, information plan development; construction of prototype information system. Prerequisites: 06K:126. Corequisites: 06K:182, if not taken as a prerequisite.

**06K:184 Introduction to Data Communications**

3 s.h.

Computer communications: computer-communication system, hardware, data transmission principles; examples of existing communication networks; related managerial issues. Prerequisites: 06K:070 or 06K:170.

**06K:185 MIS Capstone Project**

3 s.h.

Individual or team senior project incorporating knowledge and skills from management information science curriculum; projects from real-world customer, such as a software system, security system, or network design; outcomes including written documentation, presentation, project report. Prerequisites: 06K:183. Corequisites: 06K:184, if not taken as a prerequisite. Requirements: completion of 90 s.h.

**06K:186 Database Management II**

3 s.h.

Advanced conceptual and logical design, in-depth SQL, DB administration, concurrency control, web database access; theory and practice. Prerequisites: 06K:182.

**06K:188 Computer and Network Security** 3 s.h.  
Network-based attacks and how to respond to them; access control, authentication methods, encryption, Public Key Infrastructure, operating system hardening, security policy practices. Prerequisites: 06K:184.

**06K:189 E-Commerce Technology** 3 s.h.  
Technical tools for building e-commerce web sites; Dot Net versions of active server pages, VB, C#; student project to build prototype of an e-commerce site. Prerequisites: 06K:070 or 06K:170.

**06K:190 Network Design and Performance** 3 s.h.  
Computer software as central to the study of network facilities selection, performance metrics; skill development through work with the telecommunications hierarchy's layered structure. Prerequisites: 06K:184.

**06K:192 Supply Chain Management** 3 s.h.  
Key issues in design and management of global supply chains; issues in integration of business processes across organizations that are concerned with movement of goods, delivery of services, and information flow along the supply chain in order to create value for the customer; issues in coordinating production and logistics within a firm and with outside suppliers and customers in the supply chain. Prerequisites: 06K:100.

**06K:195 Honors Thesis in Management Sciences** 3 s.h.  
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194. Requirements: admission to the Tippie College of Business honors program.

**06K:199 Academic Internship** arr.  
Professional internship experience with associated academic content. Repeatable.

## Primarily for Graduate Students

**06K:201 Directed Readings** arr.

**06K:217 Data and Decisions II** 3 s.h.  
Advanced quantitative analysis techniques with management applications; multiple regression, time series, monte-carlo simulation, and linear, nonlinear, and discrete optimization; emphasis on spreadsheet-based modeling. Prerequisites: 06N:216.

**06K:218 Statistical Methods for Process Improvement** 3 s.h.  
Strategies to improve quality of products, effectiveness of processes; managerial issues, statistical methods, quality, customer needs, customer satisfaction, quality measures and standards; understanding and reducing variability; builds on 06N:216 (Data and Decisions); data-based management, statistical process control, control charts, capability indexes, design of experiments. Prerequisites: 06N:216.

**06K:220 Introduction to Information Systems** 3 s.h.  
Effective ways for business firms to harness the power of information technology for strategic purposes; conventional and emerging architectures of information systems; integrated perspective on structural relationships among IT components; emphasis on case studies.

**06K:223 Management of E-Commerce Systems** 3 s.h.  
Benefits, capabilities, and related information technologies that compose the current state of electronic commerce; how to design, develop, and operate electronic commerce transaction processing-based applications; focus on web-based e-commerce systems and associated business models.

**06K:226 Visual Basic Programming** 3 s.h.  
Introduction to programming using Visual Basic. Corequisites: 06K:070.

**06K:227 Introduction to Modeling with VBA** 3 s.h.

Introduction to programming Visual Basic for Applications in Excel; case studies in finance, marketing, operations, accounting. Prerequisites: 06N:216.

**06K:228 Web and Multimedia** 3 s.h.

How multimedia tech is accomplished; tools used with each tech and modifications for efficient function on the web; projects culminating in a web site. Prerequisites: 06K:070.

**06K:230 Database Systems** 3 s.h.

Theories and methodologies for semantic, logical, and physical database design; entity/relationship diagrams and their mapping to database schemas; normalization; languages for relational database systems, including relational algebra, Structured Query Language, query by example; query optimization and index selection; database and view creation, query and update processing; form and report design; practice with commercial DBMS products; integrity, security, concurrency control, transaction recovery.

**06K:234 Information and Knowledge Management** 3 s.h.

How organizations acquire, manage, and use information; knowledge management and competitive intelligence, information from inside and outside the organization; organization types, including library, corporate, and nonprofit. Corequisites: 06K:230. Same as 021:234.

**06K:235 Strategic Information Technology** arr.

Impact of emerging technology, especially information technology, on a modern business; solving business problems using the intersection of innovation and emerging technology; impact of near-term technology advances (such as e-commerce tools, personal digital devices and integrated business systems); potential impact of emerging technologies which will significantly impact the business world in the near future; highly interactive course includes lecture, readings, case studies, and guest speakers.

**06K:272 Database Analysis and Design** 3 s.h.

Advanced topics in database management systems.

**06K:275 Knowledge Discovery** 3 s.h.

Knowledge discovery process, including data reduction, cleansing, transformation; advanced modeling techniques from classification, prediction, clustering, association; evaluation and integration. Same as 22C:141.

**06K:277 Management Sciences Topics** 3 s.h.

**06K:278 Web Mining** 3 s.h.

Techniques for mining the web and other unstructured or semistructured, hypertextual, distributed information repositories; crawling, indexing, ranking, filtering algorithms.

**06K:285 Project Management** 3 s.h.

Preparation for managing projects and project portfolios; project selection, project planning and budgeting, scheduling, resource allocation, project control; integration of project planning tools, including project management software.

**06K:286 Linear Programming** 3 s.h.

Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as 056:270.

**06K:287 Discrete Optimization** 3 s.h.

Introduction to modeling and solving discrete optimization problems; integer programming, network flows, dynamic programming. Prerequisites: 06K:286.

**06K:288 Computer and Network Security** 3 s.h.

Network-based attacks and how to respond to them; access control, authentication methods, encryption, Public Key Infrastructure, operating system hardening, security policy practices.

**06K:289 E-Commerce Technology** 3 s.h.

Technical tools for building e-commerce web sites; Dot Net versions of active server pages, VB, C#; student project to build prototype of an e-commerce site.

**06K:290 Thesis in Management Sciences**

arr.

Requirements: Ph.D. enrollment.

**06K:291 Lean Enterprise**

3 s.h.

How organizations transform themselves into Lean enterprises that maximize customer value through the elimination of waste; focus on how manufacturing and service organizations successfully align their process improvement efforts to strategic goals of the organization (policy deployment); A3 thinking, strategic planning, balanced scorecard, Lean supply chain, employee engagement, and cultural transformation. Prerequisites: 06N:229.

**06K:292 Supply Chain Management**

3 s.h.

Design, operation, and management of a supply chain; supplier and customer contracting and partnering, inventory, transportation and logistics. Prerequisites: 06N:229.

**06K:293 Seminar in Lean Practices**

3 s.h.

Lean principles across the enterprise; real-world applications in manufacturing and service sectors; taught in conjunction with LAI Lean Academy.

**06K:294 Rapid Continuous Improvement**

3 s.h.

Hands-on experience working on rapid continuous improvement (RCI) teams sponsored by industrial affiliates of the business college involved in using RCI. Offered spring break.

**06K:295 Field Studies in Operations Management**

3 s.h.

Supervised study of operations systems in field settings; problem formulation, identification of process improvements, communication of results to client organizations. Prerequisites: 06N:229.

**06K:296 Six Sigma Project**

3 s.h.

Apply theory from the classroom into the real world; use classroom learning from 06K:218 to work on a company-sponsored Six Sigma style project, which helps complete the requirements for Six Sigma Green Belt certification. Prerequisites: 06K:218.

**06K:297 Research Seminar in Management Sciences**

0 s.h.

Current research topics. Requirements: Ph.D. enrollment.

**06K:299 Special Topics in Management Sciences**

arr.

## Marketing

**Chair:** Gary J. Russell

**Professors:** Catherine A. Cole (Henry B. Tippie Research Fellow), Gary J. Gaeth (Cedar Rapids Area Business Chair), Thomas S. Gruca (Henry B. Tippie Research Professor of Marketing), Irwin P. Levin (Ray Shearman Research Fellow), Gary J. Russell (Henry B. Tippie Research Professor of Marketing)

**Professors emeriti:** Carol C. Fethke, Peter C. Riesz, Randall L. Schultz, Doyle L. Weiss

**Associate professors:** John P. Murry, Dhananjay Nayakankuppam (Henry B. Tippie Research Fellow), Lopo L. Rego (Gary C. Fethke Research Fellow)

**Associate professor emeritus:** E. John Kottman

**Assistant professors:** Sheila Goins, William Hedgcock, Jing (Alice) Wang, Nara Youn, Qin Zhang

**Lecturers:** David E. Collins, Francis C. Rydzewski

**Undergraduate degree:** B.B.A. in Marketing

**Graduate degrees:** M.B.A.; Ph.D. in Business Administration

**Web site:** <http://tippie.uiowa.edu/marketing/>

The Department of Marketing offers programs that follow business trends and lead business practice.

## Undergraduate Program

The department offers a Bachelor of Business Administration in marketing.

### Bachelor of Business Administration

The Bachelor of Business Administration in marketing requires a minimum of 120 s.h., including 17 s.h. of work for the major. The program is designed to provide undergraduate students with an understanding of the business, social, and economic roles of marketing and to prepare them for marketing careers.

Several decades ago, the study of marketing dealt almost exclusively with business activities involved in the flow of goods from production to consumption. Today it includes principles that are more widely applicable; they are as relevant to the success of arts, sports, and social programs as they are to firms selling goods and services. A major in marketing includes study in the behavioral sciences, communications, statistical analysis, and computer methods as well as marketing decision making.

Graduates find employment opportunities as market analysts, merchandise managers, buyers, purchasing agents, advertising managers, brand managers, and sales representatives in a variety of profit and nonprofit organizations.

Requirements for the marketing major are as follows. For B.B.A. common requirements, see Bachelor of Business Administration in the Tippie College of Business section of the Catalog.

06M:102 Professional Preparation in Marketing	2 s.h.
06M:134 Marketing Research	3 s.h.
06M:135 Consumer Behavior	3 s.h.
06M:147 Marketing Management (must be taken in senior year)	3 s.h.

Two of these:

06M:105 Web Business Strategy	3 s.h.
06M:107 Retail Strategies	3 s.h.
06M:125 Direct Marketing Strategies	3 s.h.
06M:137 Advertising Theory	3 s.h.
06M:139 Sales Management	3 s.h.
06M:151 International Marketing	3 s.h.
06M:190 Contemporary Topics in Marketing (counts once toward the major)	3 s.h.
06M:192 Marketing Institute Field Studies	3 s.h.
06M:197 Field Studies in Marketing	3 s.h.

## Graduate Programs

The Department of Marketing offers a Doctor of Philosophy in business administration. Ph.D. requirements are described under "Graduate Programs" in the Tippie College of Business section of the Catalog and on the Department of Marketing web site.

The Master of Arts in business administration is a nonthesis degree awarded only to students who begin the Ph.D. program and decide not to continue. Incoming students may not elect to pursue the M.A.

For information about the M.B.A., see Master of Business Administration Program in the Catalog or contact the Tippie School of Management.

## Marketing Courses

### Primarily for Upper-Division Undergraduates

**06M:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**06M:100 Introduction to Marketing Strategy** 3 s.h.  
Philosophy and activities of marketing; marketing environment of an organization; strategies with respect to marketing decisions, buyer behavior; spreadsheet analysis of marketing problems. Prerequisites: 06E:001. Requirements: junior standing.

### For Undergraduate and Graduate Students

**06M:101 Directed Readings in Marketing** arr.

**06M:102 Professional Preparation in Marketing** 2 s.h.  
Overview of marketing careers; how marketing strategies are developed, evaluated, and implemented; how research on buyer behavior is used in marketing decisions; identification of research methodologies, analytical tools, and technologies for addressing marketing problems; marketing's relationship to other business and organizational functions and to the external environment. Prerequisites: 06M:100.

**06M:105 Web Business Strategy** 3 s.h.  
Introduction to World Wide Web business and marketing; concepts, methods, and applications associated with doing business on the web; web page construction and design; case studies and/or entrepreneurial projects. Prerequisites: 06M:100.

**06M:107 Retail Strategies** 3 s.h.  
Strategies for retail site selection, store design, supply chain management, customer relationship management/customer service; merchandising management strategies for planning merchandise assortments, buying systems, buying merchandise, pricing, promotion. Prerequisites: 06M:100.

**06M:125 Direct Marketing Strategies** 3 s.h.  
Principles and processes of direct and database marketing; insight into the requirements for building a customer-based marketing strategy. Prerequisites: 06M:100.

**06M:134 Marketing Research** 3 s.h.  
Marketing, research methods; role of marketing research information as a tool in management decision making. Prerequisites: 06E:071 and 06M:100.

**06M:135 Consumer Behavior** 3 s.h.  
Behavioral and social aspects of marketing; research methods and findings from behavioral sciences, their relation to production, consumption, and marketing of products, services. Prerequisites: 06M:100.

**06M:137 Advertising Theory** 3 s.h.  
Advertising as a promotional force; emphasis on theory, planning, resulting strategic and tactical decisions made by advertising executives. Prerequisites: 06M:100.

**06M:139 Sales Management** 3 s.h.  
Personal selling, management of sales force; emphasis on recruitment, selection, training of sales representatives; problems in allocation of sales effort, supervision, control. Prerequisites: 06M:100.

**06M:147 Marketing Management** 3 s.h.  
Marketing problems of organizations; emphasis on marketing manager's role in developing, presenting goal-oriented marketing strategies; application of marketing concepts to real business situations. Prerequisites: 06M:100, 06M:134, and 06M:135. Requirements: marketing elective numbered above 100 and senior standing.



**06M:151 International Marketing**

3 s.h.

Differences in global environment: how cultural considerations, political, legal, and economic conditions affect market entry strategies and marketing mix decisions; development of marketing plan for non-U.S. environments. Prerequisites: 06M:100.

**06M:190 Contemporary Topics in Marketing**

3 s.h.

Topics not regularly offered in other courses. Prerequisites: 06M:100.

**06M:191 Marketing Institute Seminar I**

1 s.h.

Soft skills and professional expertise to succeed in marketing and consulting careers; resume and interview training, industry presentations, business case assignments, lectures. Prerequisites: 06M:100. Requirements: admission to the Marketing Institute.

**06M:192 Marketing Institute Field Studies**

3 s.h.

Plan, design, carry out, and report on a marketing research project for a profit or nonprofit client organization; communicate with managers, apply knowledge of marketing research, meet deadlines, and convert research findings into actionable recommendations for management. Prerequisites: 06M:100 and 06M:191. Requirements: admission to the Marketing Institute.

**06M:193 Marketing Institute Seminar II**

0 s.h.

Develop soft skills and professional expertise to succeed in marketing and consulting careers; résumé and interview training, industry presentations, business case assignments, lectures; mentor students scheduled for 06M:191. Prerequisites: 06M:100, 06M:191, and 06M:192. Requirements: admission to the Marketing Institute.

**06M:195 Honors Thesis in Marketing**

3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: 06B:194 or 06E:194. Requirements: admission to the Tippie College of Business honors program.

**06M:197 Field Studies in Marketing**

3 s.h.

Experience in planning, designing, carrying out, reporting on a marketing research project for a profit or nonprofit client organization; communication with managers, application of marketing research, meeting deadlines, converting research findings into action recommendations for management. Prerequisites: 06M:100 and 06M:134.

**06M:199 Academic Internship**

arr.

Professional internship experience with associated academic content. Repeatable.

**Primarily for Graduate Students****06M:201 Directed Readings in Marketing**

arr.

**06M:205 Web Business Strategy**

3 s.h.

Introduction to World Wide Web business and marketing; concepts, methods, and applications associated with doing business on the web; web page construction and design; case studies and/or entrepreneurial projects. Prerequisites: 06N:211.

**06M:223 Brand Management**

3 s.h.

Strategies for building, leveraging, and defending brands; principles of consumer behavior, how they relate to building brand identity and equity; branding of consumer goods and services. Prerequisites: 06N:211.

**06M:225 Direct Marketing Strategies**

3 s.h.

Principles and processes of direct and database marketing; insight into requirements for building a customer-based marketing strategy. Prerequisites: 06N:211.

**06M:227 Category Management**

3 s.h.

Marketing strategy related to manufacturing product line interactions, retailer product assortment, consumer response; category definition, product line pricing and branding, cross-category promotions, channel coordination, efficient consumer response, loyalty programs, database marketing. Prerequisites: 06N:211.

- 06M:228 Cases in Marketing Strategy** 3 s.h.  
Topics from marketing cases not covered in other marketing electives. Prerequisites: 06N:211.
- 06M:229 Customer Relationship Management** 3 s.h.  
Analytical approaches to customer relationship management; issues, techniques and terminology associated with database marketing and data mining; analysis of customer databases; assessing lifetime valuation (LTV) of customers, identifying "high potential" customers, estimating return on marketing investment, building predictive models to estimate the probability of response to a marketing campaign. Prerequisites: 06N:211.
- 06M:230 Marketing Research Methods** 3 s.h.  
Managerial applications of marketing research techniques, including methods of design, analysis, interpretation of marketing research studies; assessing value of information, sampling, sources of bias, instrument construction, interpretation of scanner data, geodemographic data, applications of integrated research systems. Prerequisites: 06N:211 and 06N:216.
- 06M:231 Business to Business Marketing** 3 s.h.  
Industrial buyer behavior, buyer-seller relationships, interactive product policy and market segmentation, distribution and selling systems; skill development in market strategy formulation for industrial products and services, and in solving problems and making decisions about industrial marketing. Prerequisites: 06N:211.
- 06M:232 Buyer Behavior** 3 s.h.  
Behavior of consumers and industrial buyers; research methods and findings from behavioral sciences applied to production, consumption, and marketing of products and services; application of consumer behavior concepts to managerial decision making. Prerequisites: 06N:211.
- 06M:233 Service Marketing** 3 s.h.  
Production, consumption, and marketing of services; solutions to problems faced by service managers; development of an organizational marketing system for delivery of quality service. Prerequisites: 06N:211.
- 06M:234 Product Management** 3 s.h.  
Techniques of new product development; idea generation, concept screening, product design, market testing, forecasting, brand management strategies within the firm. Prerequisites: 06N:211 and 06N:216.
- 06M:235 International Marketing** 3 s.h.  
Domestic versus international perspective; identification and evaluation of opportunities and risks in non-U.S. markets; research problems in global markets; effects of international organizations, foreign exchange, macroeconomic policies, local law, and cultural differences on consumer behavior and marketing decisions; multinational versus global marketing strategies (entry, product adaptation, channel logistics, pricing, promotion); emphasis on practical applications. Prerequisites: 06N:211.
- 06M:236 Advertising and Promotion Strategy** 3 s.h.  
Marketing communications as dialogue between producers and consumers, how promotional mix evolves; emphasis on advertising, sales promotion, branding. Prerequisites: 06N:211.
- 06M:237 Field Studies in Marketing** 3 s.h.  
Experience in planning, designing, carrying out, reporting on a marketing research project for a profit or nonprofit client organization; communication with managers, application of marketing research, meeting deadlines, converting research findings into action recommendations for management. Repeatable. Prerequisites: 06N:211 and 06N:216. Recommended: 06M:230.
- 06M:238 Contemporary Topics in Marketing** 1-3 s.h.  
Topics not regularly offered in other courses. Prerequisites: 06N:211.
- 06M:242 Seminar in Marketing Models-Ph.D.** 3 s.h.  
Theoretical, operational models in marketing, with emphasis on recent advances; in-depth criticism of models, participation in model development project.
- 06M:243 Seminar in Consumer Behavior-Ph.D.** 3 s.h.

Key facets of consumer behavior--information processing, perception, memory, learning, attitude formation, attitude change, decision making, emotion; behavioral research methods.

**06M:245 Seminar in Research Topics-Ph.D.** arr.  
Individual research topics.

**06M:247 Directed Readings in Marketing-Ph.D.** arr.

**06M:250 Applied Marketing Research** 3 s.h.  
Research design, survey design, sampling, data analysis, qualitative research methods, research project management.

**06M:251 Marketing Analytics** 3 s.h.  
Quantitative tools to support marketing planning decisions, including forecasting, elasticity analysis, conjoint analysis, and customer LTV; analysis of syndicated data.

**06M:252 Strategic Brand Positioning** 3 s.h.  
Define market boundaries; use customer and competitor analyses to create sustainable market positions; create and manage brand identities; brand architecture, brand equity measurement.

**06M:253 Product and Pricing Decisions** 3 s.h.  
Create and capture value through product and service design, including stage-gate evaluation models; implement pricing strategy for new products and existing product lines.

**06M:254 Customer Analysis** 3 s.h.  
Use customer insights to support successful marketing programs; organizational, individual, and joint decision making; post sale satisfaction behaviors.

**06M:255 Marketing Communication and Promotions** 3 s.h.  
Develop effective communication programs for business and consumer markets; manage agency relationships; integrate media/vehicle platforms; track and evaluate investments in communications and promotions.

**06M:256 Managing Distribution Networks** 3 s.h.  
Select distribution channels, manage distributor relationships; category level competition and coordination; monitor distributor performance.

**06M:290 Thesis in Marketing** arr.

# Master of Business Administration Program

**Associate dean:** Jarjis Sa-Aadu  
**Assistant dean:** Colleen Downie  
**Graduate degree:** M.B.A.  
**Web site:** <http://tippie.uiowa.edu/mba/>

The Henry B. Tippie School of Management offers a Master of Business Administration (M.B.A.) program that provides students with a foundation for future growth and flexibility in professional management. The program, which is fully accredited by AACSB International—the Association to Advance Collegiate Schools of Business, enables students to build broad-based professional portfolios of analytical skills, knowledge, leadership, and applied experiences. The curriculum is rigorous, yet learning takes place in a collaborative environment that builds teamwork skills and encourages independent problem solving.

Students in Tippie M.B.A. programs come from every region of the United States and from countries worldwide. They represent a variety of backgrounds, undergraduate majors, and professional experience. The curriculum is designed for college graduates in any field; previous business course work is not required. However, full-time work experience is typically required for admission. Contact the Tippie School of Management for a brochure listing complete program requirements.

Students in the full-time M.B.A. program may enroll in one of several joint degree programs, simultaneously earning an M.B.A. and a University of Iowa graduate or professional degree in another discipline. See "Joint Degree Programs" below.

## Full-time M.B.A.

The full-time M.B.A. program requires 67 s.h. of graduate credit, including 33 s.h. of required courses and 34 s.h. of career academy and elective course work. Students complete business foundation (core) courses during their first semester in the program (fall) and advanced core courses, career academy courses, and electives in the remaining three semesters. M.B.A. students must complete 06N:201 Leadership, Ethics, and Professionalism each semester; the course provides in-class and out-of-class training and experience in career advancement, ethics in business, leadership assessment and development, and academy-specific skill-building activities. A weeklong international immersion in January of the second year strengthens students' knowledge of global business.

The program's career academies are the framework through which students become experts in a specific business field. Each career academy provides a unique set of curricular offerings as well as academic and professional experiences that include industry projects, interactions with the business community and with alumni, and skill-building activities designed to increase each student's marketability. Prior to the second semester (spring), students choose one of the following career academies and concentration tracks based on their career goals.

Finance Career Academy (concentration tracks include corporate finance and investment management)

Marketing Career Academy (offers one concentration track, managing customers, products, and brands)

Strategic Innovation Career Academy (concentration tracks include process excellence and strategic management of innovation)

The full-time M.B.A. study plan is as follows.

### First Semester

06N:201 Leadership, Ethics, and Professionalism	2 s.h.
06N:204 Corporate Communications	2 s.h.
06N:211 Marketing Management	2 s.h.
06N:212 Management in Organizations	2 s.h.
06N:215 Corporate Financial Reporting	2 s.h.
06N:216 Data and Decisions	2 s.h.
06N:225 Managerial Finance	2 s.h.
06N:229 Operations Management	2 s.h.

### Second Semester

06N:201 Leadership, Ethics, and Professionalism	2 s.h.
06N:228 International Economic Environment of the Firm	2 s.h.
06N:244 Seminar in Project Management	1 s.h.

06N:245 Strategic Business Consulting	3 s.h.
Academy courses/electives	12 s.h.

**Third Semester**

06N:201 Leadership, Ethics, and Professionalism	2 s.h.
06N:240 Strategic Management and Policy	2 s.h.
06N:241 Business Integration	2 s.h.
06N:235 Seminar in International Business	0-3 s.h.
Academy courses/elective	9 s.h.

**Fourth Semester**

06N:201 Leadership, Ethics, and Professionalism	1 s.h.
Academy course/elective	15 s.h.

**Admission**

Applicants to the M.B.A. program must submit a complete application file, including the following:

- a completed Tippie School of Management application form and fee;
- official transcripts of all undergraduate and graduate course work, which must be submitted to the Office of Admissions by each institution attended;
- official Graduate Management Admission Test (GMAT) scores;
- the completed supplemental application form with essay responses, a résumé, and a cover letter;
- three completed recommendation forms.

Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). In place of TOEFL, the program accepts International English Testing System (IELTS) scores.

For TOEFL registration information, contact the University of Iowa Office of Admissions.

The full-time M.B.A. program admits students only for fall entry. Application deadlines are as follows:

- International applicants: April 15
- U.S. citizens and permanent residents (priority deadline): April 15
- U.S. citizens and permanent residents: July 30

Applications received after April 15 are considered on a space-available basis.

**Accelerated Professional Track**

Highly qualified undergraduate students in the University of Iowa College of Liberal Arts and Sciences, the College of Engineering, or the Tippie College of Business may be admitted to the full-time M.B.A. program's Accelerated Professional Track (APT). These students begin taking M.B.A. core courses as electives during their undergraduate programs; this permits them to earn a bachelor's degree and an M.B.A. more quickly than they would if they pursued each degree separately. APT students must complete an internship in the program.

To enter the APT program, students must complete 90 s.h. of undergraduate work, have a g.p.a. of at least 3.50, have clearly defined career goals, and indicate their intent to pursue both degree programs on a full-time basis. Students also must have a professional background similar to that of students enrolled in the M.B.A. program.

**Joint Degree Programs**

Joint degree programs allow students to pursue two degrees simultaneously, earning both more quickly than they would if they pursued each degree separately. The Tippie School of Management collaborates with several other University of Iowa academic units to offer joint professional or graduate degrees: an M.B.A./J.D. with the College of Law; an M.B.A./M.D. with the Carver College of Medicine; and an M.B.A./M.H.A. with the College of Public Health.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the joint degree program.

## M.B.A. for Professionals and Managers

The M.B.A. for Professionals and Managers (M.B.A.-PM) program requires 45 s.h. of graduate credit. The program is tailored for working professionals building on the synergies of working and concurrent learning. It prepares graduates to be effective leaders in the global marketplace. The curriculum is designed for students with varied backgrounds, undergraduate majors, and professional experience. Previous course work in business is not required.

Courses are offered each semester during evening hours or weekends in Cedar Rapids at the college's Cedar Rapids Center; in Des Moines at the John and Mary Pappajohn Education Center (JMPEC); and in the Quad Cities at the Palmer College of Chiropractic. M.B.A.-PM students also may enroll in full-time M.B.A. courses in Iowa City when space is available.

The M.B.A.-PM program requirements include a business core of nine courses, which develops competency in general management skills and key functional business areas, and six business electives. The elective courses contribute to the development of an area of expertise and foster a deeper understanding of management and business practices; they are offered in marketing, finance, and management, with a smaller number offered in management information systems/operations management, accounting, and entrepreneurship. Some students earn the degree in as few as two years, but they may have up to 10 years to complete it. Most earn the M.B.A. in three years, taking two courses each fall and each spring semester and one course during the summer. Course sequencing is flexible. A sample study plan follows.

### FIRST YEAR

06N:211 Marketing Management	3 s.h.
06N:212 Management in Organizations	3 s.h.
06N:215 Corporate Financial Reporting	3 s.h.
06N:216 Data and Decisions	3 s.h.
Business elective	3 s.h.

### SECOND YEAR

06N:213 Managerial Economics	3 s.h.
06N:225 Managerial Finance	3 s.h.
06N:229 Operations Management	3 s.h.
Two business electives	6 s.h.

### THIRD YEAR

06N:223 Global Business Strategy	3 s.h.
06N:240 Strategic Management and Policy	3 s.h.
Three business electives	12 s.h.

### Admission

The M.B.A.-PM program admits students for fall or spring entry; applications are accepted throughout the year. Admission decisions are based on the completed application materials, including quality of work experience, undergraduate grade-point average, GMAT score, and letters of reference. Applicants should have at least one and one-half years of postbaccalaureate professional work experience before admission.

Admission decisions are made before registration begins for completed applications received by the priority application deadline. Admitted applicants who have met the priority application deadline may request registration for classes on the first date of registration. The University must receive completed application materials by the following application deadlines.

Priority deadline for fall semester (August): May 1

General deadline for fall semester (August): July 15

Priority deadline for spring semester (January): October 1

General deadline for spring semester (January): December 15

### Enrollment in Courses Before Formal Admission

Individuals who have not yet been admitted to the program may request pre-M.B.A. status by submitting their résumé and transcript to the Tippie School of Management for approval; they should have at least one and one-half years of postbaccalaureate professional work experience. Those granted special pre-M.B.A. status may enroll in a maximum of three M.B.A.-PM courses over 12 months; two of the three must be selected from the following list.

06N:213 Managerial Economics	1-3 s.h.
06N:215 Corporate Financial Reporting	2-3 s.h.
06N:216 Data and Decisions	2-3 s.h.
06N:225 Managerial Finance	2-3 s.h.

Pre-M.B.A. students who begin with one course in their first semester must select that course from the list above. Those who take two courses their first semester must include one from the list above; for the second course, the program recommends a qualitative course such as 06N:211 Marketing Management or 06N:212 Management in Organizations.

Credit is applied to the degree once the applicant is admitted to the program.

### **Executive M.B.A.**

The Executive M.B.A. requires 50 s.h. of graduate credit. Admission is limited to experienced executives who want to broaden their management skills without interrupting their professional careers. Applicants should have at least 10 years of postgraduate managerial experience. Previous academic work in business is not required.

Course work is presented over 21 months. The program begins in mid-August with a five-day residency in Iowa City, followed by classes one day each week on alternating Fridays and Saturdays. A second five-day residency is held at the beginning of the second year. Students complete 16 core courses and an international business seminar (7-10 days during spring semester of the second year). Each entering class progresses through the program as a group.

Classes for the Executive Engineer Dual Master's Degree program are held at the Cedar Rapids Area Education and Conference Center. Classes for the Iowa City Executive M.B.A. program are held on the Iowa City campus in the Pomerantz Center.

The Executive M.B.A. study plan is as follows.

#### **FIRST YEAR**

06J:227 Human Resource Management	3 s.h.
06N:211 Marketing Management	3 s.h.
06N:212 Management in Organizations	3 s.h.
06N:213 Managerial Economics	3 s.h.
06N:215 Corporate Financial Reporting	3 s.h.
06N:216 Data and Decisions	3 s.h.
06N:225 Managerial Finance	3 s.h.
06N:228 International Economic Environment of the Firm	3 s.h.
06N:230 Seminar in Strategic Management I	1 s.h.

#### **SECOND YEAR**

06A:235 Strategic Cost Analysis	3 s.h.
06A:245 Financial Information and Capital Markets	3 s.h.
06F:215 Corporate Investment and Financing Decisions	3 s.h.
06J:256 Dynamics of Negotiations	3 s.h.
06M:205 Web Business Strategy	3 s.h.
06N:229 Operations Management	3 s.h.
06N:231 Seminar in Strategic Management II	3 s.h.
06N:235 Seminar in International Business	1 s.h.
06N:240 Strategic Management and Policy	3 s.h.

### **International M.B.A. (Hong Kong)**

The International M.B.A. program in Hong Kong requires 45 s.h. of graduate credit. The program is designed for working professionals with at least three years of full-time work experience. Students enroll in classes sequentially. Most complete the program in 18-21 months. Each class begins with two weeks of online course work followed by two consecutive weekends of classes in Hong Kong and an additional two weeks of online course work. Faculty from Iowa travel to Hong Kong to teach the weekend classes. The program admits students year-round.

The International M.B.A. (Hong Kong) study plan is as follows.

06N:211 Marketing Management	3 s.h.
------------------------------	--------

06N:212 Management in Organizations	3 s.h.
06N:213 Managerial Economics	3 s.h.
06N:215 Corporate Financial Reporting	3 s.h.
06N:216 Data and Decisions	3 s.h.
06N:225 Managerial Finance	3 s.h.
06N:228 International Economic Environment of the Firm	3 s.h.
06N:229 Operations Management	3 s.h.
06N:240 Strategic Management and Policy	3 s.h.
Business electives	18 s.h.

### International M.B.A. (Italy)

The International M.B.A. program in Italy requires 47-53 s.h. of graduate credit. The 11-month program is held primarily at the Consortium Institute of Management and Business Analysis (CIMBA) campus in Asolo, Italy, but the final course is completed on the University of Iowa campus in Iowa City. The program focuses on strategic management, consulting, and international business and includes two consulting projects with international companies. In addition to the M.B.A., students earn certificates in Kepner-Tregoe problem solving and project management and a Six-Sigma Green Belt certificate in addition to the M.B.A. degree. The program's faculty is drawn from The University of Iowa and from institutions across the United States and Europe.

The program admits students only for fall semester entry. Applicants must have at least two years of full-time work experience.

The International M.B.A. (Italy) study plan is as follows.

06N:211 Marketing Management	3 s.h.
06N:212 Management in Organizations	3 s.h.
06J:262 Leadership and Personal Development	3 s.h.
06N:213 Managerial Economics	3 s.h.
06N:215 Corporate Financial Reporting	3 s.h.
06A:235 Strategic Cost Analysis	3 s.h.
06N:216 Data and Decisions	3 s.h.
06K:217 Data and Decisions II	3 s.h.
06T:220 Entrepreneurship and Innovation	3 s.h.
06N:225 Managerial Finance	3 s.h.
06N:228 International Economic Environment of the Firm	2 s.h.
06N:229 Operations Management	3 s.h.
06K:292 Supply Chain Management	3 s.h.
06N:240 Strategic Management and Policy	3 s.h.
Electives	6 - 12 s.h.

## Master of Business Administration Program Courses

See the course lists for individual departments for descriptions of M.B.A. electives.

<b>06N:000 M.B.A. Internship</b>	0 s.h.
----------------------------------	--------

<b>06N:199 M.B.A. Competitive Prep</b>	1 s.h.
--	--------

Professional development, career strategies for successful competition in the M.B.A. marketplace.

<b>06N:200 Directed Readings-M.B.A.</b>	1-3 s.h.
---	----------

<b>06N:201 Leadership, Ethics, and Professionalism</b>	1-2 s.h.
--	----------

Optimize to thrive in a competitive business landscape as an ethical business leader; LEAP identifies opportunities and obstacles relevant to career goals and designs a detailed action plan to achieve it; rigorous academy-specific activities provide context necessary to transition into higher levels of business; corporate speakers, round table discussions, group projects, individualized development; leverage experience and effectively market to employers, enhance leadership skills, and broaden business knowledge.

<b>06N:202 M.B.A. Case Competition</b>	1-3 s.h.
--	----------



Students represent Tippie School of Management in a case competition; internal case work, presentation and case analysis training. Requirements: M.B.A. student standing.

**06N:203 Application in Organizational Leadership**

1 s.h.

Opportunity to develop leadership skills necessary for managing student organizations; class discussion, workshops, guest speakers; for M.B.A. organization treasurers and presidents.

**06N:204 Corporate Communications**

2 s.h.

Effective communication to become a successful business professional and leader; strengthen ability to speak and write confidently, competently, and effectively, regardless of venue; varied team and individual presentation coaching, applied exercises.

**06N:205 M.B.A. IMPACT**

0 s.h.

Introduction to the Tippie M.B.A. program and its culture; activities accentuate themes of involvement, motivation, professionalism, achievement, and challenge; week-long immersion in collaborative team-building experiences.

**06N:211 Marketing Management**

2-3 s.h.

Concepts, principles, models of marketing management; focus on strategic planning, management decision making, and implementation of marketing programs.

**06N:212 Management in Organizations**

2-3 s.h.

How to explain, predict, and influence behavior in organizations; decision making, leadership, communication, group skills in management positions; motivation, leadership, teams, organizational culture, organizational design, individual differences, organizational change.

**06N:213 Managerial Economics**

1-3 s.h.

Models of consumer and firm behavior with applications; market equilibrium and structure; pricing decisions.

**06N:215 Corporate Financial Reporting**

2-3 s.h.

Contemporary financial reporting practices in the United States; how alternative accounting treatments affect the usefulness of financial information in applied decision settings.

**06N:216 Data and Decisions**

2-3 s.h.

Quantitative modeling techniques and statistical analysis for management decision making; use of Excel for spreadsheet analysis; decision analysis, statistical inference, regression, linear programming, probability.

**06N:223 Global Business Strategy**

3 s.h.

Strategic frameworks and skills critical for success in the global marketplace; content of an economic environment; cultural, ethical, and legal issues in the conduct of international business; how companies enter foreign markets and grow international subsidiaries, succeed in mergers and acquisitions, cooperate in joint ventures and strategic alliances. Prerequisites: 06N:212.

**06N:225 Managerial Finance**

2-3 s.h.

Time value of money, applications of present value techniques; stock and bond valuation, capital budgeting, cost of capital calculation, portfolio formation and efficient market analysis, financial statement analysis, pro forma analysis, hedging financial risks. Corequisites: 06N:215, if not taken as a prerequisite.

**06N:228 International Economic Environment of the Firm**

2-3 s.h.

Basic determinants of aggregate output, employment, wages, unemployment, consumption, investment, international trade flows, interest rates, exchange rates, prices and inflation in open economies; sources and nature of economic growth; effects of domestic and foreign monetary, fiscal policies; effects of trade, exchange rate policies. Prerequisites: 06N:213.

**06N:229 Operations Management**

2-3 s.h.

Planning and decision-making activities for managing an organization's operations; trade-offs associated with operations management decisions, tools and techniques for helping operations managers implement decisions and reach goals; production and service delivery strategy, capacity planning, product and process design, total quality management, demand management, production and service planning, scheduling, materials control, emerging production and service technologies. Prerequisites: 06N:216.

**06N:230 Seminar in Strategic Management I**

1-3 s.h.

Introduction to strategic management; the role of marketing, operations, and finance in strategic planning; case studies.

**06N:231 Seminar in Strategic Management II**

1-3 s.h.

Strategic management integrating all aspects of business; computer simulation, lectures, case studies, readings.

**06N:235 Seminar in International Business**

0-6 s.h.

Issues and challenges facing organizations doing business in international markets; social, economic, political factors, business policies and customs in the global environment; may include travel, study abroad. Repeatable.

Requirements: M.B.A. enrollment.

**06N:240 Strategic Management and Policy**

2-3 s.h.

Firm's competitive strategy from a manager's perspective; key strategic frameworks; integration of concepts learned throughout M.B.A. program, previous work experience. Prerequisites: 06N:211, 06N:215, 06N:225, and 06N:229.

**06N:241 Business Integration**

1-3 s.h.

Student teams run an operational business simulation, conduct organizational/industry analysis, assess market opportunities, define strategic direction, compete for company profitability and market share. Prerequisites: 06N:211, 06N:215, 06N:225, 06N:229, and 06N:240.

**06N:244 Seminar in Project Management**

1 s.h.

Foundation and application of key processes in planning and managing projects in a business setting; create a letter of engagement, define project scope and work plans, apply concepts for early stages of producing a quality project plan; aligned with the corporate project requirements for 06N:245. Corequisite: 06N:245. Requirements: M.B.A. student.

**06N:245 Strategic Business Consulting**

1-6 s.h.

Plan, schedule, and deliver strategic consulting services to commercial enterprises; project definition, preparation and presentation of deliverables, client relationship management.

# Risk Management and Insurance

**Director:** Larry Hershberger

**Associate director:** Viana Rockel

**Affiliated faculty:** Philip D. Brooks (Finance), Scott R. Fisher (Finance), J. Tyler Leverty (TRISTAR Risk Management Fellow, Finance), Donna L. Pearcy

**Undergraduate nondegree program:** Certificate in Risk Management and Insurance

**Web site:** <http://tipie.uiowa.edu/vaughan>

The Department of Finance and the Emmett J. Vaughan Institute of Risk Management and Insurance offer the Certificate in Risk Management and Insurance. The certificate program is open to University of Iowa undergraduate students.

## Certificate in Risk Management and Insurance

The Certificate in Risk Management and Insurance requires 24 s.h. The program is designed to provide an understanding of the many aspects of risk management and insurance. It concentrates on value creation and asset protection, including pure insurance and risk management, as well as on corporate and financial risk management. It also addresses the financial and economic characteristics of potential exposures to loss that business organizations and individuals face, and the techniques available for hedging the risks and minimizing the costs associated with these exposures.

The certificate provides students in business and in other majors with a foundation for careers in corporate risk management, risk management consulting, employee benefits management and insurance consulting, insurance brokerage, and underwriting. It also may be of value to students seeking professional designations, such as Chartered Life Underwriters (CLU) and Chartered Property and Casualty Underwriter (CPCU). Students typically find employment as financial analysts, bank compliance officers, stock exchange traders, capital and asset managers, insurance and accounting auditors, and personal bankers, as well as underwriters, claims adjusters, and insurance producers.

The certificate requires the following courses. Students may take 06F:100 Introductory Financial Management and 06F:102 Principles of Risk Management and Insurance in the same semester; they are prerequisites for all RMI courses.

### CORE COURSES AND COREQUISITES

06F:100 Introductory Financial Management	3 s.h.
06F:102 Principles of Risk Management and Insurance (RMI core)	3 s.h.
06F:104 Corporate and Financial Risk Management (RMI core)	3 s.h.

### ELECTIVES

All students choose two of these (6 s.h.):

06F:103 Property and Liability Insurance (offered spring)	3 s.h.
06F:105 Life and Health Insurance (offered fall)	3 s.h.
06F:106 Employee Benefit Plans (offered spring)	3 s.h.

Finance majors choose three of these (9 s.h.):

06F:113 Fixed Income Securities	3 s.h.
06F:114 Commercial Banking	3 s.h.
06F:116 Futures and Options	3 s.h.
06F:119 Wealth Management	3 s.h.
06F:126 Real Estate Process	3 s.h.
06J:156 Dynamics of Negotiations (available after early registration)	3 s.h.
06J:162 Leadership and Personal Development	3 s.h.
06K:170 Advanced Computer Analysis	3 s.h.
06M:139 Sales Management	3 s.h.
22S:030 Statistical Methods and Computing	3 s.h.

Non-finance majors choose three of these (9 s.h.):

06A:120 Financial Accounting and Reporting	3 s.h.
06F:111 Investment Management	3 s.h.
06F:113 Fixed Income Securities	3 s.h.

06F:114 Commercial Banking	3 s.h.
06F:116 Futures and Options	3 s.h.
06F:117 Corporate Finance	3 s.h.
06F:126 Real Estate Process	3 s.h.
06F:119 Wealth Management	3 s.h.
06A:131 Income Measurement and Asset Valuation (accounting majors take this instead of 06A:120)	3 s.h.
06K:170 Advanced Computer Analysis	3 s.h.
056:054 Engineering Economy (engineering students)	3 s.h.

### Admission

Admission to the Certificate in Risk Management and Insurance program requires enrollment in an undergraduate degree program and third-year standing (completion of 60 s.h.). Applicants must have a cumulative and a University of Iowa g.p.a. of at least 2.75. They must have completed 06F:100 Introductory Financial Management and 06F:102 Principles of Risk Management and Insurance with a g.p.a. of at least 2.75 and no grade below B-minus. They also must have completed 06F:110 Financial Information Technology and must have earned a grade of C or higher in all other RMI courses they have taken.

### Courses for Noncertificate Students

B.B.A. students majoring in finance can concentrate in risk management and insurance (RMI), or they can supplement their corporate finance and investment courses with one or more RMI courses. Students enrolled in other Tippie College of Business majors and College of Liberal Arts and Sciences students earning majors in statistics, actuarial science, or mathematics program C may take RMI courses to enhance their understanding of financial services and learn about employment opportunities in the industry. Other University of Iowa students may enroll in RMI courses after early registration if space is available and if they have completed 06E:001 Principles of Microeconomics, 06E:002 Principles of Macroeconomics, 06F:100 Introductory Financial Management, and 06F:102 Principles of Risk Management and Insurance.

### Affiliated Courses

The Department of Finance offers five courses affiliated with the Emmett J. Vaughan Institute of Risk Management and Insurance that are included in the Certificate in Risk Management and Insurance curriculum. See Finance in the Catalog for course descriptions and prerequisites.

06F:102 Principles of Risk Management and Insurance	3 s.h.
06F:103 Property and Liability Insurance	3 s.h.
06F:104 Corporate and Financial Risk Management	3 s.h.
06F:105 Life and Health Insurance	3 s.h.
06F:106 Employee Benefit Plans	3 s.h.

# College of Dentistry

**Dean:** David C. Johnsen  
**Executive associate dean:** Jed S. Hand  
**Associate dean, finance and facilities:** Scott Arneson  
**Associate dean, patient care:** Michael Kanellis  
**Associate dean, research:** Clark Stanford  
**Associate dean, student affairs:** Catherine Solow  
**Degrees:** D.D.S., M.S., Ph.D.  
**Web site:** <http://www.dentistry.uiowa.edu>

The College of Dentistry is an integral part of The University of Iowa and its health sciences campus. Its mission, which embraces the University's academic values as well as the ethical responsibilities implicit in educating future members of a profession, rests on a foundation representing every aspect of collegiate activity: education of students as general practitioners and specialists; research into all aspects of oral and dental disease and the delivery of health care; and service to the community, the state, and the profession.

Faculty members, D.D.S. students, and specialty residents provide oral health care to patients at clinics in the Dental Science Building, the Center for Disabilities and Development, and dentistry clinics at University of Iowa Hospitals and Clinics and Iowa City Veterans Affairs Medical Center. Faculty, staff, and students participate in interdisciplinary research and training activities involving the University's five health science colleges as well as other University colleges and departments.

Dentistry at The University of Iowa began in 1882 as a single department. In 1900 the University underwent general reorganization and the Dental Department became the College of Dentistry. Today the college is Iowa's only provider of dental education and ranks as a leader in dental education nationwide.

The college and its educational programs are accredited by the Commission on Dental Accreditation of the American Dental Association, an independent tripartite commission authorized and recognized by the Commission on Post-Secondary Education.

Programs offered by the college cover the full spectrum of dentistry and closely integrated fields. They include the Doctor of Dental Surgery program (D.D.S.), which prepares general dentists; advanced education programs in all dental specialties, each of which may lead to certification in a dental specialty; several advanced education programs in other areas of dentistry, including the oral science program, which offers M.S. and Ph.D. degrees; post-D.D.S. residency programs in general dentistry and hospital-based dentistry; and a wide variety of continuing education programs for dental and allied professions.

## Professional Program (D.D.S.)

### Doctor of Dental Surgery

The Doctor of Dental Surgery (D.D.S.) requires a minimum of three years of preprofessional study and four years of study in the College of Dentistry.

Course work during the first and second years in the College of Dentistry integrates the biomedical sciences with preclinical and clinical disciplines. The biomedical sciences include gross anatomy, biochemistry, general histology, microbiology, pathology, pharmacology, and physiology. Students also study topics specific to dentistry, such as principles of occlusion, anesthesia and pain control, operative dentistry, periodontics, prosthodontics, cariology, and preventive dentistry. During the latter part of the first year, students are introduced to their first clinical patient-treatment situation.

Second-year dental students continue their study of biomedical sciences, take preclinical courses, have additional patient treatment experiences in restorative and preventive dentistry, and are introduced to esthetic and implant dentistry.

Third-year dental students rotate through a series of clerkships that expose them to seven clinical disciplines.

Fourth-year dental students deliver comprehensive dental care in conditions that closely approximate those in private dental practice. They also are exposed to varied community dentistry health programs throughout Iowa and other states that include hospitals, nursing homes, and the Special Care Clinic. They may choose to participate in the Colorado Migrant Worker Program, the Indian Health Service Program, or the Foreign Dental School Exchange Program. The community dentistry programs provide exposure to facets of dentistry usually not observable in an academic setting.

### Biomedical Sciences in the Dental Curriculum

The following science courses are offered by University of Iowa departments outside the College of Dentistry and are a required part of the D.D.S. curriculum.

060:101 Human Gross Anatomy for Dental Students	6 s.h.
060:112 General Histology for Dental Students	4 s.h.
061:113 Dental Microbiology	3 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
071:111 Pharmacology for Dental Students	5 s.h.
072:152 Human Physiology for Dental Students	4 s.h.
099:161 Biochemistry for Dental Students	4 s.h.

College of Dentistry nondepartmental courses are listed under "Nondepartmental Courses" at the end of this section. Courses offered by the college's departments are listed in each department's General Catalog section.

### **Combined Bachelor's Degree/D.D.S.**

Students who are enrolled in a baccalaureate program at The University of Iowa may be allowed to use course work from their first year of dentistry to complete their elective semester-hour requirement toward the bachelor's degree.

The provision for acceptance by the College of Liberal Arts and Sciences of 30 s.h. of elective credit earned in any other college of the University allows College of Dentistry students to obtain a bachelor's degree from the College of Liberal Arts and Sciences after successfully completing the first year of dentistry. To take advantage of this plan, students must fulfill all specific requirements for the bachelor's degree, including the General Education Program requirements and the requirements for a major. Students also must satisfy the College of Liberal Arts and Sciences residence requirement before enrolling in the College of Dentistry. Contact the College of Liberal Arts and Sciences for more information.

### **Academic Rules and Procedures**

#### **Promotions, Graduation**

Student promotions and graduation are determined by the Collegiate Academic and Professional Performance Committee, which is made up of individuals appointed by the dean from the biomedical, preclinical, and clinical sciences and from other academic areas of the college. The performance committee may recommend to the dean that a student withdraw from the college or repeat specific courses when the student is deemed generally unprepared to be promoted or to enter the dental profession.

#### **Committee for Appeals**

When a student has been asked to withdraw from the college or wants special consideration of problems concerning promotion or graduation, he or she may appeal to the dean. All appeals are heard by an ad hoc committee appointed by the dean. The ad hoc committee investigates new information that has not been available previously or that has not been discussed as fully as the student feels it should have been. The committee determines whether this new information, or important new insights that may have been gained, could have influenced the collegiate academic and professional performance committee's decision. The recommendation of the appeals committee is submitted to the dean for final action.

### **Dentistry Licensure Examination**

The State of Iowa accepts clinical examination results from the Central Regional Dental Testing Service and from the Western Regional Examination Board. Examinations are administered at several testing sites located at dentistry schools in the United States. A separate license application is then filed with the individual state board of dentistry.

For licensure, all states also require the National Boards, conducted by the American Dental Association. Many states, including Iowa, also require a jurisprudence examination.

### **Student Organizations**

All dental students are members of the American Student Dental Association through its local chapter. The American Dental Education Association, the American Association of Dental Research (Student Research Group), the American Association of Women Dentists, the American Academy of Pediatric Dentistry Student Chapter, the American Society for Geriatric Dentistry, the Student National Dental Association, and the Hispanic Dental Association also have local chapters.

Students who rank in the upper 12 percent of their senior class are eligible for election to Omicron Kappa Upsilon, a national scholastic honorary dental society.

The national dental professional fraternities Delta Sigma Delta and Psi Omega have chapters at Iowa. Both fraternities provide academic and social activities for students and their spouses.

## Expenses

The College of Dentistry maintains the Supply-Instrument Management System (SIMS), which provides students with instruments and supplies necessary throughout their dental training. The SIMS usage fee for the D.D.S. is payable in installments over the four-year program.

A fee for expendable laboratory supplies is charged each of the first two years. A \$100 breakage fee also must be deposited; the deposit is refundable upon graduation or termination of enrollment.

## Admission

Applicants must submit a completed AADSAS (Associated American Dental Schools Application Service) application form to the American Dental Education Association (ADEA). The AADSAS application must be completed online at the American Dental Education Association web site (<http://www.adea.org>).

Applications are accepted beginning June 1 of the year before the year of entry. Completed applications must be on file at ADEA by November 1. Applicants should apply as early as possible. Notifications of acceptance are sent beginning December 1.

Prospective dental students are encouraged to embark on an educational program that leads to a standard bachelor's degree. This ensures that students receive a well-rounded education.

## Predental Studies

The basic academic requirement for admission to the College of Dentistry is completion of at least 90 s.h. of academic study at an accredited college. No more than 60 s.h. of credit is accepted from a junior college or two-year institution. The predental program of study should include the following.

**English:** satisfactory accomplishment in English composition, rhetoric, and speech commensurate with the academic requirements for a bachelor's degree at the college attended.

**Physics:** one year (equivalent to 8 s.h.), of which one-fourth must be laboratory work.

**Chemistry:** two years (equivalent to 16 s.h.), of which one year (equivalent to 8 s.h.) must be in organic chemistry; one-fourth of each year's study must be laboratory work.

**Biochemistry:** highly recommended.

**Biological science:** one year (equivalent to 8 s.h.), which must include appropriate laboratory work; the requirement may be satisfied by a one-year course in principles of biology, with instruction in cell biology, metabolism, organismic biology, animal biology, genetics, development, ecology, and evolution. Preference is given to applicants who have completed more than 8 s.h. Courses in human anatomy and cell physiology are strongly recommended.

**Gross anatomy:** highly recommended.

**Electives:** sufficient course work in the social sciences, philosophy, psychology, history, foreign languages, business, and mathematics to provide a well-rounded educational background.

## Grade-Point-Average Requirement

Applicants should have a cumulative g.p.a. of at least 3.25 on a 4.00 scale; a g.p.a. above 3.50 is preferred. The admissions committee gives special consideration to the quality of applicants' course work in the predental sciences, in addition to the cumulative grade-point average.

## Interviews

Personal interviews are required of applicants for admission to the College of Dentistry. Applicants are contacted to arrange an interview, usually after the AADSAS application is received by the admissions office.

## Required Dental Admission Test

All applicants must complete the Dental Admission Test (DAT) sponsored by the Council on Dental Education of the American Dental Association. A computerized DAT is available throughout the year at designated Prometric Centers.

Applicants should take the test by August 1, one year before entering dental school. Test application forms are available online (<http://www.ada.org>) and from the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611.

## Deposit by Accepted Applicants

Applicants accepted before February 1 are required to submit a \$500 deposit within 30 days after notification of

admittance. Applicants admitted after February 1 must submit the deposit within two weeks after notification of admittance. This deposit is not refundable but is credited toward the first fee payment. Applicants who fail to make the deposit within the time specified forfeit their place in the entering class.

### **Additional Admission Considerations**

Fulfillment of the specific requirements listed for admission does not ensure admission to the College of Dentistry. From applicants meeting minimum requirements, the admissions committee selects those who appear best qualified for the study and practice of dentistry. The committee considers applicants' academic averages, science averages, DAT scores, letters of recommendation, the interview, and other factors.

### **Early Admission**

The College of Dentistry's Deferred Admit Program (DAP) allows academically motivated students who are residents of Iowa and are interested in a dental career to be admitted to the College of Dentistry as early as the end of their first year of undergraduate study. Students postpone matriculation to the College of Dentistry until they have earned the amount of credit required for their undergraduate degree. As undergraduates, they are engaged in a liberal arts and sciences curriculum that incorporates the dental prerequisite courses. Once selected for the program, students must maintain a specified level of academic achievement to assure matriculation to the College of Dentistry.

### **Financial Support**

Financial assistance for dental students is based on need. Dental students who demonstrate need are eligible for Health Professions Loans, Perkins Loans, and Stafford/Ford Loans. Students applying for loans must submit the Free Application for Federal Student Aid (FAFSA). Interest on many of these loans may be deferred while the student is in school, and the loans are repayable over an extended period of time after the course of study is completed.

Short-term and long-term loans are available through the financial aid coordinator at the College of Dentistry.

Academic awards are given each year to qualified entering dental students. The Academic, Research and Resource Support Awards provide financial support up to \$15,000 per year for as many as four years, if the student maintains an appropriate level of performance.

Financial assistance (grants and loans) is available to disadvantaged students who qualify under The University of Iowa's Educational Opportunity Program and the Opportunity at Iowa Program.

Information on financial assistance for dental students is available from the University's Office of Student Financial Aid.

## **Graduate and Clinical Specialty Programs**

Programs of study leading to the Master of Science are offered by the Departments of Operative Dentistry; Oral Pathology, Radiology, and Medicine (stomatology); Orthodontics; and Preventive and Community Dentistry (dental public health). In addition, the Departments of Endodontics, Periodontics, and Prosthodontics offer programs leading to graduate degrees in oral science. Admission to these graduate programs requires satisfaction of all requirements for admission to the Graduate College; the Doctor of Dental Surgery degree or its equivalent, or a bachelor's degree for dental hygienists applying to the Department of Preventive and Community Dentistry; and departmental approval. For graduate program descriptions, see the appropriate College of Dentistry department sections of the Catalog.

Several departments also offer postgraduate programs designed as preparation for clinical specialty practice (Endodontics; Operative Dentistry; Oral Pathology, Radiology, and Medicine; Orthodontics; Pediatric Dentistry; Periodontics; and Prosthodontics). Students who complete these programs satisfactorily are awarded a certificate. The Department of Oral and Maxillofacial Surgery offers a four-year residency program.

For information about each graduate degree or certificate, see the College of Dentistry department sections of the Catalog.

## **Faculty**

Iowa's dental faculty is predominantly full-time. In addition, more than 100 part-time adjunct faculty members assist with clinical teaching in the D.D.S. and advanced residency programs. Approximately 88 percent of the college's faculty members hold D.D.S. or D.M.D. degrees and 12 percent represent other disciplines. The vast majority of faculty dentists have advanced education past the D.D.S., generally with master's degrees in specialty areas; about one-fifth hold a Ph.D.

The College of Dentistry is committed to the principle that diversity is essential to a strong educational environment—one that prepares new generations of dentists to provide high-quality care to patients from many backgrounds. The college's full-time faculty reflects that commitment.



## Facilities

The College of Dentistry is located in the Dental Science Building on the University of Iowa health sciences campus, in proximity to the Roy J. and Lucille A. Carver College of Medicine, College of Nursing, College of Pharmacy, College of Public Health, and University of Iowa Hospitals and Clinics. The Bowen Science Building and the Hardin Library for the Health Sciences also are nearby.

The south wing of the Dental Science Building is devoted to clinical teaching. There are 268 operatories in departmental clinics, student laboratories, clinical research space, and a cafeteria. The north wing houses the simulation clinic and technique bench teaching laboratory, the electronic classroom, college administrative offices, educational media service, computer support services, the academic Department of Preventive and Community Dentistry, and the research laboratories and faculty offices of the Dows Institute for Dental Research.

## Dental Education and Patient Care

Patient care is integral to dental education. Students and faculty members deliver oral health care in clinics on the health sciences campus and at several off-campus sites, including nursing homes. More than 25,000 people receive oral health care yearly in the college's clinics. Patients from throughout Iowa as well as from western Illinois and northern Missouri account for most of the 125,000 patient visits each year.

## Interdisciplinary Centers

### Dows Institute for Dental Research

Established in 1976, the Dows Institute for Dental Research occupies the fourth floor of the Dental Science Building's north wing. Laboratories are equipped to support a wide variety of research projects reflecting the complex nature of modern health care needs. Research at the institute is coordinated by the College of Dentistry. Focus areas include oral soft tissue and oral cancer; cariology and microbiology; epidemiology, behavior, health policy, and outcomes; and biomaterials, bone, and tissue engineering. Research also is carried out at the Dental Clinical Research Center.

Although research is concentrated in these program areas, one of the unit's strengths has been the consistent level of interaction and collaboration among individuals and programs across the college and the University.

### Dental Clinical Research Center

For nearly two decades, the Dental Clinical Research Center has offered the oral health care industry a multidisciplinary setting for product testing and development directed by experienced faculty scientists in laboratory or clinical settings. Center researchers have broad experience in designing tests of therapeutic claims and product safety that meet the criteria of the ADA's Council on Scientific Affairs and the Food and Drug Administration Clinical Trials.

### Center for Oral and Maxillofacial Implants

Through integrated research, education, and clinical programs, the Center for Oral and Maxillofacial Implants facilitates the development of implants and their use as a therapeutic modality in dentistry. The center integrates basic and clinical research with technology transfer to the clinical setting, enhancing predoctoral, postgraduate, and continuing education and expanding treatment options available to patients served by the college. The center also provides vital coordination of dental specialties that participate in this treatment modality.

## Nondepartmental Courses

<b>112:100 Transfer Credits Accepted</b>	arr.
<b>112:118 Experiential Learning I</b>	arr.
Problem-based learning, case studies, simulations, communication projects, small group seminars, ethics, research and treatment planning activities integrating information addressed concurrently in the dental curriculum.	
<b>112:119 Experiential Learning II</b>	arr.
Continuation of 112:118.	
<b>112:120 First-Year Continuing Session</b>	arr.
<b>112:145 Introduction to Geriatric Dentistry</b>	2 s.h.

Biological, psychological, social aspects of aging; normal aging, disease processes, pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as 153:145.

- 112:150 Second-Year Continuing Session** arr.
- 112:155 Introduction to Comprehensive Care/Experiential Learning III** 1 s.h.  
Comprehensive dental diagnosis and treatment planning; small group discussion of students' own patient cases; communication exercises with standardized patients.
- 112:167 Introduction to Quality Assurance** 2 s.h.  
Patient management, record writing skills, quality assurance concepts; students coordinate treatment, patient relations, issues of quality assurance for a group of patients; ethical, moral dilemmas in relation to dental practice.
- 112:168 Dental Therapeutics** 1 s.h.  
Patients' medications and their implications for dental treatment; clinical use of medications that dentists may prescribe; guidelines for dental prescribing.
- 112:170 Third-Year Continuing Session** arr.
- 112:180 Fourth-Year Lectures and Clinics** arr.
- 112:185 Clinical Admissions Emergency** 1 s.h.  
Clinical evaluation, diagnosis, and treatment of patients with dental emergencies; patient assessment and referral to appropriate department for treatment.
- 112:189 Advanced Topics in Quality Assurance** 2 s.h.  
Quality assurance from viewpoint of practicing dentist, dental educator, dental epidemiologist, court system; analysis of senior dental practice in relation to quality assurance criteria.
- 112:190 Dental Student Research Honors Program** arr.  
Experience in conducting research. Requirements: D.D.S. enrollment and approval of mentor and program director.
- 112:199 Advanced Clinical Comprehensive Dentistry** 0 s.h.  
Clinical experience for professional improvement. Requirements: dental degree.

## Endodontics

**Head:** William T. Johnson

**Professors:** David R. Drake, William T. Johnson, Richard E. Walton

**Professor emeritus:** Arne M. Bjorndal

**Associate professors:** Bruce C. Justman, Anne E. Williamson

**Clinical assistant professor:** Manuel R. Gomez

**Graduate degrees:** M.S., Ph.D. in Oral Science

**Graduate nondegree program:** Certificate in Endodontics

**Web site:** <http://www.dentistry.uiowa.edu>

## D.D.S. Student Training

Course work and clinical experiences in endodontics are of vital importance in the overall education of D.D.S. students.

Preclinical endodontics, taught during the sophomore year, includes a didactic and a laboratory component. In clinical endodontics, taught during the junior year, students study both normal and pathological conditions of the dental pulp and periapex. Diagnosis of pulpal and periradicular disease and various specialized aspects of endodontic treatment are emphasized. Students treat endodontic patients under direct supervision of faculty and staff.

## Graduate and Clinical Specialty Programs

The Department of Endodontics offers programs leading to a Master of Science and a Doctor of Philosophy in oral science. It also offers the Certificate in Endodontics.

To learn about the Doctor of Philosophy, see Oral Science in the Catalog or contact the department.

The department's programs are designed to provide qualified dentists with the scientific knowledge and clinical skills they will need to practice endodontics and/or pursue a career in dental education and research.

The department offers several types of programs, which have similar clinical experiences but different didactic experiences. Each program satisfies training requirements for eligibility for certification by the American Board of Endodontics. Students who complete the programs are encouraged to seek board certification. Various activities throughout the courses of study prepare the candidates for the board examination process.

The goal of each program is to develop competent diagnosticians and clinicians. Students learn the scientific and clinical basis of endodontics; develop clinical skills; gain knowledge of and experience in the educational process in order to function confidently as dental educators; and develop skills in designing, conducting, reporting, and publishing the results of original research. Students in the M.S. and Ph.D. programs also gain in-depth knowledge in a scientific training discipline as preparation for an academic/research career.

Other graduate programs are available to endodontics students, such as master's degrees in other disciplines, or a certificate in combination with a Ph.D. in a basic science area. Such programs are available by special arrangement, depending on the candidate's experience and goals. Consult the Department of Endodontics for more information.

### Master of Science and Certificate

The Master of Science in oral science requires a minimum of 30 s.h. of graduate credit, earned over 36 months. An original research project and thesis are required. Students follow a plan of study outlined by the Department of Endodontics in compliance with basic Graduate College regulations for graduate programs in dentistry. Following successful completion of the program requirements, students are granted an M.S. and the Certificate in Endodontics.

The Certificate in Endodontics requires a minimum of 24 months of full-time formal training. The program has the same clinical but fewer didactic course requirements than the combined M.S./certificate program, and it requires no formal thesis. Students are expected to complete an original research project in the area of endodontics and to write a scientific paper for submission to a refereed journal.

Students in the graduate and certificate programs must maintain a g.p.a. of at least 3.00 to receive the certificate and/or degree. Students who fall below this average are allowed one semester to raise their g.p.a. to at least 3.00. The circumstances of the grade-point average deficiency receive careful consideration.

Students accepted and enrolled in any graduate program or the certificate program are not permitted to involve themselves in private dental practice enterprises outside the college. Failure to adhere to this policy may result in dismissal from the program.

Whenever possible, students should complete the graduate and certificate programs without interruption. Students who demonstrate need to discontinue the program temporarily should limit their time away to a maximum of one calendar year. Students must have permission from the endodontic graduate program director in order to interrupt their study.

## Admission

Applicants to the M.S. and certificate programs must be graduates of (or be graduating from) an accredited college of dentistry or a foreign equivalent. M.S. and Ph.D. applicants must meet the admission requirements of the Graduate College. A cumulative g.p.a. of at least 2.50 or equivalent is necessary for consideration for admission to any of the graduate programs.

All advanced programs begin on or before July 1. Applications should be submitted no later than August 15 of the year preceding the anticipated date of enrollment. Finalists for each program are asked for a personal interview in September or early October. Final decisions are made in November.

Application forms for the M.S. and certificate programs are available at Graduate and Professional Admissions on the Office of Admissions web site.

Application forms for the Ph.D. program are available from and should be returned to the office of the associate dean for research and graduate studies in the College of Dentistry. Applications are forwarded to the Department of Endodontics.

Applications for all programs must include the completed application form, official transcripts from all undergraduate and graduate institutions attended, three letters of recommendation, National Board Examination Scores (at least Part I, and Part II if available), an updated curriculum vitae, a personal statement, and a recent photograph.

Applicants to the M.S. program are not required to take the Graduate Record Examination. International applicants whose first language is not English must present a satisfactory score on the Test of English as a Foreign Language (TOEFL).

## Financial Support

Applicants to the M.S. and certificate programs must be able to support themselves financially until they complete the program. Prospective students should plan to pay living expenses, tuition, and costs for books, specialized equipment (e.g., surgical operating microscope, notebook computer, and ultrasonic system), instrument usage, and thesis expenses. Stipends are determined on a yearly basis and depend on availability of funding.

## Endodontics Courses

### For D.D.S. Students

<b>083:140 Endodontics Preclinical Didactic</b>	1 s.h.
Basic principles, concepts, technical procedures for treatment of pulpal problems.	
<b>083:141 Endodontics Preclinical Laboratory</b>	1 s.h.
Basic technical procedures for treatment of pulpal problems.	
<b>083:160 Clinical Endodontic Practice</b>	arr.
Clinical experience in diagnosis and treatment of routine pulpal and periradicular pathology; emergency diagnosis; treatment of patients.	
<b>083:165 Clinical Endodontic Seminar</b>	1 s.h.
Tooth pain, anesthesia, pulpal and periradicular reactions, endodontic radiologic interpretation, trauma diagnosis and treatment, surgical endodontics, endodontic implants, bleaching, retreatment, apexification/apexigenesis.	

### For Graduate Students

Also see courses listed under the Oral Sciences Program.

<b>083:225 Endodontic Literature Review I</b>	2 s.h.
Current and historical research.	
<b>083:226 Endodontic Literature Review II</b>	2 s.h.
Continuation of 083:225.	
<b>083:227 Endodontic Literature Review III</b>	2 s.h.

Continuation of 083:226.

**083:228 Endodontic Literature Review IV**

2 s.h.

Continuation of 083:227.

**083:260 Current Literature in Endodontics**

1 s.h.

Current literature relevant to endodontics, including diagnosis or treatment of endodontic cases; dental journals with endodonticrelated content; landmark research.

**083:300 Endodontic Certificate Program**

0 s.h.

Advanced endodontic clinical and didactic education; nondegree program toward eligibility for board certification in endodontics.

## Family Dentistry

**Head:** David C. Holmes

**Professors:** Ana M. Diaz-Arnold, John V. Doering, Marcos A. Vargas

**Professors emeriti:** Charles B. Sabiston Jr., Vincent D. Williams

**Associate professors:** Larry J. Squire, Richard A. Williamson

**Assistant professors:** Cheryl L. Straub-Morarend, Michael L. Spector

**Web site:** <http://www.dentistry.uiowa.edu>

The Department of Family Dentistry reinforces and refines the comprehensive approach to managing patients' oral health care needs.

## D.D.S. Student Training

The senior year of the D.D.S. program integrates basic science knowledge, clinical skills, and dental laboratory experiences acquired during the first three years of dental school into a systematic approach to providing patient care.

Students who complete their education in Family Dentistry should:

- conduct themselves in a professional and ethical manner;
- understand the principles of comprehensive dental treatment planning;
- know the medical, ethical, and legal issues involved in patient care;
- be able to recognize the need for specialty consultation;
- be competent in coordinating and sequencing patient treatments;
- be effective members of the dental team;
- be prepared to enter general practice;
- be educated and trained for licensure examination; and
- appreciate the importance and value of lifelong learning.

Students spend five days a week in a clinical setting, where they gain experience in total patient management and care. Their didactic course work builds on their previous education. All areas of clinical and didactic instruction, patient awareness, and sensitivity to patients' needs are stressed.

The department's practice management curriculum prepares students to evaluate practice locations and manage the business aspects of a dental practice.

## Family Dentistry Courses

### **114:184 Dental Practice Management** 2 s.h.

Principles of dental practice management; delivery of comprehensive dental treatment in a simulated group-practice clinical setting, with chairside dental assistants.

### **114:187 Clinical Experiences-Comprehensive Care** arr.

Clinical experiences in diagnosis, treatment planning, and delivery of integrated, comprehensive dental care.

### **114:188 Clinical Competencies-Comprehensive Care** arr.

Refinement of clinical skills, judgment, and critical self-evaluation in the delivery of integrated, comprehensive dental care.

### **114:194 Topics in Family Dentistry** 3 s.h.

Current techniques, findings; applications for general practitioner and graduate specialty programs.

### **114:195 Treatment Planning and Sequencing** 2 s.h.

Documentation of diagnostic procedures used in developing a treatment plan and sequence for selected clinical patients; student presentations.

## Hospital General Dentistry

**Head:** Kirk L. Fridrich

**Division directors:** Kirk L. Fridrich (Oral and, Maxillofacial Surgery), Robert L. Schneider (Prosthodontics)

**Assistant professors:** Lance P. Forbes, Robert L. Schneider

**Web site:** <http://www.uihealthcare.com/depts/hospitaldentistry/index.html>

The College of Dentistry operates a hospital dentistry clinical service at University of Iowa Hospitals and Clinics. The service includes divisions of general dentistry, maxillofacial prosthodontics, and oral and maxillofacial surgery, and it interacts with the college's specialties of orthodontics, periodontics, pediatric dentistry, endodontics, diagnosis, oral pathology, and prosthodontics.

The Hospital Family Dentistry Program offers a one-year general practice residency.

## Residency Program

The general practice residency program prepares dentists for a broader scope of private practice in general dentistry. The program combines clinical and didactic training on an individual basis and meets fundamental requirements of the Commission on Dental Accreditation of the American Dental Association (ADA).

The residency covers one year of hospital-based training. Through postdoctoral clinical, didactic, and hospital experience, residents prepare to meet the oral health needs of a wide range of ambulatory and nonambulatory patients. Rotations and patient experiences are divided between University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center.

Residency training includes use of hospital resources, management of ambulatory patients, inpatients, same-day surgery patients, and emergency medical and dental patients. Residents participate in consultations with other hospital services and are assigned to appropriate hospital services to fulfill the objectives of the training program. They are appointed to the hospital's house staff and have the same privileges and responsibilities as residents in other professional education programs.

Applicants must be graduates of an accredited college of dentistry and must be eligible for licensure to practice dentistry in the United States. Graduates of foreign dental schools may be accepted if they have completed a semester-long externship at an ADA-accredited dental school or have graduated from a master's degree program or a dental specialty program at an ADA-accredited dental school. Application deadline is October 1 for the following July 1. See General Practice Residency Program for admission and application requirements.

# Operative Dentistry

**Head:** Gerald Denehy

**Professors:** Gerald Denehy, Satish Khera

**Professors emeriti:** Murray Bouschlicher, James Fuller, Devore Killip

**Adjunct professor:** Robert Margeas

**Associate professors:** Steve Armstrong, Deborah Cobb, Justine Kolker

**Associate professors emeriti:** Yvonne Chalkley, Thomas Schulein

**Clinical associate professors:** Cathia Bergeron, Sandra Guzmán-Armstrong

**Adjunct assistant professors:** Stephanie Barquist, Terry Donnelly, Richard Grunder, Jon Ryder, Jeremy Tu

**Clinical assistant professor:** Marcela Hernández

**Adjunct instructors:** Ed Fung, Lynn Griebahn, Alan Swett, Chadwin Wagener

**Graduate degree:** M.S. in Operative Dentistry

**Graduate nondegree program:** Certificate in Operative Dentistry

**Web site:** <http://www.dentistry.uiowa.edu/>

## D.D.S. Student Training

Course work and clinical experiences in operative dentistry are fundamental to the overall education of D.D.S. students. The operative dentistry curriculum is designed so that didactic material relates closely to laboratory and clinical experiences. The program prepares students to proceed independently in operative dentistry during their fourth year of training.

## Graduate and Clinical Specialty Programs

The Department of Operative Dentistry offers a Master of Science in operative dentistry and the Certificate in Operative Dentistry. The programs provide advanced training designed to prepare dentists for teaching, research, and practice. Since the American Dental Association does not recognize operative dentistry as a specialty area, graduate students have the opportunity to take courses that particularly interest them. Students earn a Master of Science and a Certificate in Operative Dentistry.

Requirements for the M.S. include satisfactory completion of 52 s.h. of graduate-level courses, preparation of an acceptable thesis based on original research, and a formal thesis defense.

Students must provide their own financial support for the graduate program, including research and thesis expenses.

Applicants to the program must be graduates of recognized schools of dentistry and must meet the admission requirements of the Graduate College. The department may request an interview with an applicant.

## Operative Dentistry Courses

### For D.D.S. Students

- |  |          |
|--|----------|
| <b>082:120 Dental Anatomy</b>  | 3 s.h.   |
| Basic dental terminology and nomenclature, human tooth morphology, creation of tooth crowns with wax.  |          |
| <b>082:122 Operative Dentistry I</b>   | 6 s.h.   |
| Principles, design of cavity preparations; placement of restorative materials; clinical simulation on dental mannequins.   |          |
| <b>082:140 Operative Dentistry II</b>  | 1 s.h.   |
| Principles, design of cavity preparations, restoration of teeth, patient management, pain control.   |          |
| <b>082:141 Operative Dentistry II Clinic</b>   | 0-3 s.h. |
| Procedures performed on operative clinic patients; based on biological principles for preparation of cavities, restoration with appropriate materials.           |          |
| <b>082:142 Esthetic Dentistry</b>  | 1 s.h.   |
| Principles of esthetic dentistry; tooth bleaching, tooth recontouring, esthetic buildups with composite resin; exercises on mannequins in the simulation clinic. |          |
| <b>082:160 Operative Dentistry III Clinic</b>  | arr.     |
| Patient treatment; amalgam, composite resin, gold; emphasis on physiological, esthetic importance of restorative treatment.                                      |          |
| <b>082:165 Operative Dentistry III Seminar</b>   | 1 s.h.   |



Clinical problems, restorative dental materials, treatment methods.

## For Graduate Students

### Discipline Studies

<b>082:224 Graduate Restorative Materials</b>	2 s.h.
Dental materials science: mechanical, physical, and chemical properties of restorative materials; selection and manipulation. Same as 084:224.	
<b>082:225 Operative Dentistry Seminar I</b>	1 s.h.
Basic concepts of cavity preparation, material placement.	
<b>082:226 Operative Dentistry Seminar II</b>	1 s.h.
Direct resin systems, bonding technology; their use in dental esthetic treatment.	
<b>082:227 Operative Dentistry Seminar III</b>	1 s.h.
Use of indirect techniques in bonded esthetic restorations.	
<b>082:228 Operative Dentistry Seminar IV</b>	1 s.h.
Principles for health professions educators.	

### Research Program

<b>082:230 Operative Dentistry Research I</b>	3 s.h.
Thesis topic selection, committee selection, literature review.	
<b>082:231 Operative Dentistry Research II</b>	2 s.h.
Thesis protocol, research.	
<b>082:232 Operative Dentistry Research III</b>	3 s.h.
Thesis research, data gathering, writing.	
<b>082:233 Operative Dentistry Research IV</b>	3 s.h.
Thesis completion, defense.	
<b>082:234 Selected Applications of Operative Dentistry</b>	arr.
Advanced techniques.	

### Clinical Studies

<b>082:240 Operative Dentistry Advanced Clinic I</b>	arr.
Materials, techniques; restoration procedures on a mannequin.	
<b>082:241 Operative Dentistry Advanced Clinic II</b>	arr.
Patient treatment in operative clinic; basic operative procedures.	
<b>082:242 Operative Dentistry Advanced Clinic III</b>	arr.
Patient treatment in operative clinic; direct-bonded esthetic restorative procedures.	
<b>082:243 Operative Dentistry Advanced Clinic IV</b>	arr.
Patient treatment in operative clinic; advanced esthetic restorative procedures.	
<b>082:244 Operative Dentistry Advanced Clinic V</b>	arr.
Patient treatment in operative clinic; advanced esthetic restorative procedures.	

**082:245 Clinical Demonstrating**

arr.

Teaching undergraduate dental students in laboratory, clinic.

**082:300 Operative Dentistry Certificate Program**

0 s.h.

Advanced dental clinical, didactic education; nondegree program toward eligibility for board certification in operative dentistry.

## Oral and Maxillofacial Surgery

**Head:** Kirk L. Fridrich

**Assistant head:** Richard G. Burton

**Director, graduate studies:** Teresa A. Morgan

**Professors:** Richard G. Burton, Kirk L. Fridrich, Daniel Lew, Charles L. Ringgold, William J. Synan

**Professor emeritus:** John Montgomery

**Associate professor:** Teresa A. Morgan

**Associate professor emeritus:** Sherwood Wolfson

**Assistant professor:** Steven Fletcher

**Graduate degree:** M.S. in Oral and Maxillofacial Surgery

**Web site:** <http://www.uihealthcare.com/depts/hospitaldentistry/index.html>

The Department of Oral and Maxillofacial Surgery combines clinical and didactic training to fit the individual interests, abilities, and development of students. Its predoctoral program is based in the College of Dentistry, with some clinical assignments in the oral and maxillofacial surgery division at University of Iowa Hospitals and Clinics. Graduate study is based primarily in the residency training program at University of Iowa Hospitals and Clinics.

### D.D.S. Student Training

The professional curriculum is designed to develop a foundation of professional knowledge, coupled with surgical skills, that will enable D.D.S. students to diagnose and manage surgical problems related to general dentistry practice. The program emphasizes high ethical standards and development of good surgical concepts and judgment.

The clinical portion of the curriculum allows students to develop surgical skills and apply the theoretical knowledge acquired in didactic courses. Theory and application of anesthesia-analgesia, intravenous sedation, and nitrous oxide analgesia techniques are presented through didactic and clinical experiences.

### Graduate and Clinical Specialty Programs

The department offers a Master of Science in oral and maxillofacial surgery and a residency program.

#### Master of Science

The Master of Science in oral and maxillofacial surgery requires five years of integrated didactic and clinical study, including a four-year residency, a research project, and preparation of a thesis. Applicants must meet the admission requirements of the Graduate College.

#### Residency Program

The four-year residency program in oral and maxillofacial surgery combines clinical and didactic training to prepare dentists for specialty practice. Every effort is made to adapt the program to the individual interests, abilities, and development of students, but it is essential that all students meet certain fundamental requirements.

The recommendations of the American Dental Association, the Committee on Graduate Training of the American Association of Oral and Maxillofacial Surgeons, and the American Board of Oral and Maxillofacial Surgery have been considered carefully in planning the structure and scope of training.

The residency period covers four years of hospital training, providing an orientation to hospital procedures, integration of basic and clinical sciences, acquisition of surgery principles, and familiarization with varied aspects of health services.

Competence in clinical oral and maxillofacial surgery requires knowledge of the basic medical sciences related to the specialty. So in addition to hospital and clinical training, residents take advanced course work in subjects such as applied pharmacology, surgical anatomy, pathology, physiology, and microbiology. They also review closely related disciplines such as roentgenology, anesthesiology, physical diagnosis, and laboratory procedures.

The assumption of increased responsibility and the opportunity for clinical and operating room experience are important aspects of residency training.

Residents gain clinical training in anesthesiology through an assigned rotation in the Department of Anesthesiology. Previous advanced training in physical diagnosis, physiology, pharmacology, and pathology take on greater clinical significance, and increased responsibility in the operating room as first assistant and surgeon further develops surgical judgment and skills.

Development and implementation of a research project under staff supervision enhance the value of the residency training.

Senior residents may be given responsibility for major oral and maxillofacial surgical cases during rotations at

University of Iowa Hospitals and Clinics and at the Iowa City Veterans Affairs Medical Center. Each fourth-year resident is assigned to a rotation as a clinical and didactic coordinator and assumes responsibility to qualify for examination by the American Board of Oral and Maxillofacial Surgery.

### Admission

Students begin the four-year program only on July 1. Applicants are selected through a post-D.D.S. dental matching program sponsored by the American Association of Oral and Maxillofacial Surgeons. The application deadline for the match in oral and maxillofacial surgery is September 1 for admission the following July. Appointments are made after the match results are revealed and the staff elects to take official action. Appointments are offered on or before February 1 for the following July.

Applicants must have graduated from an accredited college of dentistry, should be in the upper one-fourth of their graduating class, and must be eligible to be licensed to practice dentistry in the United States.

## Facilities

The University of Iowa Health Sciences Campus has outstanding basic and clinical science departments that stimulate and support scholarly research and superior clinical practice. Appropriate environments for residency training in oral and maxillofacial surgery are provided by University of Iowa Hospitals and Clinics, the College of Dentistry, the Roy J. and Lucille A. Carver College of Medicine, and the Iowa City Veterans Affairs Medical Center.

## Oral and Maxillofacial Surgery Courses

### For D.D.S. Students

**087:115 Anesthesia and Pain Control I** 1 s.h.  
Principles, techniques of complete medical history, head and neck examination, cardiovascular and respiratory examination; neuroanatomical, psychophysiological aspects of pain; pharmacologic action and techniques for using local anesthetics.

**087:130 Basic Oral and Maxillofacial Surgery** 2 s.h.  
Principles; indications, contraindications for extractions; evaluation of patient's related medical history; techniques of extraction, minor oral surgery procedures.

**087:145 Anesthesia and Pain Control II** 1 s.h.  
Theory, application, instrumentation of nitrous oxide sedation; emphasis on cardiovascular, respiratory physiology; evaluation of patients, practical techniques for nitrous oxide sedation.

**087:155 Advanced Oral and Maxillofacial Surgery** 1 s.h.  
History, examination, diagnosis, treatment of diseases and traumatic injuries of oral cavity.

**087:160 Clinical Oral and Maxillofacial Surgery** arr.  
Clinical experience at the College of Dentistry, University of Iowa Hospitals and Clinics, Veterans Affairs Iowa City Health Care System.

### For Graduate Students

**087:201 Hospital Procedures** 1 s.h.  
Hospital rules, regulations; patient, department records; information concerning hospitalized patients.

**087:202 Basic Science Review** 4 s.h.  
Head, neck anatomy; dissection; microbiology, pathology, physiology.

**087:207 Surgical Anatomy** 1 s.h.  
Head, neck structures in major oral surgery procedures; emphasis on maxillofacial problems, surgical emergencies; may include animal surgery.

**087:208 Pain and Anxiety Control** 1-3 s.h.  
Nitrous oxide; intravenous, oral, intramuscular anxiety and pain control; pharmacology of agents; complications, their management.

<b>087:209 Principles of Anesthesia</b> General anesthesia; agents and their effects on respiratory, cardiovascular systems; literature.	2 s.h.
<b>087:211 Literature Seminars and Journal Club</b>	1 s.h.
<b>087:212 Surgical Case Reports</b>	1 s.h.
<b>087:214 Roentgen Interpretation</b> Theory, technique.	2 s.h.
<b>087:215 Physical Diagnosis</b>	2 s.h.
<b>087:218 Oral Pathology Conference</b> Current clinical specimens.	1 s.h.
<b>087:225 Oral and Maxillofacial Surgery Seminar I</b>	1 s.h.
<b>087:226 Oral and Maxillofacial Surgery Seminar II</b>	1 s.h.
<b>087:227 Oral and Maxillofacial Surgery Seminar III</b>	1 s.h.
<b>087:230 Oral and Maxillofacial Surgery Research I</b> Thesis topic and review committee selection, literature review.	2 s.h.
<b>087:231 Oral and Maxillofacial Surgery Research II</b> Thesis protocol, research.	3 s.h.
<b>087:232 Oral and Maxillofacial Surgery Research III</b> Thesis research complete; data gathering.	3 s.h.
<b>087:233 Oral and Maxillofacial Surgery Thesis</b> Thesis and defense; comprehensive examination.	3 s.h.
<b>087:240 Clinical Oral and Maxillofacial Surgery I</b> Specialty and technical seminars, patient treatment; clinical practice on assigned patient problems.	arr.
<b>087:241 Clinical Oral and Maxillofacial Surgery II</b> Specialty and technical seminars, patient treatment; clinical practice on assigned patient problems.	arr.

## Oral Pathology, Radiology, and Medicine

**Head:** Steven D. Vincent

**Professors:** Michael W. Finkelstein, Axel Ruprecht, Christopher A. Squier, Steven D. Vincent, Philip W. Wertz

**Professors emeriti:** Daniel L. Hall, Harold L. Hammond, William J. Hausler

**Adjunct professors:** Eva Dahl, Thomas P. Williams

**Clinical professor:** John W. Hellstein

**Associate professor:** Karen A. Baker

**Associate professors (clinical):** Ronald D. Elvers, Cindy L. Marek, Carrie McKnight, Patricia K. Meredith

**Assistant professor emeritus:** George C. Kienzle

**Assistant professors (clinical):** Ruth D. Spieker, Sherry R. Timmons

**Adjunct assistant professors:** Joanna L. Clancy, Carolyn P. Larsen, John A. Maxwell, Daniel S. Sarasin

**Graduate degree:** M.S. in Stomatology

**Graduate nondegree programs:** Certificate in Oral and Maxillofacial Pathology, Certificate in Oral and Maxillofacial Radiology

**Web site:** <http://www.dentistry.uiowa.edu>

### D.D.S. Student Training

The department teaches D.D.S. and other health care students about diseases that manifest in and about the oral cavity. Students learn about the clinical, radiographic, laboratory, histopathologic, and therapeutic features of these diseases as well as their etiology and natural history. They also study identification of systemic diseases through physical evaluation of patients.

### Graduate and Clinical Specialty Programs

The department offers a Master of Science in stomatology with two tracks: oral and maxillofacial pathology, and oral and maxillofacial radiology. It also offers the Certificate in Oral and Maxillofacial Pathology and the Certificate in Oral and Maxillofacial Radiology.

Stomatology is the science of structure, function, and disease of the oral cavity. Study methods include examination of related histories, evaluation of clinical signs and symptoms, and use of biochemical, microscopic, and radiologic procedures to establish a diagnosis and plan for therapeutic management.

The department's programs are diverse and flexible, allowing students to obtain advanced clinical, didactic, and research-related education while pursuing a Master of Science.

Students also may choose to apply for acceptance to the College of Dentistry graduate programs in oral science (see Oral Science in the Catalog).

#### Master of Science and Certificates

The Master of Science in stomatology requires a minimum of 30 s.h. of graduate credit. Students choose one of two tracks--oral and maxillofacial pathology, or oral and maxillofacial radiology.

Students also may pursue a joint program, earning a Master of Science in stomatology and a certificate in their M.S. track area (Certificate in Oral and Maxillofacial Pathology, or Certificate in Oral and Maxillofacial Radiology). Each joint program combines the minimum requirements of the M.S. and the certificate; completion time usually is 36 to 48 months. The educational requirements of each certificate program meet the requirements for preparation of dental specialists set by the Commission on Dental Education of the American Dental Association and the American Board of Oral and Maxillofacial Pathology.

All graduate students in stomatology pursue comprehensive study of basic biologic and health sciences in preparation for teaching and research. They must complete the courses listed below, including the core courses and the basic science and departmental courses listed for their M.S. track. They also must prepare and submit a thesis based on the results of research conducted during their course of study.

#### CORE COURSES

068:199 Basic Otolaryngologic Science	2 s.h.
086:200 Stomatology Literature Review	arr.
086:226 Physical, Laboratory, and Historical Features of Disease	arr.
086:242 Clinical Oral and Maxillofacial Radiology	arr.
111:212 Statistical Methods for Dental Research	3 s.h.
151:200 Seminars in Dental Research	1 s.h.
151:210 Dental Sciences Research Methodology	2 s.h.
151:215 Research Design in Dentistry	2 s.h.

**ORAL AND MAXILLOFACIAL PATHOLOGY TRACK**

069:205-069:206 Medical Pathology I-II	10 s.h.
086:225 Manifestations of Oral and Paraoral Disease	arr.
086:227 Surgical Oral Pathology	1 s.h.
086:240 Histopathology	1 s.h.
151:275 Oral Microbiology and Immunology	2 s.h.
151:280 Advanced Dental Therapeutics	1 s.h.

**ORAL AND MAXILLOFACIAL RADIOLOGY TRACK**

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
074:220 Radiation Safety and Radiobiology	4 s.h.
077:211 Medical Physics	4 s.h.
086:243 Practical Oral and Maxillofacial Radiology	arr.
086:244 Technical Oral and Maxillofacial Radiology	arr.
086:245 Head and Neck Radiology	arr.

**Admission**

Applicants must have successfully completed an accredited program leading to the D.D.S. or D.M.D., or a foreign equivalent, and must meet the admission requirements of the Graduate College. They must have a cumulative g.p.a. of at least 3.00 (or foreign equivalent) to be considered for admission.

All applicants must take the Graduate Record Examination (GRE) General Test. International applicants whose first language is not English must present a satisfactory score on the Test of English as a Foreign Language (TOEFL).

The department's faculty makes final decisions on acceptance of applicants who meet the requirements for admission. A personal interview is required.

**Facilities**

Facilities reserved for the Department of Oral Pathology, Radiology, and Medicine include a radiology special procedures area; a surgical oral pathology laboratory; a clinical pathology laboratory with areas for histopathology, hematology, clinical chemistry, and immunology; a computer simulation area; an interpretation room; a library and a seminar room; and a tutorial laboratory for training small groups of graduate and undergraduate students.

In addition, the College of Dentistry has joint-use research laboratories that are well equipped and staffed for conducting research involving histology, histochemistry, materials technology, radiobiology, ultrastructure, and electron probe analysis and quantification.

**Oral Pathology, Radiology, and Medicine Courses****For D.D.S. Students**

<b>086:120 Fundamentals of Oral Radiology</b>	1 s.h.
Methods of clinical, radiographic examination, record keeping; correlation of basic, clinical sciences.	
<b>086:135 Oral Pathology</b>	4 s.h.
Diseases involving orofacial organs.	
<b>086:145 Introduction to Clinical Oral Radiology</b>	1 s.h.
Principles, techniques of diagnosis, radiology, clinical pathology in clinical practice.	
<b>086:155 Systemic Disease Manifestations</b>	1 s.h.
Clinical medicine for dental students; basic information for patient evaluation.	
<b>086:160 Clinical Oral Diagnosis</b>	1 s.h.
Diagnosis of orofacial diseases by clinical, laboratory, radiographic and treatment planning methods; clinical case analysis.	

- 086:161 Clinical Oral Radiology** arr.  
Making and processing intraoral, extraoral radiographs; principles of radiographic interpretation.
- 086:165 Clinical Oral Pathology** 1 s.h.  
Oral and maxillofacial diseases: integration of the clinical, historical, radiographic features; therapeutic management.

## For Graduate Students

- 086:200 Stomatology Literature Review** arr.  
Current literature in oral and maxillofacial pathology and radiology; presentation of graduate student research; development of lectures or seminars for D.D.S. or graduate students, or continuing education for peers and practicing dentists.
- 086:225 Manifestations of Oral and Paraoral Disease** arr.  
Clinical experience in diagnosing, managing patients.
- 086:226 Physical, Laboratory, and Historical Features of Disease** arr.  
Head and neck diseases, abnormalities.
- 086:227 Surgical Oral Pathology** 1 s.h.  
Experience in day-to-day operations of surgical oral pathology laboratory; advanced training in histopathologic diagnosis of oral and maxillofacial diseases. Repeatable. Corequisites: 086:240, if not taken as a prerequisite.
- 086:228 Introduction to Surgical Oral Pathology** 1 s.h.  
Day-to-day operations of surgical oral pathology laboratory; histopathologic diagnosis of oral and maxillofacial diseases. Repeatable.
- 086:230 Research in Oral Pathology, Radiology, and Medicine** arr.  
Includes thesis preparation.
- 086:238 Introduction to Histopathology** 1 s.h.  
Case studies; histopathologic diagnosis of diseases that affect oral and maxillofacial region. Repeatable.
- 086:240 Histopathology** 1 s.h.  
Case studies; advanced training in histopathologic diagnosis of diseases that affect oral and maxillofacial region. Repeatable. Corequisites: 089:202, if not taken as a prerequisite.
- 086:241 Hospital Oral Pathology, Radiology, and Medicine** arr.  
Management of patient consultations, diagnosis, therapy at a hospital-based dental service.
- 086:242 Clinical Oral and Maxillofacial Radiology** arr.  
Radiologic manifestations of diseases; emphasis on craniofacial complex.
- 086:243 Practical Oral and Maxillofacial Radiology** arr.  
Clinic participation; supervision of dental and dental hygiene students, review of their cases; participation in clinical radiology conferences, laboratory exercises.
- 086:244 Technical Oral and Maxillofacial Radiology** arr.  
Experience with technical maintenance of darkroom, clinical equipment; troubleshooting under supervision of radiology staff.
- 086:245 Head and Neck Radiology** arr.  
Hospital-based rotation in diagnostic radiology with participation in interpretation sessions; CT, MRI, nuclear medicine, ultrasound.
- 086:246 Craniofacial Radiology** arr.



Hospital-based rotation in diagnostic radiology; exposure to interpretive sessions on ultrasound, CT, MRI, nuclear medicine.

**086:256 Advanced Oral Pathology**

arr.

Diseases involving orofacial organs; emphasis on bibliographic research, biodynamic analysis of pathologic processes, diagnostic interpretation; content adapted to student interests.

**086:300 Oral Pathology Certificate Program**

0 s.h.

Advanced dental clinical and didactic education; nondegree program toward eligibility for board certification in oral and maxillofacial pathology.

**086:301 Oral Radiology Certificate Program**

0 s.h.

Advanced dental clinical, didactic education; nondegree program toward eligibility for board certification in oral and maxillofacial radiology.

## Oral Science

**Director:** Christopher Squier  
**Graduate degrees:** M.S., Ph.D. in Oral Science  
**Web site:** <http://www.dentistry.uiowa.edu>

## Graduate Programs

The College of Dentistry offers programs of study leading to the Master of Science and the Doctor of Philosophy in oral science. The Departments of Endodontics, Periodontics, Prosthodontics, and Oral Pathology, Radiology, and Medicine offer programs leading to graduate degrees in oral science; see their department sections in the Catalog for more information.

The M.S. and Ph.D. programs require that students complete courses from a core curriculum and conduct independent research leading to a thesis. They are intended to prepare graduates for careers in teaching and research.

### Master of Science

The M.S. in oral science requires a minimum of 30 s.h. of graduate credit, including 21 s.h. of course work, 9 s.h. of independent research leading to a thesis, and a final examination. M.S. students must spend at least two years in full-time residence. Students also involved in a two-year advanced clinical program should complete the M.S. and certificate programs by the end of a third year of study.

Students pursuing the M.S. normally must be enrolled in a clinical training program offered by a College of Dentistry department.

### Doctor of Philosophy

The Ph.D. in oral science requires a minimum of 72 s.h. of graduate credit including advanced course work and original research that culminates in successful defense of a dissertation. Students must pass a comprehensive examination, prepare and gain approval of a research prospectus, and complete and successfully defend a dissertation that describes the results of the research. Completion of the program usually requires at least four years of full-time study.

### Admission

Applicants to the M.S. and Ph.D. programs must hold a dental degree and must meet the admission requirements of the Graduate College. Applicants whose first language is not English must score at least 550 (paper-based) or 213 (computer-based) on the Test of English as a Foreign Language (TOEFL); they also may be asked to take the Test of Spoken English.

Programs normally begin July 1 each year.

Applicants to the Ph.D. program are asked to submit a statement describing past research experience and current research interests, and stating how completion of the Ph.D. program fits their career goals.

A personal interview may be requested for either program.

## Oral Science Courses

- |   |        |
|---|--------|
| <b>151:200 Seminars in Dental Research</b>  | 1 s.h. |
| <b>151:210 Dental Sciences Research Methodology</b><br>Practical, experimental procedures in dental research; literature and design; writing of research protocols. Offered summer session.   | 2 s.h. |
| <b>151:212 Statistical Methods for Dental Research</b><br>Descriptive methods, elementary probability, distributions, populations and samples, methods for analyzing percentage data and paired and unpaired measurement data, regression, correlation, and analysis of variance. | 3 s.h. |
| <b>151:215 Research Design in Dentistry</b><br>Types of studies used in dentistry; design validity; sampling methodologies; major descriptive and experimental designs used in dental research; application of statistical tests to these designs. Offered spring semester.       | 2 s.h. |
| <b>151:220 Pathophysiology of Skin and Oral Mucosa</b>  | 2 s.h. |

Biology of skin, oral mucosa; changes in behavior of the tissues in varied physiological, pathological conditions. Offered spring semesters of even years. Prerequisites: 151:210.

**151:230 Pathophysiology of Salivary Glands and Saliva** 2 s.h.  
Innervation, structure, function of glands; their secretions in health and disease, their role in oral environment. Offered spring semesters of odd years. Prerequisites: 151:210.

**151:240 Pathophysiology of the Pulp-Dentin Complex** arr.  
Biology of tissue; emphasis on pathological changes. Offered spring semesters of even years. Prerequisites: 151:210.

**151:250 Current Concepts of Cariology** 2 s.h.  
Etiology of dental caries; pathogenesis, development of preventive measures. Offered spring semesters of odd years. Prerequisites: 151:210.

**151:260 Bone and Tooth Support Structure and Implants** 2 s.h.  
Biology of bone and periodontal structures; biologic basis for therapeutic use of dental implants. Offered fall semesters of odd years.

**151:275 Oral Microbiology and Immunology** 2 s.h.  
Principles of microbiology and immunology, aspects of microbial community development in the oral cavity, basic concepts of host/parasite interactions related to development of oral diseases; biological, immunological, and clinical manifestations induced by major oral pathogens. Offered spring semesters of odd years. Requirements: microbiology, biochemistry, and biology. Recommendations: immunology.

**151:280 Advanced Dental Therapeutics** 1 s.h.  
Antimicrobial, analgesic, related therapies; emphasis on drug/drug interactions, dental implications of chronic cardiovascular and central nervous system medications. Offered fall semesters.

**151:600 Research in Oral Science** arr.  
Thesis research. Requirements: oral science M.S. or Ph.D. candidacy.

**151:610 Independent Study** arr.  
Independent study supervised by a faculty mentor.

## Orthodontics

**Head:** Thomas E. Southard

**Professors:** Samir E. Bishara, John S. Casco, Andrew C. Lidral, Thomas E. Southard, Robert N. Staley

**Professor emeritus:** William Olin

**Associate professor:** Steven D. Marshall

**Assistant professors:** Michael A. Callan, Lina Maria Moreno Uribe, Clayton T. Parks

**Graduate degree:** M.S. in Orthodontics

**Graduate nondegree program:** Certificate in Orthodontics

**Web site:** <http://www.dentistry.uiowa.edu>

## D.D.S. Student Training

The professional program in orthodontics prepares general practitioners of dentistry to competently recognize, diagnose, and treat limited malocclusions of the teeth.

Lecture courses guide D.D.S. students in learning basic concepts of dental and facial growth, as well as treatment-oriented subject matter. In a laboratory course, students take and evaluate diagnostic records and fabricate treatment appliances. The department supervises a program for clinical treatment of selected patients.

## Graduate and Clinical Specialty Programs

The department offers a Master of Science in orthodontics and the Certificate in Orthodontics.

The graduate program in orthodontics educates competent individuals to practice orthodontics and dentofacial orthopedics. The program's objectives are to provide students with an in-depth education in biological and biomechanical principles related to orthodontics; to teach students to diagnose, plan, and deliver comprehensive orthodontic health care service; and to develop students' research and service skills.

Opportunities are available for research and independent study in the department, and there are special facilities for research in biomechanics and craniofacial growth. Interaction with other departments provides learning and research opportunities in surgical orthodontics, cleft lip and palate treatment, speech pathology, animal experimentation, and human growth.

### Master of Science and Certificate

The Master of Science requires a minimum of 30 s.h. of graduate credit. Students must satisfactorily complete a thesis based on an original research project to qualify for an M.S. in addition to the Certificate in Orthodontics.

Satisfactory completion of 24 months of intensive study, including lecture courses, seminars, clinical practicum, and a research paper, qualifies students to receive the Certificate in Orthodontics.

### Admission

Applicants must have a D.D.S. or equivalent and must meet the admission requirements of the Graduate College. Application deadline is September 1 for entry the following July 1. Applicants are required to come to the University for interviews with department faculty.

## Orthodontics Courses

### For D.D.S. Students

- |   |        |
|---|--------|
| <b>089:115 Growth and Development</b>   | 1 s.h. |
| Normal human growth and development; emphasis on craniofacial region.   |        |
| <b>089:135 Orthodontic Laboratory</b>   | 1 s.h. |
| Limited care case diagnosis and treatment.  |        |
| <b>089:136 Orthodontic Treatment</b>  | 1 s.h. |
| From patient management to use of appliances for correcting some malocclusions in the general practitioner's office.  |        |
| <b>089:170 Orthodontic Clinic</b>   | arr.   |
| Experience in diagnosis, treatment planning implementation; work with patients who have malocclusions appropriate for treatment by undergraduate students; record taking; diagnosis and treatment; may include appointments during summer months. |        |

**For Graduate Students**

<b>089:200 Control Theory and Craniofacial Morphogenetic Systems</b>	1 s.h.
<b>089:201 Orthodontic Theory: Diagnosis and Treatment Plan</b> Diagnosis, treatment planning implementation.	2 s.h.
<b>089:202 Diagnosis and Treatment Planning</b> Literature concerning orthodontic diagnosis; treatment of particular problems; case histories of patients treated in graduate clinic.	2 s.h.
<b>089:203 Advanced Orthodontic Technique</b> Skills for treatment of disfiguring malocclusions; use of edgewise biomechanical therapy; laboratory focus on typodont exercises.	arr.
<b>089:204 Biomechanics</b>	arr.
<b>089:205 Facial Growth</b> Theories, processes; use of accepted facial growth concepts in treatment of individuals with malocclusions during active growth period.	1-2 s.h.
<b>089:207 Case Analysis</b> Literature on diagnosis, treatment of mixed dentition patients; case histories of patients treated by serial extraction procedure.	arr.
<b>089:209 Orthodontic Practicum</b> Clinical practice.	arr.
<b>089:210 Orthodontic Seminar</b> Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed orthodontic treatment.	arr.
<b>089:211 Problems: Orthodontics</b>	arr.
<b>089:212 Research: Orthodontics</b>	arr.
<b>089:215 Orthodontic Journal Club</b> Current biological, technical publications.	arr.
<b>089:216 Practice Management</b> Business management of orthodontic practice; solo practice, associateship, partnership, practice corporation.	arr.
<b>089:217 Cephalometrics</b> Use of skull X-ray (lateral and/or postero-anterior) in formulating orthodontic diagnosis, treatment plans for malocclusions; cephalometrics as a tool for craniofacial structure research.	arr.
<b>089:220 Craniofacial Anatomy</b> Literature on anatomy, phylogeny, ontogenesis, physiology of craniofacial structures.	arr.
<b>089:221 Surgical Orthodontic Seminar</b> Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed surgical-orthodontic treatment.	1 s.h.
<b>089:300 Orthodontic Certificate Program</b> Clinical and didactic education toward eligibility for board certification in orthodontics.	0 s.h.
<b>089:400 Dental Treatment of Maxillofacial Deformities</b>	2 s.h.

**089:401 Seminar: Maxillofacial Rehabilitation**

1 s.h.

## Pediatric Dentistry

**Chair:** Rebecca L. Slayton

**Professors:** David C. Johnsen, Michael J. Kanellis, James S. Wefel

**Professors emeriti:** Clemens A. Full, Stephen J. Goepferd, Arthur J. Nowak, Jimmy R. Pinkham, Jerry D. Walker

**Associate professor emerita:** Cynthia K. Christensen

**Clinical associate professors:** Richard M. Burke Jr., Tad R. Mabry

**Assistant professor:** Karin Weber-Gasparoni

**Adjunct clinical assistant professors:** Erik Balster, Matthew Geneser, Natalie Ghosheh, Pollyanne Iben, Steve Kelly, Michael Mathews, Thomas Maurice, Edward Rick, Michael Stufflebeam

**Assistant-in-instruction:** M. Catherine Skotowski

**Graduate nondegree program:** Certificate in Pediatric Dentistry

**Web site:** <http://www.dentistry.uiowa.edu/public/clinics/pedo/pedsgp.html>

The Department of Pediatric Dentistry instructs D.D.S. and graduate students in the prevention and treatment of dental diseases in children. Instruction combines didactic, laboratory, and clinical experiences and gives special consideration to reviewing current literature and managing dental problems of children with special health care needs. It also emphasizes efficient treatment through proper use of dental auxiliary personnel and record management.

## D.D.S. Student Training

All second-year D.D.S. students participate in a one-semester lecture course that includes preclinical exercises in the Simulation Clinic. Third-year D.D.S. students participate in a clerkship, which includes a lecture course and a clinical course. During their fourth year, D.D.S. students treat patients in the department's outreach clinics.

## Clinical Specialty Program

The Department of Pediatric Dentistry offers the Certificate in Pediatric Dentistry. The program is accredited by the Commission on Dental Accreditation of the American Dental Association.

### Certificate

The Certificate in Pediatric Dentistry is a two-year residency program that prepares students for certification by the American Board of Pediatric Dentistry. Certificate students are trained in all phases of pediatric dentistry and have career choices in practice, education, or research. Special emphasis is placed on development of leadership skills and strategies for serving vulnerable populations.

Approximately 50 percent of the graduate program is devoted to advanced clinical activity, 30 percent to didactic courses and practice teaching, and 20 percent to original research. The program includes a core of didactic, clinical, and research-oriented courses supplemented by electives determined by students' individual interests. Development of a minor subject area is recommended.

Close associations with the Department of Pediatrics in the Roy J. and Lucille A. Carver College of Medicine, the Center for Disabilities and Development, and University of Iowa Hospitals and Clinics permit emphasis on oral rehabilitation under general anesthesia, instruction in physical diagnosis, and management of children with developmental disabilities.

### Admission

Prospective students apply through the American Dental Education Association PASS program. Applicants must meet the admission requirements of the Graduate College.

### Financial Support

Stipends for the two-year program are provided by federal sources.

## Research Opportunities

Clinical and laboratory research projects have financial support from federal agencies and other sources. Major research areas include cariology, dental materials, dentistry for persons with special health care needs, growth and development, fluoride therapy, child behavior management, prevention, and access to care.

## Faculty

Faculty members hold numerous national and state offices, committee memberships, consultantships, and honors in professional organizations. They serve as reviewers for professional journals and federal granting agencies. They also

participate regularly in continuing education programs for dentists and other health science personnel. Ten of the department's faculty members are diplomates of the American Board of Pediatric Dentistry.

## Pediatric Dentistry Courses

### For D.D.S. Students

**090:140 Pediatric Dentistry Diagnosis and Treatment** 3 s.h.  
Growth and development, behavior management, diagnostic-preventive-restorative techniques for pediatric patients.

**090:160 Clinical Pediatric Dentistry** arr.  
Comprehensive clinical management of pediatric patients.

**090:165 Clinical Seminar in Pediatric Dentistry** 1 s.h.  
Patient management, case histories, treatment philosophies, issues in contemporary dentistry for children.

### For Graduate Students

**090:220 Social, Cultural, and Public Health Issues in Pediatric Dentistry** 1 s.h.

**090:300 Pediatric Dentistry Certificate Program** 0 s.h.  
Advanced dental clinical and didactic education; nondegree program toward eligibility for board certification in pediatric dentistry.



## Periodontics

**Head:** Georgia K. Johnson

**Professors:** Kim Brogden, Georgia K. Johnson

**Professors emeriti:** William R. Grigsby, Frank J. Kohout, Phillip A. Lainson, William C. Rubright

**Adjunct professor:** Jason Mailhot

**Clinical professor:** Lewis Humbert

**Associate professors emeriti:** Paul J. Collins, Benny F. Hawkins

**Clinical associate professor:** Steven H. Clark

**Adjunct assistant professors:** Brandon Baillie, Guy Bilek, Stephen Cooper, James Fili, Michael Franzman, Adrienne Gunstream, Allen Kvidera, Quinn Morarend,

Brian Recker, Ann Romanowski, Jo Rummelhart, Duane Weenig

**Clinical assistant professors:** Kumar Neppalli, Paula Weistroffer

**Assistant-in-instruction:** Nancy A. Slach

**Graduate degree:** M.S. in Oral Science

**Graduate nondegree program:** Certificate in Periodontics

**Web site:** <http://www.dentistry.uiowa.edu>

### D.D.S. Student Training

The professional periodontal program for D.D.S. students combines didactic, laboratory, and clinical experience and applies the biological concepts of periodontology to the comprehensive clinical management of patients who have periodontal diseases.

## Graduate and Clinical Specialty Programs

The Department of Periodontics offers a program leading to a Master of Science in oral science. It also offers the Certificate in Periodontics. Students may pursue the M.S. in conjunction with the certificate.

### Master of Science

The Master of Science in oral science requires a minimum of 30 s.h. of graduate credit and 36 months of full-time study, including satisfactory completion of required and elective courses, preparation and defense of an acceptable thesis based on original research, and satisfactory completion of comprehensive written and oral examinations.

### Certificate

The Certificate in Periodontics requires 36 months of full-time study, including satisfactory completion of required and elective courses, satisfactory completion of comprehensive written and oral examinations, and an acceptable literature review or research paper. Opportunities are provided for experience in clinical and basic research.

The certificate program provides a sound foundation for the clinical practice of periodontics. It meets all requirements of the Commission on Dental Accreditation of the American Dental Association for advanced dental education programs in periodontics. It also meets eligibility requirements for certification by the American Board of Periodontology.

### Admission

Applicants to graduate study in periodontics must have a D.D.S. or equivalent and must meet the admission requirements of the Graduate College. Applicants must take the National Dental Board Examination and must interview with the department.

### Financial Support

Applicants must be financially prepared for uninterrupted studies.

## Facilities

The department has 20 modern, well-equipped operatories devoted exclusively to periodontics. Hospital experience is available to students in the nearby University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center.

Research facilities include collegiate laboratories in histology, microscopy, biomaterials, quantitation, tissue culture, molecular biology and biochemistry, and microbiology, as well as animal facilities. Other facilities are available by arrangement with University of Iowa Hospitals and Clinics, Eckstein Medical Research Building, Medical Laboratories, and the Iowa City Veterans Affairs Medical Center.

## Periodontics Courses

**For D.D.S. Students**

<b>092:140 Periodontic Methods I</b> Normal periodontium, gingivitis, periodontitis, diagnosis, prognosis, treatment planning.	2 s.h.
<b>092:141 Periodontic Methods II</b> Initial phase of periodontal therapy, treatment of acute periodontal problems, overview of surgical procedures.	1 s.h.
<b>092:160 Periodontics</b> Comprehensive clinical management of periodontal patients.	arr.
<b>092:165 Periodontology</b> Comprehensive concepts of periodontology, clinical management of patients.	1-2 s.h.

**For Graduate Students**

<b>092:207 Practice Teaching in Periodontics</b> Experience in lecturing, directing seminars, clinical teaching.	arr.
<b>092:208 Recent Advances in Periodontics</b>	arr.
<b>092:212 Applied Oral Microbiology</b> Microbiology applied to oral health problems.	arr.
<b>092:225 Periodontology Literature Review I</b>	arr.
<b>092:226 Periodontology Literature Review II</b>	arr.
<b>092:227 Periodontology Literature Review III</b>	arr.
<b>092:228 Periodontology Literature Review IV</b>	arr.
<b>092:300 Periodontic Certificate Program</b> Advanced dental clinical and didactic education; nondegree program toward eligibility for board certification in periodontics.	0 s.h.

## Preventive and Community Dentistry

**Head:** Daniel Caplan

**Professors:** Daniel Caplan, Peter Damiano, Deborah Dawson, Jed Hand, Raymond Kuthy, Steven Levy, Elaine Smith, John Warren

**Professors emeriti:** Henrietta Logan, Nelson Logan

**Adjunct professor:** Rhys Jones

**Clinical professor:** Howard Cowen

**Associate professors:** Marsha Cunningham, Teresa Marshall, Derek Willard

**Associate professors emeriti:** Howard Field, Hermine McLeran, Lawrence Peterson, Jamie Sharp

**Assistant professor:** Michelle McQuistan

**Adjunct assistant professors:** Julie Eichenberger-Gilmore, Betsy Momany, Fang Qian

**Clinical assistant professors:** Erin Lacey, Marco Rouman

**Graduate degree:** M.S. in Dental Public Health

**Web site:** <http://www.dentistry.uiowa.edu>

## D.D.S. Student Training

Programs in preventive, community, and geriatric dentistry are designed to increase D.D.S. students' awareness of preventive dental practices, aspects of dental practices affected by community factors, and care of compromised adult patients.

Community dentistry programs give students opportunities to interact with health care teams and the public in Iowa and worldwide. The department conducts off-site community programs statewide, nationwide, and worldwide. It also operates the Special Care Clinic, which is housed in the Dental Science Building.

Using the community dentistry programs as the classroom, D.D.S. students observe and participate in a variety of activities that nurture their awareness of the societal obligations they must assume in order to become effective practitioners.

## Graduate Program

The Department of Preventive and Community Dentistry offers a Master of Science in dental public health.

### Master of Science

The Master of Science in dental public health requires 40 s.h. of course work and is designed to be completed in two academic years of full-time study. It prepares dentists and dental hygienists to be specialists in dental public health. The program emphasizes research and requires a research project culminating in the completion and defense of a thesis. Successful dentist graduates meet the educational requirements for eligibility for the certifying examination of the American Board of Dental Public Health.

Applicants must meet the admission requirements of the Graduate College.

## Preventive and Community Dentistry Courses

### For D.D.S. Students

#### **111:116 Fundamentals of Clinical Dentistry** 1 s.h.

Identification of health and disease in the mouth; practical methods of disease control, philosophy of preventive dentistry; patient assessment, clinical diagnosis.

#### **111:117 Cariology and Preventive Therapies** 2 s.h.

Multifactorial etiology of dental caries; support data for use of fluorides, sealants, antimicrobials, and plaque control mechanisms in prevention of caries. Prerequisites: 111:116.

#### **111:118 Preventive Dentistry, Communication, and Patient Care** 3 s.h.

Patient oral assessment, communication, patient management skills; preventive dentistry risk assessment, oral hygiene instruction for collegiate recall patients; skills in instrumentation for detection, removal of calculus deposits. Prerequisites: 111:116 and 111:117.

#### **111:145 Clinical Preventive Dentistry** 0-2 s.h.

Experience providing complete prophylaxis and preventive services for college patients; application of nutrition principles and communication skills in a clinic setting. Prerequisites: 111:118.

#### **111:160 The Practice of Dentistry in the Community I** 1-2 s.h.

Issues related to the role of the dental professional at a local and state level, including dental public health, health literacy, cultural competency, and forensic dentistry; the role of the state dental director.

**111:161 The Practice of Dentistry in the Community II** 1-2 s.h.

Factors that affect the profession and practice of dentistry, including basics of health care systems in the U.S. and in other countries; health care reform; Medicaid; dental insurance; health care delivery systems; legal and malpractice issues; dental utilization and dental workforce; quality of care.

**111:185 Broadlawns Medical Center** arr.

Dental care to low-income patients in a metropolitan hospital-based clinic; community-related assignments; student team experience in Des Moines.

**111:186 Colorado Migrant Program** arr.

Experience providing primary dental care and outreach services to a migrant population; broad understanding of needs, resources for migrant, low-socioeconomic populations.

**111:187 Community Health Care: Davenport** arr.

Experience providing dental care at medical-dental ambulatory health care facility serving Scott County; community-related assignments.

**111:188 St. Lukes-Dental Health Center** arr.

Experience providing clinical and outreach services for low-income children and adults with developmental disabilities at St. Luke's Hospital, Cedar Rapids; operative and behavioral dental problems, hospital protocol, special needs of low-socioeconomic clients.

**111:189 Geriatrics and Special Needs Program** arr.

Experience in Special Care Clinic and Geriatric Mobile Dental Unit; comprehensive care for medically, physically, cognitively compromised adults, including frail elderly nursing home residents with portable equipment, other underserved populations.

**111:191 Private Practice Preceptorship** arr.

Development of skills and knowledge necessary for day-to-day practice of dentistry; experience at selected preceptor sites in Iowa.

**111:194 Special Field Clinic** arr.

Extramural experiences developed according to student needs, extramural opportunities.

**111:196 Siouxland Community Health Center** arr.

Experience providing dental care at medical/dental ambulatory health care facility; community-related assignments.

## **For Graduate Students**

**111:200 Introduction to Dental Public Health** 2 s.h.

Science, philosophy, practice of dental public health.

**111:201 Literature Review Methods: Dental Public Health** 2 s.h.

Concepts and process of literature review, particularly in area of student's interest.

**111:202 Research Protocol Seminar** 2 s.h.

Development of a master's thesis protocol; identification of thesis topic, review of relevant literature, development of research methods, writing.

**111:203 Independent Study: Dental Public Health** 1-3 s.h.

**111:204 Principles of Oral Epidemiology** arr.

Retrospective, prospective, cohort study designs; validity and reliability; distribution and determinants of oral diseases--caries, periodontal diseases, oral cancer, malocclusion, fluorosis, HIV infection, tooth loss, edentulism.

- 111:205 Administration of Public Dental Programs** 2 s.h.  
Application of general management concepts; practical aspects of planning, financing, staffing, implementing, operating, evaluating dental public health programs at federal, state, local levels.
- 111:206 Preventive Programs in Dental Public Health** 2 s.h.  
Prevention, control methods for major dental conditions, primarily dental caries, periodontal diseases; clinical efficacy, cost-effectiveness; development of comprehensive preventive oral health plan for a community.
- 111:208 Field Experience in Dental Public Health** arr.  
Arranged with public and voluntary health agencies according to students' and agencies' needs.
- 111:209 Advanced Field Experience in Dental Public Health** 1-3 s.h.  
Opportunity to research, develop, and implement programmatic objectives with local, state, national, and/or federal agencies and organizations on an issue that is both relevant to the student and the agency; may require off-site visits to agencies or organizations. Prerequisites: 111:208.
- 111:211 Thesis: Dental Public Health** arr.  
Protocol preparation; data collection, analysis, organization; writing, defense of research.
- 111:212 Statistical Methods for Dental Research** 3 s.h.  
Descriptive methods, elementary probability, distributions, populations and samples, methods for analyzing percentage data and paired and unpaired measurement data, regression, correlation and analysis of variance.
- 111:214 Dental Care Policy and Financing** 2 s.h.  
Dental financing and policy issues: payment mechanisms for health care service providers, third-party prepayment plans, salaried and public-financed programs, Medicaid and Medicare programs, dental insurance systems, and care of the underserved.
- 111:215 Introduction to Statistical Computing** 1 s.h.  
Use of statistical packages on a personal computer for data management and analysis. Offered fall semesters of even years.
- 111:217 Teaching Methods and Evaluation** 2 s.h.  
Philosophies of dental education, teaching methodologies, evaluation; focus on learning to write educational objectives, writing and analyzing exam items.
- 111:218 Clinical Teaching Practicum: Preventive Dentistry** arr.  
Teaching experience in preventive dentistry clinic setting with first-year dental students; outcomes focused on methods in clinical teaching, evaluation, and remediation.
- 111:230 Geriatric Care I** 2 s.h.  
Aging in humans, with emphasis on oral cavity; issues and problems of oral health care in older adults.
- 111:231 Geriatric Care II** 2 s.h.  
Issues and problems related to oral health care in older adults, especially the frail or functionally dependent.
- 111:300 Dental Public Health Certificate** arr.  
Dental public health certificate. Requirements: D.P.H. M.S. Program participation.

# Prosthodontics

**Head:** Galen B. Schneider

**Professors:** Steven A. Aquilino, Ronald L. Ettinger, Galen B. Schneider, Clark M. Stanford

**Professors emeriti:** William E. LaVelle, Forrest R. Scandrett, Max L. Smith, Keith E. Thayer

**Clinical professor:** Robert L. Schneider

**Associate professors:** James M.S. Clancy, Terry L. Lindquist

**Adjunct associate professor:** Michael J. Lattner

**Clinical associate professors:** Robert J. Luebke, Peter S. Lund

**Assistant professors:** Emad Estafanous, David G. Gratton, Yong-Joon Ko

**Adjunct assistant professors:** David R. Fritz, John W. Helscher

**Clinical assistant professors:** Paul Aubrey, Yung-Shen Huang, Lawrence R. Huber

**Adjunct instructors:** Frederick R. Drexler, Maria T. Locher-Claus

**Graduate degree:** M.S. in Oral Science

**Graduate nondegree program:** Certificate in Prosthodontics

**Web site:** <http://www.dentistry.uiowa.edu>

Prosthodontics is the dentistry specialty involving crowns, fixed partial dentures (bridges), removable partial dentures, complete dentures, maxillofacial prostheses, and implant prostheses.

## D.D.S. Student Training

Instruction in the Department of Prosthodontics provides D.D.S. students with the basic principles, practices, and concepts of prosthodontics required for the practice of general dentistry, through laboratory projects and treatment of patients with differing prosthodontic needs.

## Graduate and Clinical Specialty Programs

The Department of Prosthodontics offers programs leading to a Master of Science and a Doctor of Philosophy in oral science. It also offers the Certificate in Prosthodontics. All students enroll in the certificate program and may choose to pursue a graduate degree as well.

### Master of Science, Doctor of Philosophy

The Master of Science in oral science requires a minimum of 30 s.h. of graduate credit; the Doctor of Philosophy requires a minimum of 72 s.h. of graduate credit. The programs prepare individuals for careers in dental education and research and for independent study and professional growth.

The graduate curriculum includes more courses in the biomedical sciences and research methodology than are required for the Certificate in Prosthodontics. Students must prepare and defend a thesis (M.S.) or dissertation (Ph.D.) based on original research. Facilities and support personnel for research are available through the college's Dows Institute for Dental Research. For more information, see Oral Science in the Catalog.

### Certificate

The Certificate in Prosthodontics requires a minimum of 34 months of study. It prepares individuals for specialty clinical practice in the discipline. The curriculum includes didactic courses and clinical training in all of the disciplines that make up the broad specialty of prosthodontics, including implant prosthodontics, maxillofacial prosthetics, and treatment of temporomandibular disorders. Patient care is completed in close collaboration with the other dental specialties. Clinically related basic science instruction complements the clinical curriculum.

The certificate program is accredited by the Commission on Dental Accreditation of the American Dental Association. Successful completion of the program satisfies the formal training requirement for eligibility for the American Board of Prosthodontics certification examination.

### Admission

Applicants to the M.S., Ph.D., and certificate programs must meet the admission requirements of the Graduate College. They must hold a D.D.S. or a D.M.D. from a dental school accredited by the American Dental Association or an equivalent degree.

The certificate program begins around July 1 each year. Applications are accepted year-round; those received by September 1 are considered for admission the following July. A personal interview is required for qualified applicants.

## Facilities

Most didactic, clinical, and laboratory instruction and patient treatment takes place in the Department of Prosthodontics, which is located in the Dental Science Building. The building also houses the Doctor of Dental Surgery

(D.D.S.) program, training programs in specialties recognized by the American Dental Association, and the Dows Institute for Dental Research.

The college and the department provide supporting technologies that include cone beam CT radiography, implant imaging software, laboratory CAD/CAM systems, laser surgery, clinical operating microscopes, and digital shade matching.

Advanced prosthodontic students spend time at University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center, where they work closely with medical professionals in other disciplines to treat medically compromised prosthodontic patients and those who require maxillofacial rehabilitation.

## Prosthodontics Courses

### For D.D.S. Students

**084:122 Occlusion and Complete Dentures Lecture** 2 s.h.

Basic principles and clinical application of occlusion; basic principles, clinical steps, and laboratory procedures necessary for fabrication of complete dentures.

**084:123 Occlusion and Complete Dentures Lab** 2 s.h.

Laboratory exercises illustrating the principles of occlusion; projects simulating the clinical and laboratory steps in complete denture fabrication.

**084:140 Fixed Prosthodontic Lecture I** 2 s.h.

Basic biomechanical principles of fixed prosthodontics; metal, single-unit, multiple-unit fixed prostheses; diagnosis and treatment planning for the partially edentulous patient, including occlusion and esthetic concerns.

**084:141 Fixed Prosthodontic Patient Simulation I** 2 s.h.

Laboratory exercises in fabrication of single-unit metal, provisional restorations; preparations for fabrication of a three-unit fixed partial denture.

**084:142 Fixed Prosthodontics Lecture II and Removable Partial Denture Lecture** 2 s.h.

Principles, clinical steps, materials, and laboratory procedures necessary for fixed and removable partial dentures; lecture format.

**084:143 Fixed Prosthodontics Lab II and Removable Partial Denture Lab** 2 s.h.

Participation in projects and seminars simulating the clinical and laboratory steps in fixed and removable partial denture fabrication.

**084:146 Introduction to Implant Dentistry** 2 s.h.

Fundamental principles of osseointegration, diagnosis and treatment planning, surgical and prosthodontic protocols, laboratory communications introduced through patient simulation.

**084:160 Prosthodontic Clinic** arr.

Experience supplemented by individual supervision, demonstration.

**084:165 Prosthodontic Seminar** 2 s.h.

Knowledge in biological, basic sciences and technique applied to clinical fixed and removable prosthodontics procedures.

### For Graduate Students

**084:220 Fixed Prosthodontics Literature Review I** arr.

Fixed prosthodontic procedures; assigned readings, discussion of related research.

**084:221 Fixed Prosthodontics Literature Review II** arr.

Porcelain-fused-to-metal and ceramic restorations, color science and esthetics; assigned readings, discussion of related research.

**084:222 Implant Literature Review** arr.

Implant prosthodontics; assigned readings, discussion of related research.

**084:223 Occlusion Seminar**

arr.

Occlusion and the temporomandibular system; assigned readings and discussion of related research.

**084:224 Graduate Restorative Materials**

2 s.h.

Dental materials science: mechanical, physical, and chemical properties of restorative materials; selection and manipulation. Same as 082:224.

**084:225 Complete Denture Literature Review**

arr.

Complete denture prosthodontics; assigned readings, discussion of related research.

**084:226 RPD Literature Review**

arr.

Removable partial denture prosthodontics; assigned readings, discussion of related research.

**084:231 Thesis Preparation: Prosthodontics**

3 s.h.

Thesis preparation, defense.

**084:300 Prosthodontic Certificate Program**

0 s.h.

Advanced dental clinical, didactic education; nondegree program toward eligibility for board certification in prosthodontics.



# College of Education

**Dean:** Sandra Bowman Damico  
**Associate dean, academic affairs and graduate programs:** David Bills  
**Associate dean, teacher education and student services:** Susan Lagos Lavenz  
**Director, Belin-Blank Center for Gifted Education:** Nicholas Colangelo  
**Director, Center for Advanced Studies in Measurement and Assessment:** Robert Brennan  
**Director, Center for Evaluation and Assessment:** Donald Yarbrough  
**Codirectors, Center for Research on Undergraduate Education:** Ernest Pascarella, Elizabeth Whitt  
**Director, Educational Placement Office:** Rebecca Anthony  
**Associate director, Iowa Center for Assistive Technology Education and Research:** James Stachowiak  
**Director, Iowa Testing Programs:** Stephen Dunbar  
**Director, Office of Graduate Teaching Excellence:** Dennis Maki  
**Degrees:** B.A., B.S. (undergraduate degrees granted through the College of Liberal Arts and Sciences); M.A.T., M.A., M.S., Ed.S., Ph.D.  
**Undergraduate nondegree programs:** Minor in Educational Psychology, Minor in Human Relations  
**Web site:** <http://www.education.uiowa.edu>

The nation's first university-level professorial chair in education was established at The University of Iowa in 1872. The department became the School of Education in 1907; and the College of Education, structured largely as it is today, was founded in 1913. Since then, the college's growth has mirrored the growth of the University.

Over the years, College of Education faculty members have been leaders in a variety of educational fields. Particularly noteworthy have been their contributions in the fields of educational testing and measurement. These contributions helped lay the foundation for today's testing and measurement industry, making Iowa City one of the best-known centers for this educational specialty.

The college has four departments: Educational Policy and Leadership Studies; Psychological and Quantitative Foundations; Rehabilitation and Counselor Education; and Teaching and Learning.

## Teacher Education Programs and Student Teaching

The College of Education at The University of Iowa offers two major teacher preparation programs based on baccalaureate degrees. Elementary education is a College of Liberal Arts and Sciences major leading to either a Bachelor of Arts or a Bachelor of Science degree. The secondary education programs combine a specific liberal arts and sciences academic major with teacher preparation course work leading to a Bachelor of Arts or a Bachelor of Science degree.

The college also provides numerous specialized elementary and secondary teaching endorsement programs.

Preparation for special education teaching is offered primarily at the graduate level. In addition, an undergraduate instructional strategist program is available as a specialization for students admitted to an elementary education program.

Undergraduate students admitted to a Teacher Education Program (TEP) must complete all College of Liberal Arts and Sciences General Education Program requirements for the Bachelor of Arts or Bachelor of Science. The quantitative or formal reasoning component must be satisfied with a college-level mathematics course.

The Office of Teacher Education and Student Services provides information on Teacher Education Programs; offers assistance with admission, student field experiences, and teacher licensure/certification; and serves as a liaison with other University units and external agencies. For more information, visit the office's web site.

### Undergraduate Admission to TEPs

Undergraduate applicants to The University of Iowa who wish to become teachers indicate their interest in the elementary major or a specific secondary-level teaching endorsement program on their application for admission. This results in an "Elementary Interest" (7EP) or a "Secondary Interest" (7SP) notation on the student's official records. Application materials for Teacher Education Programs are available from the Office of Teacher Education and Student Services or on the office's web site.

Acceptance to a Teacher Education Program is prerequisite to registration for most College of Education undergraduate courses.

### APPLICATION DEADLINES

Application deadlines for all Teacher Education Programs are as follows.

Summer session and fall semester: March 15

Spring semester: October 15

Late applications are not accepted.

**GENERAL REQUIREMENTS**

Admission to Teacher Education Programs is competitive. Admission requirements may vary by program area. Faculty members in each program area review and select students to be admitted to their program. In order to be considered for admission to a Teacher Education Program, an undergraduate student must satisfy the following requirements: admission to The University of Iowa; a minimum amount of credit for college-level work; a minimum grade-point average; minimum scores on a preadmissions test; and a preadmission volunteer field experience in a regular K-12 classroom setting. There may be additional requirements. Teacher Education Program applications materials and current minimum application requirements are available on the Office of Teacher Education and Student Services web site.

**Graduate and Postbaccalaureate Admission to TEPs**

Students who have completed a baccalaureate degree may be admitted to a teacher preparation program as graduate students or as postbaccalaureate students with senior standing. They may apply to the Graduate College and state their objective as "certification only." In some programs they may apply for a master's degree objective, either a Master of Arts in Teaching (M.A.T), or in selected majors, a Master of Arts (M.A.).

Students who choose to pursue a graduate-level teacher preparation program must be eligible for admission to the Graduate College, which requires a g.p.a. of at least 3.00 on all previous college course work. They must submit an official Graduate Record Examination (GRE) General Test score report, with scores that meet the minimum score requirement. They also must submit a complete application to the Teacher Education Program through the University's Office of Admissions.

Students also may apply to the College of Liberal Arts and Sciences as postbaccalaureate students with senior standing. Students who choose this option must apply to the appropriate Teacher Education Program, following the undergraduate admissions procedure, and must meet the general requirements for undergraduate admission; see Undergraduate Admissions on the Office of Admissions web site.

Application deadlines for graduate students and postbaccalaureate students with senior standing are March 15 and October 15.

**TEP Standards and Policies**

Students in the Teacher Education Program must meet grade-point average requirements each semester. Students who do not meet the requirements are placed on probation; those who fail to meet the requirements in a successive semester may be removed from the Teacher Education Program or denied admission to student teaching. For more information on standards and policies, consult the Office of Teacher Education and Student Services.

**Electronic Portfolio**

Students in the Teacher Education Program document their achievement of professional standards on ePortfolio, a web-based program in which they collect instructional artifacts and performances assigned in all their courses. Students receive instruction on the ePortfolio requirement beginning with the required course 07E:102 Technology in the Classroom.

**Student Teaching**

The final phase of the Teacher Education Program is the professional semester, devoted to supervised student teaching and directed observation in a variety of situations. Faculty members, professional staff, and advanced graduate students who are experienced teachers serve as supervisors.

Periodic seminars provide for discussion and evaluation of student teachers' experiences. Transfer credit may not be used to satisfy the student teaching requirement.

To be admitted to the student teaching semester, students must submit a separate application to the Office of Teacher Education and Student Services in the College of Education. All course work in education, for the major, and for the degree must be completed before the student teaching semester. Applications are submitted during the calendar year before the student teaching semester. The deadline is November 15 for students planning to student teach the following fall semester and April 15 for students planning to student teach the following spring semester.

Admission to student teaching requires program area faculty approval as well as verification of satisfactory progress in meeting both College of Education professionalism standards and program area standards, which are set at the time of admission to the TEP. In some programs, standards are higher than the college's required g.p.a. of at least 2.70. Students should consult with their advisors regarding specific requirements for the program areas.

For more information, contact the Office of Student Field Experiences.

**WAIVERS**

Students who have completed courses that they wish to substitute for program requirements should consult with their advisors.

#### **URBAN STUDENT TEACHING**

Students who want to advance their educational interests through student teaching in an urban setting may apply through the Office of Student Field Experiences. The urban districts include Clark County, Nevada (Las Vegas area); Chicago Public Schools; Adams County School Districts (Denver area); Aldine, Texas (Houston area); Rialto, California (Los Angeles area); and St. Louis Park, Minnesota (Minneapolis area). These options are open to all education majors who meet the requirements established for these student teaching sites. For more information about this and other programs, contact the Office of Student Field Experiences.

#### **INTERNATIONAL STUDENT TEACHING**

International student teaching experiences are available primarily through the Foundation for International Education. Sites include Australia, China, Costa Rica, Ecuador, England and Wales, India, Ireland, Kenya, New Zealand, Russian Federation, Scotland, Spain and Turkey.

Interested students must meet the regular requirements for student teaching and must have the approval of their advisor and the appropriate program coordinator. In most locations, students are assisted with housing by the on-site coordinator.

International assignments are for eight weeks. Students complete an eight-week assignment in a stateside placement followed by an eight-week assignment in an international placement. Secondary education students in some program areas (for instance, English education) are required to complete a full semester of student teaching in the United States before student teaching at an international site.

For more information about international student teaching opportunities, contact the Office of Teacher Education and Student Services.

## **Teacher Licensure/Certification**

The Iowa Board of Educational Examiners issues teacher, support service, and administrator licenses on the recommendation of Iowa colleges and universities whose programs have been approved by the Iowa Department of Education. All University of Iowa preparation programs have Iowa Department of Education approval.

Licensure/certification requirements across the nation are subject to change. Students who plan to seek employment in a state other than Iowa should make every effort to be informed about current requirements in that state. Many states require some type of competency testing. Generally, students who apply out-of-state should first secure Iowa licensure.

To be recommended by The University of Iowa, applicants must complete all requirements of the appropriate approved program. A minimum of 20 s.h. of course work applied to meet program requirements must be earned at The University of Iowa. Fingerprinting is required for all new applicants for Iowa licensure; the State of Iowa has outlined specific procedures for the fingerprinting process.

A passing PRAXIS II score for the elementary content test is required for all students seeking elementary licensure in Iowa and for satisfaction of an approved Teacher Education Program. No test is currently required for secondary or K-12 Iowa licensure applicants.

The College of Education Office of Teacher Education and Student Services provides Iowa application forms, fingerprinting procedures, and licensure/certification assistance to all students completing approved programs offered by the college. It also provides assistance to individuals interested in adding endorsements to their Iowa license based on completion of State of Iowa minimum licensure requirements.

#### **State of Iowa Requirements**

All University of Iowa students seeking an Iowa teaching license must complete 07B:180 Human Relations for the Classroom Teacher (or an approved substitute) and 07U:100 Foundations of Special Education. All University of Iowa Teacher Education Programs require 07B:180 Human Relations for the Classroom Teacher and 07U:100 Foundations of Special Education. Human relations courses offered through community colleges are not accepted. In the State of Iowa, applicants must be at least 21 years old to be granted a teaching license. Applicants who have been found guilty of a felony are barred from receiving an Iowa teaching license. Appeals may be filed directly with the Iowa Board of Educational Examiners.

## **Undergraduate Programs**

## Honors in Education

The College of Education Honors Opportunity Program is open to sophomores, juniors, and seniors who have maintained a g.p.a. of at least 3.50. Students with lower grade-point averages who have demonstrated research potential also may be accepted based on the recommendations of faculty/staff members and the education honors advisor. Honors Opportunity Program students must take 07X:100 Honors Seminar in Education, 07X:101 Senior Honors Project, and complete five additional honors experiences. Successful completion of the program results in an honors designation on the diploma. The Honors Opportunities Program is housed in and is administered by the Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development.

## Minors

The College of Education offers two minors for students who wish to be better informed about education: one in educational psychology and one in human relations. The minors may help support students' future career objectives and help students prepare to be better informed as parents, as taxpayers, or as future members of local boards of education. Contact the Office of Teacher Education and Student Services for more information about the minors.

## Graduate Programs

Graduate study in the College of Education is guided by the policies of the Graduate College, with additional requirements set by College of Education faculty members. Graduate students in education register in the Graduate College and receive their degrees from that college. See the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

All College of Education Ph.D. programs require students to complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also require an additional minimum of 15 s.h. in qualitative and quantitative research course work, with at least 9 s.h. from one area (qualitative or quantitative) and 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

## Degree Programs Offered

The College of Education offers the following graduate degrees and programs.

### DEPARTMENT OF EDUCATIONAL POLICY AND LEADERSHIP STUDIES

M.A., Ed.S., and Ph.D. in educational policy and leadership studies; the following programs are available:

Educational leadership (offered in the M.A., Ed.S., and Ph.D.)

Higher education and student affairs (offered in the M.A., Ed.S., and Ph.D.)

School curriculum and assessment policy (offered in the Ed.S.)

Schools, culture, and society (offered in the M.A. and Ph.D.)

### DEPARTMENT OF PSYCHOLOGICAL AND QUANTITATIVE FOUNDATIONS

M.A., Ed.S., and Ph.D. in psychological and quantitative foundations; the following programs are available:

Counseling psychology (offered in the Ph.D.)

Educational measurement and statistics (offered in the M.A. and Ph.D.)

Educational psychology (offered in the M.A. and Ph.D.)

School psychology (offered in the Ed.S. and Ph.D.)

### DEPARTMENT OF REHABILITATION AND COUNSELOR EDUCATION

M.A. and Ph.D. in counseling, rehabilitation, and student development; the following programs are available:

Counselor education and supervision (offered in the Ph.D.)

Rehabilitation and mental health counseling (offered in the M.A.)

Rehabilitation counselor education (offered in the Ph.D.)

School counseling (offered in the M.A.)

The department's Ph.D. program in student affairs administration and research and its M.A. program in student development in postsecondary education are merging with the higher education and student affairs programs offered by the Department of Educational Policy and Leadership Studies.

### DEPARTMENT OF TEACHING AND LEARNING

M.A., M.A.T., M.S., and Ph.D. in teaching and learning; the following programs are available:

Art education (offered in the M.A. and Ph.D.)

Curriculum and supervision (offered in the M.A. and Ph.D.)

Developmental reading (offered in the M.A.)

English education (offered in the M.A. and M.A.T.)

Foreign language education (offered in the M.A. and M.A.T.)

Foreign language and English as a Second Language (offered in the Ph.D.)

Language, literacy, and culture (offered in the Ph.D.)

Mathematics education (offered in the M.A. and Ph.D.)

Science education (offered in the M.S., M.A.T., and Ph.D.)

Social studies education (offered in the M.A. and Ph.D.)

Special education (offered in the M.A. and Ph.D.)

### **Master of Arts in Teaching**

The M.A.T. program is designed for academically superior liberal arts and sciences graduates who completed few or no professional education courses in their undergraduate program. It is a nonthesis program with requirements that range from 45 to 67 s.h. See Teaching and Learning in the Catalog.

The program leads to a master's degree and licensure as a secondary teacher in the fields of English, foreign languages, and science education. Admission to the program requires a g.p.a. of at least 3.00 in undergraduate course work. The program includes 18 s.h. of graduate course work in the student's teaching field. Students must complete a minimum of 20 s.h. of graduate work in education to satisfy licensure requirements.

A Master of Arts program with a secondary education major in social studies leads to initial teacher licensure. See "M.A. in Social Studies Education"/"Program B Requirements" in the Teaching and Learning section of the Catalog.

### **Master of Arts**

The College of Education offers a Master of Arts. Some of the college's M.A. programs are offered with thesis as well as without thesis. Nonthesis programs usually provide more specialized course work than do thesis programs. Although a nonthesis program is not necessarily terminal, students who expect to continue their studies in a doctoral program are urged to select a thesis program in order to gain more experience in research procedures. Students who complete a nonthesis M.A. and are admitted to a Ph.D. program may be asked to submit evidence of writing and research skills to their advisor or department during the early part of their doctoral program. For information about programs that offer a thesis option, see the program descriptions under "Graduate Programs" in College of Education department sections of the Catalog.

Course work completed more than 10 years before the session in which the degree is to be conferred must be evaluated to determine how much credit may be accepted toward the degree requirements. Students must earn at least 24 s.h. in University of Iowa courses after formal admission to a master's degree.

### **Master of Science**

Thesis programs are available for M.S. students in science education. The degree requirements are similar to those for a Master of Arts.

### **Specialist in Education**

The Ed.S. is granted upon completion of a prescribed two-year postbaccalaureate program designed for students preparing for professional work in fields such as administration and supervision, and special services. Of the minimum 60 s.h. required for the degree, 28 s.h. must be in the specialization area; the rest may be earned in cognate fields, supervised experience, research, and elective courses. The research must culminate in a written report.

Other requirements for the Ed.S. are the same as for the master's degree, except that an Ed.S. requires students to complete 15 s.h. of resident work on campus in one 12-month period or in two summer sessions. Course work completed 10 years before the final examination must be evaluated to determine the amount of credit that may be accepted toward program requirements.

Not all programs offer an Ed.S. degree. For a list of programs and degrees offered, see "Graduate Programs" above.

### **Doctor of Philosophy**

The Ph.D. is the most advanced academic degree. It is conferred upon students who have demonstrated superior scholarship and mastery of research skills in course work as well as in the preparation and defense of a dissertation.

### **Professional Improvement**

Some students are admitted to professional improvement status in a College of Education department rather than to degree candidacy. This option is appropriate only for persons who wish to update their knowledge or who are

temporarily undecided about career plans. Students should file a change of status stating a specific program objective at the earliest opportunity.

## **Extramural Education**

Through the Division of Continuing Education, selected College of Education courses are offered at off-campus sites and hours outside the traditional schedule. If taken after formal admission to a specific program, some of these courses may be applied to meet residency requirements for degrees.

Special regulations govern such course work. Students should obtain prior approval from their program advisor before registering in extramural courses. Students not regularly admitted to The University of Iowa also may register in extramural courses, but credit earned before admission does not count toward residency requirements.

## **Support Units and Resources**

### **Belin-Blank Center for Gifted Education**

The Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development conducts research, training, and service in gifted education. It also gathers and disseminates information on the education of gifted students.

The center is located in the Blank Honors Center. Its programs and services include the Belin-Blank Fellowship Program in Gifted Education; the Honors Opportunity Program; Invent Iowa; Scholastic Art & Writing Awards; the Henry B. and Jocelyn Wallace National Research Symposium on Talent Development; the Wallace Assessment and Counseling Clinic; practicum and internship experiences; course work in gifted education (including state endorsement); academic talent searches for students in grades 2-9; a number of precollege programs for gifted students in grades 2-12; and programs for international students. The center also administers the Iowa Online Advanced Placement Academy.

The Belin-Blank center administers three University-level student programs: the Iowa Talent Project, developed for minority students from gifted programs in Des Moines and Cedar Rapids, Iowa; the National Academy of Arts, Sciences, and Engineering, a highly selective early-entrance program for students who have completed their junior year in high school; and the China Scholars Program, an early decision program that admits to the University of Iowa selected high school seniors from the Peoples Republic of China.

The center also provides practicum and internship experiences for undergraduate and graduate students and coordinates course work for the Iowa Talented and Gifted Endorsement.

The Belin-Blank center houses the Institute of Research and Policy on Acceleration (IRPA), which is dedicated to the study of curricular acceleration for academically talented children.

For more information, contact the Belin-Blank Center for Gifted Education and Talent Development.

### **Center for Advanced Studies in Measurement and Assessment**

The Center for Advanced Studies in Measurement and Assessment (CASMA) pursues interdisciplinary research initiatives that advance the methods and practice of educational measurement and assessment.

CASMA's aim is to be a premier interdisciplinary center that performs, promotes, fosters, and disseminates high-quality research in measurement and assessment. CASMA devotes considerable resources to development of open-source computer programs for equating scores on tests.

Every other year, CASMA co-sponsors a national conference on current challenges in educational testing. Periodically, the center's staff produces research reports that are available on CASMA's web site (<http://www.education.uiowa.edu/casma>). Recent reports have discussed topics in generalizability theory, institutional selectivity in undergraduate education, revolutions and evolutions in educational testing, decision consistency with complex assessments, and equating models.

### **Center for Evaluation and Assessment**

The Center for Evaluation and Assessment conducts evaluations, research studies, and professional development initiatives. The center's mission is to promote the sound use of assessment results, provide high-quality evaluation services to clients, create effective training activities for graduate students, improve the quality of evaluation theory and practice, and contribute to research on program evaluation and assessment.

The center conducts evaluations in a broad range of areas: clinical and translational science, minority recruitment and retention, delivery of social and human services, curriculum and instruction, professional training, and the impact of public policy on PK-12 education. The center's staff members consult with universities, school systems, and other policy-making organizations in Iowa and nationwide that use evaluation studies and assessments to make important

decisions regarding individuals or organizations. The center also provides training and professional development in program evaluation and assessment.

### **Center for Research on Undergraduate Education**

The Center for Research on Undergraduate Education (CRUE) is dedicated to the study of undergraduate education in America, from how academic and social experiences affect students to the methods schools use to improve students' chances for success in the classroom and beyond graduation. CRUE brings a methodologically balanced approach to the study of undergraduate education.

### **Cooperating Schools Program**

The Cooperating Schools Program (CSP) is a University-wide service that facilitates placement of research projects and service-learning projects conducted by faculty, staff, and students in public schools throughout Iowa. The program provides information to help researchers obtain permission to conduct research in Iowa schools. The Cooperating Schools Program was instituted at the request of school administrators charged with the responsibility of approving research projects in their schools.

### **Education Technology Center**

The Education Technology Center (ETC) provides computer services to College of Education faculty, staff, and students. The ETC offers technical assistance to faculty and staff and maintains all computers in the college. In addition to Internet access, services include collegiate file and application servers; standard office tools; specialized applications such as media production tools and qualitative and quantitative analysis programs; secure folders and directories; and electronic mailing lists for faculty, staff, and student groups.

The Education Technology Center provides faculty with technical and design support for online course management, research technologies, distance education, multimedia, and ePortfolio production. The center also partners with the University's University of Iowa Television to maintain a laboratory for professional video production.

Polycom videoconferencing, Smart Boards and Smart Podiums, and wireless access are available throughout the college. Every classroom and conference room has a digital presentation system, and three classrooms are outfitted for videoconferencing and distance education instruction.

Faculty members and students can check out wireless laptops, computer projectors, audience response systems (clickers), digital audio recorders, digital video cameras, and other devices from the center. In all, the College of Education supports more than 700 computers, laptops, PDAs, and smartphones as well as seven servers.

### **Educational Placement Office**

The Educational Placement Office helps students and alumni pursuing careers in teaching, research, and education leadership. It regularly offers workshops, seminars, and special programs related to educational employment and the job search. The office's web site provides links to information about employment opportunities in schools, colleges, and related organizations. It also provides job search tools, including curriculum vitae, résumé, letter writing, and interview question samples; information about preparing for the job search; teaching, leadership, and collegiate e-Portfolio examples; and employer advice for educators seeking jobs in K-12 environments, college and university settings, and in international locations.

### **Iowa Center for Assistive Technology Education and Research**

The Iowa Center for Assistive Technology Education and Research (ICATER) helps to ensure equal access and opportunities for persons with disabilities by advancing assistive technology through research, education, and service. The center collaborates with University and community programs to provide technical assistance that enhances the services and resources available to educators, service providers, and persons with disabilities. It also sponsors workshops and education programs. The center's assistive technology laboratory is available for student use, demonstrations, consultations, and research.

### **Iowa Testing Programs**

Iowa Testing Programs provides assessment expertise to schools in the State of Iowa and consultation to the Iowa Department of Education and to area education agencies. Its faculty and staff develop standardized educational tests, such as the widely used Iowa Tests of Basic Skills and Iowa Tests of Educational Development, for use in elementary and secondary schools, as well as other assessment tools to support instruction and learning. Iowa Testing Programs also conducts research studies in educational measurement and evaluation, publishes the results of these studies, sponsors lectures and symposia, provides consulting and in-service training to educators and school systems, and provides training experience for graduate students in educational measurement and evaluation.

### **Libraries**

The University of Iowa Libraries provides books, periodicals, reference works, videos, ERIC microfiche, tests, and reserved materials for students and faculty at the Main Library, just across the street from the College of Education; at

the Hardin Library for the Health Sciences, on the health sciences campus; and at the Science Library, near the center of campus. At the college, a psychology/education liaison librarian is available to help students with course assignments and theses, and to assist faculty members and teaching assistants with research and instructional needs.

### **Office of Graduate Teaching Excellence**

The Office of Graduate Teaching Excellence (OGTE) is dedicated to excellence in college teaching and the preparation of future faculty. The office facilitates opportunities for research, teaching, and service. Through the Iowa Education Fellows Program (i-fellows), OGTE develops and conducts workshops and seminars that address the developmental needs of College of Education doctoral students, from their first semester on campus through completion of their degrees.

In conjunction with the Graduate College and the School of Social Work, OGTE presents the graduate Certificate in Multicultural Education and Culturally Competent Practice. The certificate program provides students with in-depth study aimed at helping them develop knowledge, awareness, and skills related to cultural competence.

The office also partners with the Graduate College to offer the Graduate Certificate in College Teaching. The certificate program's goal is to enable all University of Iowa doctoral students to complement their home discipline's curriculum and research training with the development of effective postsecondary teaching skills.

### **Office of Teacher Education and Student Services**

The Office of Teacher Education and Student Services assists students, faculty, staff, and the general public in graduate and undergraduate admission, Graduate College examinations, student field experiences, and teacher licensure/certification. It also serves as a liaison with other University units, including the Graduate College, the College of Liberal Arts and Sciences, the Office of Admissions, and the Office of the Registrar, and with external agencies, including the Iowa Department of Education, out-of-state teacher licensure/certification departments, and school district personnel in Iowa and outside of the state. A variety of application and information materials are available at the office and on its web site.

### **REACH Program**

The University of Iowa's REACH (Realizing Educational and Career Hopes) is a two-year postsecondary education certificate program that focuses on meeting transitional needs of students with multiple learning difficulties (MLD) in an inclusive university setting. The program emphasizes life skills for independent living and features learning in small groups coupled with career coaching in real work settings.

REACH offers courses on academic skill building, career preparation, student and community life skills, and socialization taught by instructors from the College of Education. Courses are open only to REACH students.

Support services are available to promote student success in all educational and career settings. The program also offers career field placements.

REACH students live in a University of Iowa residence hall, where they receive support from specially trained resident assistants. A fully inclusive college environment provides students with age-appropriate community opportunities and interactions with other University of Iowa students.

For more information, consult the REACH web site.

### **Research Support**

The College of Education dean's office, through the Grant and Research Services Center (GRSC), provides grant and research-related support services for the college's faculty, staff, and students. GRSC staff members help identify internal and external funding sources, prepare and submit grant proposals and application materials, provide grant accounting services, and help in the preparation of applications for Human Subjects/Institutional Research Board review. The college also provides limited funds for faculty research, professional development, and travel.

## **Financial Support**

College of Education students may be eligible for scholarships, awards, or graduate assistantships. Information about financial support for students is available at Information for Students on the college's web site. The Graduate College posts a list of open assistantships on its Graduate College Bulletin Board.

Students interested in employment opportunities in the college's support units and special resources should contact the director of each facility and indicate their interests, their academic and experience records, and their career or degree goals at The University of Iowa.

### **Graduate Assistantships**

Individual academic programs provide opportunities for teaching, research, or service assistantships as well as for fellowships and related employment opportunities. Inquiries should be addressed to the chair of the department or the



director of the program in which the student believes he or she can provide service or achieve an outstanding academic record. Assistantship appointments are usually, but not always, made by the program area.

### **Graduate Research Assistantships in Education**

The Iowa Testing Programs provides funds to support a limited number of special graduate assistantships in education, in which students do research work under the direction of a faculty member of their choice. Students must be enrolled for at least 6 s.h. but not more than 12 s.h. per semester; assistantships are for the academic year and are renewable for a limited number of years. Students admitted to or pursuing any advanced degree program offered by the College of Education are eligible to apply, provided they are committed to a professional career in the United States.

Applicants must submit transcripts of all completed college work (undergraduate and graduate), recommendation forms specific to the assistantship, and scores on the Graduate Record Examination (GRE) General Test. For assistantship application forms, contact the Iowa Testing Programs director. Application deadline is late February.

### **Scholarships and Awards**

The College of Education presents a number of awards funded by donors; recipients must meet the criteria established by the donors for their awards. Recipients are presented with their award at a spring semester ceremony. Detailed information is available on the college's Information for Students web page, under Scholarships and Awards.

**The Duane D. Anderson Scholarship** is awarded to a transfer student from an Iowa community college who is enrolled in a College of Education program.

**The Jack Bagford Elementary Education Award** is presented to an outstanding elementary education student who is an Iowa resident. The student should be scheduled to do student teaching the academic year following the award.

**The David and Connie Belin Honors Award** is for graduating seniors in the Teacher Education Program who have completed all requirements for the Honors Opportunity Program.

**The Blommers-Hieronymus-Feldt Fellowship** is awarded to a doctoral student in the field of educational measurement and statistics; nominees must have completed at least one full year in the graduate program at The University of Iowa.

**The Lowell Brandt Rehabilitation Counseling Award** is presented to a deserving student pursuing a master's degree in the Rehabilitation Counseling Program.

**Barry Bratton Award for Achievement in Design of Instructional Processes** is given to an outstanding student who has completed course work that reflects a commitment to the systematic design and improvement of instructional processes and materials.

**The Dr. Bettye M. Caldwell and Dr. Fred T. Caldwell Scholarship** is presented to an outstanding undergraduate student in elementary education.

**The Debra Clausen Memorial Award** is given to a qualified undergraduate or graduate student who will work at the Center for Disabilities and Development to evaluate and develop learning programs for students with mental disabilities, including Down Syndrome.

**The T. Anne Cleary Psychological Research Scholarship** is awarded to an outstanding doctoral student engaged in research on the psychological or quantitative foundations of education. The award may be presented to one international student and one permanent resident of the United States each year.

**The John Leonard Davies Scholarship** is presented to a first or second semester senior who is viewed as being creative and who has outstanding potential for success in the field of K-12 education.

**The Harvey H. Davis Award** is given to an outstanding candidate for an advanced degree in higher education or educational administration, particularly a student interested in the financing of education.

**The Terry Ganshaw Memorial Award** is given to an outstanding Ph.D. student in college student personnel.

**The Dr. Mary Agnella Gunn Memorial Scholarship** is presented to an undergraduate student who will student teach for a full semester in the area of English education.

**The Gladys and Margaret Harvey Education Scholarship** is presented to a student enrolled in the M.A.T. or M.A. program in elementary or secondary education who will student teach for a full semester.

**The Emma Bauman Holmes Education Scholarship** is awarded to an outstanding student in any undergraduate or graduate College of Education program who is in the top 20 percent of his or her class.

**The Albert Hood Promising Scholar Award** is given to an outstanding doctoral student in the Department of Rehabilitation and Counselor Education with an approved prospectus for doctoral research.

**The Howard R. Jones Achievement Award** is given to an outstanding graduate student who has made a noteworthy scholarly presentation at a national professional conference or has published a significant scholarly article in a reputable professional journal or other substantial printed work.

**The Kyle C. and Eula B. Jones Educational Administration Scholarship** is presented to a current or incoming graduate student who has four years of classroom teaching experience and is working toward licensure as an elementary or secondary school administrator.

**The Kyle C. and Eula B. Jones Student Teaching Scholarship** is presented to an undergraduate student who will student teach for a full semester in the area of social studies or elementary education.

**Charlotte and Ruby Junge Scholarship** is presented to an undergraduate student who will be student teaching for a full semester in the area of social studies or elementary education.

**Loetscher Science Education Scholarship** is awarded to a student in secondary science education, with preference given to those pursuing a chemistry emphasis.

**The Perry Eugene McClenahan Award** is given to the outstanding candidate for an advanced degree in educational administration.

**The Sheila E. McFarland Memorial Scholarship** is presented to an undergraduate student who will student teach for a full semester in the area of elementary education; preference is given to Iowa residents.

**The Leonard A. Miller Memorial Award** is given to an outstanding first-year M.A. student majoring in rehabilitation counseling.

**Minority Student Award** is given to an outstanding College of Education undergraduate or graduate minority student who works with equity issues in the college and has made positive contributions to the life of the college.

**The Helen Mackin Nichol Scholarship** is awarded to Iowa residents who are studying to be secondary teachers and who plan to teach and work with mentally and emotionally disturbed children.

**The Melvin R. Novick Award** is presented to a third- or fourth-year student enrolled in the doctoral program in educational measurement and statistics who has shown outstanding academic performance and promise of the highest level of achievement in research in this field.

**Paul Opstad Scholarship** is awarded to a graduate student in the College of Education whose career or scholarly interests focus on the concerns and needs of international students.

**The Margaret P. Park Scholarship** is presented to deserving undergraduate students; preference is given to students from St. Louis County (Minnesota) or Rock Island County (Illinois).

**Guy and Gladys Peterson Award** is given to an outstanding student who has been admitted to and has completed at least 12 s.h. of course work in the Teacher Education Program.

**The Ann Ramsey and Richard E. Posey Scholarship** is presented to an undergraduate student in their junior year of study who has been admitted into the Teacher Education Program in the College of Education.

**The John E. Quinn Memorial Scholarship** is presented to a full-time undergraduate student from eastern Iowa in Liberal Arts who has been admitted to the Teacher Education Program and is pursuing secondary school teaching licensure in the area of history.

**The Lorraine Gutz Ragan Scholarship** is awarded to a student who is an Iowa resident and is enrolled in the Teacher Education Program.

**The Rolland Ray Award** is presented to an outstanding doctoral student in the Department of Teaching and Learning who is completing a dissertation on measurement in any one of four areas of education: mathematics, science, social studies, or English.

**The Margaret A. Sloan Scholarship** is presented to an undergraduate or graduate student who will student teach for a full semester in the area of elementary education; preference is given to Iowa residents.

**The Lloyd Smith Scholarship** is awarded to an outstanding student in elementary social studies.

**The Franklin Stone International Student Award** is given to an outstanding international student pursuing a Ph.D. in education.

**The James and Coretta Stroud Fellowship for Doctoral Study in Educational Psychology, Measurement, or Statistics** is awarded to an outstanding graduate student in the Department of Psychological and Quantitative Foundations who is entering the dissertation phase of study.

**The Edgar M. and Evelyn Benzler Tanruther Scholarship** is awarded to an outstanding graduate student in elementary education.

**The U-High Innovative Developments in Education Award** is given to students who have completed or will complete student teaching during the school year. The award is based on outstanding performance as a student teacher, particularly for innovation and creativity shown during the experience.

**The Erwin and Louise Wasta International Scholarship** is awarded to an international student enrolled in a College of Education program.

## Faculty

All tenure-track faculty members hold earned doctorates in their teaching fields, and many have had teaching or administrative experience in the public schools. Several hold joint appointments in the College of Liberal Arts and Sciences.

## Courses

The College of Education offers several interdepartmental courses and a number of courses for students in the REACH program; see "Interdepartmental Courses" and "REACH Courses" below. For lists of courses offered by each of the college's academic departments, see the appropriate department sections in the Catalog: Educational Policy and Leadership Studies; Psychological and Quantitative Foundations; Rehabilitation and Counselor Education; and Teaching and Learning.

### Interdepartmental Courses

**07X:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**07X:100 Honors Seminar in Education** 1 s.h.  
Research in education and related professions in collaboration with a College of Education faculty member of student's choice; preparation for senior honors project.

**07X:101 Senior Honors Project** 1-2 s.h.  
Collaboration with a faculty member on research project; written report. Prerequisites: 07X:100.

**07X:125 Universal Design for Learning and the Postsecondary Classroom** 1 s.h.  
Principles of universal design for learning and how they can be applied in a postsecondary classroom; strategies in a classroom environment, class presentation, and class products (tools needed to access the class) that reach all students, including those with disabilities; hands-on activities; readings include universal design research studies and specific procedures for application.

**07X:140 Introduction to Multicultural Education and Culturally Competent Practice** 3 s.h.  
Introduction to foundations of multicultural education and cultural competence; numerous equal access movements that impact professional practice in education, social work, counseling, and the allied helping professions mobilized in the U.S. during the 20th century; issues of diversity and equity that continue to fuel current policy debates and impact professional practice; roots of equal access movements from *Brown v. Board of Education* to the present; social, political, and/or economic contexts for equal access policies concerning race/ethnicity, class, language, gender, ability, and sexual orientation.

**07X:150 Introduction to Educational Research** 3 s.h.  
Principles of empirical educational research; logic of inquiry for both quantitative and qualitative research methodologies.

**07X:181 ePortfolio Production** 1-2 s.h.  
Experience producing an ePortfolio and uploading it to the Internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser and access to the Internet and to a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as 07C:181, 07E:181, 07P:181.

**07X:387 Introduction to Online Post-Secondary Course Design and Facilitation** 3 s.h.

Knowledge of distance learning and teaching at the post-secondary level; instructional design principles relevant to development of online courses.

**07X:475 Ph.D. ePortfolio in College Teaching**

3 s.h.

Framework for connecting authentic evidence of scholarly work and teaching competencies; use of advanced web and multimedia technologies to link artifacts to ePortfolio templates.

**REACH Courses**

The following courses are open only to students enrolled in the REACH program.

**205:001 Academic Success**

2 s.h.

Tools that help students succeed in academic courses; basic organization, efficient note taking, study and test-taking skills; participation in activities that increase awareness of classroom dynamics; solutions for test anxiety; ways to approach diverse learning experiences; how class content relates to study hall and residential facilities; seminar.

**205:002 Social Skills I**

2 s.h.

Basic interpersonal skills needed to succeed in academic, social, and employment environments; structured learning process for gaining discrete social skills necessary to initiate and maintain conversations in a variety of settings; awareness of feelings and cues in conversation to respond appropriately and have successful reciprocal interactions; lectures, modeling, role play, and practice in the community.

**205:003 Communication II--Public Speaking**

1 s.h.

Builds on 205:002; the nature of public speaking; speech research, organization, and presentation; analysis of varied forms of public speaking; participation in activities that increase awareness of changing environments, audience, and types of speeches; students identify their own communication styles; seminar.

**205:004 Computers and Technology I**

2 s.h.

Training in computer literacy and practical skills for computer use in everyday life; computer parts and functions, the Windows operating system, computer applications; use of the personal computer to improve personal, academic and workplace productivity; group discussion, demonstrations, and multimedia experience support diverse learning styles.

**205:005 Computers and Technology II**

2 s.h.

Builds on 205:004; fundamental computer competencies and strategies to simplify everyday life and enhance workplace performance; opportunity to improve practical skills for the workplace, communication with others, and daily life; tools for improving personal organization and communication and for meeting academic, entertainment, and workplace needs; group discussion, demonstration, independent exploration, and a multimedia experience support diverse learning styles.

**205:006 Current Events**

1 s.h.

Forum to increase knowledge and ability to comment on current events; voting and political process, civic responsibilities in the local and federal elections process, how students can participate; use of various forms of media (i.e., print, broadcast, Internet) to develop critical thinking skills related to awareness of current events and their impact; personal safety issues; effective communication skills for interacting with peers and college personnel.

**205:007 Health and Wellness I--Exploration**

1 s.h.

Introduction to health and personal wellness; the seven dimensions of wellness and health awareness; overview of topics such as nutrition, responsible sexual behavior, consequences of substance use, disease prevention; opportunity for students to build knowledge about their own emotional, mental, and physical health; framework for further exploration of everyday health and wellness; first in a series.

**205:008 Health and Wellness II--Healthy Lifestyles**

2 s.h.

Health and wellness personalized for students; help in assessing individual health and wellness decisions and behaviors to improve current and long-term health and wellness; small group discussion, individual assessments, real-life exploration, interactions with health educators, one-on-one student support; second in a series.

**205:009 Fitness and Wellness Lab I**

1 s.h.

Opportunity to improve understanding of and commitment to establishing and maintaining an active lifestyle; benefits of physical activity, fitness experiences, wellness, development of individual fitness goals; instruction, small group activities, and one-on-one support; integration of concepts and skills in health, social relationships, leisure activities, and daily living.

**205:010 Personal Relationships and Sexuality**

1 s.h.

Help in maintaining current relationships and establishing new ones with family, friends, coworkers, teachers, significant others, and strangers; emotions, interpersonal communication skills, social cues, appropriate workplace relationships, risk prevention, responsible sexual behavior; influence of family values, culture, peer pressure, other factors in one's decisions about sexual behavior; disability awareness related to relationships, pregnancy prevention, the process of pregnancy; group discussion, one-on-one counseling support, role-playing, guided real-world experiences.

**205:011 Personal Finance and Math I**

2 s.h.

Understanding of numbers, operations, and managing personal finances; computation strategies, problem-solving strategies, skills for good consumers; opportunity to practice math skills in the community and the workplace; first in a series.

**205:012 Personal Finance and Math II**

2 s.h.

Skills and knowledge needed for managing personal finances; banking, budgeting, insurance, how to be a good consumer; students plan for their financial future by studying paycheck information, actual income, and tax responsibility; research on independent living costs; second in a series.

**205:013 Lifetime Reading**

1 s.h.

Enhancement of leisure reading toward enjoyment of reading as a lifetime activity; trip to the library to discover interesting genres and subjects; individual and group activities to review and talk about books; how to discuss components of books such as plot, characters.

**205:014 Practical Writing**

1 s.h.

Writing tools for success in daily living; experience with a range of writing forms, beginning with short organizational forms such as to-do and grocery lists and progressing to family correspondence and business letters; observation and demonstration of writing techniques in group activities; help with self-expression in written formats, with focus on organization and communication with others; students practice writing techniques in class, in their residence halls, and in the community; seminar.

**205:015 Literature and the Arts**

1 s.h.

Exposure to literature and the arts and the experience of connection and life enhancement that arts activities provide; reading and discussing literature, field trips to museums, musical performances, plays; opportunity to review and identify leisure activities to enjoy throughout life.

**205:016 Exploring Issues in Society**

1 s.h.

Diversity and social justice issues; some social implications of being a person with a disability (e.g., negative treatment from others due to stigma, ignorance, stereotypes); guidance toward empowerment in self-advocacy at work, at school, and in community life; overview of cognitive and learning disabilities, Americans with Disabilities Act and other legislation that promotes equality, history of the disability rights movement, current social trends affecting people with disabilities; perspectives from America's history of social, cultural, and religious unity, celebration, and conflict.

**205:017 Tools for Life I: Critical Thinking**

1 s.h.

Introduction to strategies, key elements, and resources for critical thinking; problem-solving and critical-thinking strategies and skills for responsible, independent decision making in personal, university, career, and community contexts; small-group discussion, case studies, role-playing, and applied practice in real-world situations related to daily, personal, academic, and career decisions.

**205:018 Tools for Life II: Problem Solving**

1 s.h.

Introduction to strategies and methods of problem solving; evaluation of scenarios from academic, social, and work environments; discussion of students' personal and current experiences; focus on development of interpersonal communication skills, relationship building, independence, career selection.

**205:019 Personal Leadership**

1 s.h.

Builds on concepts learned in 205:016; self-advocacy and awareness of individual strengths as empowerment for leadership roles in the community; qualities of a leader, value of mentors, importance of community service; elements of work-life balance; opportunities to participate in life-long service learning and leadership.

**205:020 Psychology** 2 s.h.

Basic concepts of psychology, with focus on application in daily life; students conduct an experiment and may write a brief paper; vocabulary as a basis for learning and application.

**205:021 Sciences of Life** 1 s.h.

Scientific skills as they relate to everyday life and the world; skills involving independent operation of tools and equipment, working in a group, appropriate strategies for decision making and problem solving based on the scientific method; exploration of life sciences through classroom learning and exploratory activities.

**205:022 Social Skills II and Conflict Management** 2 s.h.

Continuation of 205:002; more advanced relationship skills that require self-regulation; self-awareness; applying skills for communicating when under stress; structured learning process including repetitive practice and modeling as key components; lectures, modeling, role play, and practice in the community.

**205:023 Fitness and Wellness Lab II** 1 s.h.

Builds on skills learned in 205:009; recreation and fitness opportunities across the lifespan; benefits of physical activity, year-round fitness activities, one-on-one support, help with developing and achieving personal wellness goals; integration of concepts and skills in health, social relationships, leisure activities, daily living.

**205:024 Great Conversations** 1 s.h.

Opportunity to learn across the academic disciplines and interact with University of Iowa professors and other guest lecturers; topics vary.

**205:025 Social Skills II** 2 s.h.

Continuation of 205:002; more advanced relationship skills that require self-regulation; self-awareness; applying skills for communicating under stress; structured learning process including repetitive practice and modeling as key components.

**205:030 Career Exploration** 4 s.h.

Opportunity to explore, enhance, or broaden work interests, skills, and potential career opportunities; interest inventories, review of vocational experiences, interactive employer presentations, informational interviews, job site experiences; focus on self-assessment of one's individual vocational strengths.

**205:031 Job Search Strategies** 2 s.h.

Fundamental tools and techniques for getting a job; students create a résumé, including references and updated work history; interview techniques, information gathering, thank-you letters, work-related vocabulary, appropriate behaviors and attitudes for a successful job search; role playing, demonstrations, real-world practice.

**205:032 Entrepreneurism** 2 s.h.

Characteristics, advantages, and disadvantages of self-employment; legal aspects of forming a business, marketing, acquiring start-up funding and other resources; financial obligations and monitoring of funds required for a successful business; students write a business plan.

**205:033 Business Support Seminar** 1 s.h.

Aspects of careers in business support; office procedures, word processing skills, oral and written communication, records management, business terminology.

**205:034 Creative Arts Seminar** 1 s.h.

Aspects of careers in creative arts; availability of employment, professional association memberships, vocabulary used in the creative arts work environment.

**205:035 Education Career Seminar** 1 s.h.

Aspects of careers in education; additional training typically required for careers in education, child/student needs, lesson planning.

**205:036 Health Services Seminar** 1 s.h.

Aspects of careers in health services; office procedures and equipment, customer service skills, terminology used in health care environments.

**205:037 Hospitality Seminar** 1 s.h.

Aspects of careers in hospitality; customer service skills, phone and counter etiquette, vocabulary used in the hospitality industry.

**205:038 Human Services Seminar** 1 s.h.

Aspects of careers in human services; types of human services environments, interpersonal relationships and boundaries, paperwork requirements, terminology commonly used in human services environments.

**205:039 Industrial Seminar** 1 s.h.

Aspects of careers in industrial and production environments; occupational skill requirements and standards, knowledge of typical equipment that employees must operate, safety in the workplace, vocabulary for industrial and production work environments.

**205:040 Marketing/Sales Seminar** 1 s.h.

Aspects of careers in marketing and sales; customer service skills, use of retail equipment, marketing techniques and the importance of product appearance, pricing and advertising, vocabulary used in a retail sales environment.

**205:041 Parks and Natural Resources Seminar** 1 s.h.

Aspects of careers in parks and natural resources management; operation and maintenance of equipment, safety procedures, customer service skills, typical vocabulary for positions involving care and management of shrubs, trees, flowers, and turf.

**205:042 Skilled Trades Seminar** 1 s.h.

Aspects of careers in the skilled trades; occupational skill standards in specific skilled trades, apprenticeships or advanced training required, safety in the workplace, vocabulary typical for specific skilled-trade work environments.

**205:043 Information/Technology Seminar** 1 s.h.

Aspects of careers in information technology; occupational skill requirements and standards, knowledge of typical equipment employees must operate, safety in the workplace, typical vocabulary for information technology work environments.

**205:050 Life Skills I--Transitions** 2 s.h.

Components of successful independent and community living; personal safety issues, effective communication skills for interacting with peers and college personnel, how to access broad community resources for living, work, and leisure; students develop a plan for personal daily routines; classroom activities, practical experiences on campus and in the community.

**205:051 Life Skills II--Community Life** 2 s.h.

Review of previously learned skills for making the transition to independent living in the college environment; use of a personal planner for managing daily routines and schedules, planning for independent living after graduation; classroom activities, practical experiences on campus and in the community.

**205:052 Life Skills III--On Your Own** 2 s.h.

Goal setting and planning for independent living after college; how to use daily living skills from college in students' planned home communities; skills required for finding and managing a home or apartment, using community resources and agencies, and meeting basic needs; how to be interdependent and independent in the community.

**205:060 Internship I--Prep** arr.

Introduction to functional skills, job expectations, environments of the workplace; students venture out into the community and see first-hand what a specific career or job entails; role of the influencer; small groups, job shadowing, tryouts--depending on individual needs and abilities; create a résumé; summer job searching skills; preparation for Internship II--applications, interviews, contacting employers. Requirements: enrollment in REACH program.

**205:061 Internship II** arr.

Internship experience leading to increased independence in the workplace (e.g., more independent operation of equipment, socialization, workplace safety, problem solving, conflict management); opportunity to acquire additional workplace skills in the student's career emphasis area; employers and mentors guide students in fulfilling their job responsibilities; students maintain a journal and discuss their experience with their advisor or instructor; second of three consecutive internships.

**205:062 Internship III**

arr.

Internship experience with opportunities to develop more advanced skills for independent communication, problem solving, and workplace performance in the student's career emphasis area; employers and mentors observe the student in the workplace; students maintain a journal and discuss their experience with their advisor or instructor; third of three consecutive internships.

**205:098 Special Topics**

arr.

Topics include leisure resources, current events, science, family life, consumerism, community involvement, self-determination, self-advocacy, leadership, assistive technology, mentoring; course assignments, instruction, and student assessment in classroom and/or community settings; may be required or elective course.

**205:099 Independent Study**

arr.

Independent study coordinated with the student's REACH advisor.



# Educational Policy and Leadership Studies

**Chair:** Christopher C. Morphew

**Program coordinator, educational leadership:** Marcus J. Haack

**Program coordinator, higher education and student affairs:** Debora L. Liddell

**Program coordinator, schools, culture, and society:** Christine L. McCarthy

**Professors:** David B. Bills, Sandra B. Damico, Lelia B. Helms, Alan B. Henkin, Christopher C. Morphew, Ernest T. Pascarella, Michael B. Paulsen, Elizabeth J. Whitt, Donald B. Yarbrough

**Professors emeriti:** Larry D. Bartlett, George A. Chambers, Walter J. Foley, Jerry N. Kuhn, Bradley M. Loomer, H. Bradley Sagen

**Associate professors:** Debora L. Liddell, Christine L. McCarthy, Scott F. McNabb, Christine A. Ogren, Chet S. Rzonca, Katrina Sanders, Carolyn L. Wanat, Sherry K. Watt

**Associate professors emeriti:** Robert E. Engel, Ray A. Muston, Sara C. Wolfson

**Clinical associate professors:** Marcus J. Haack, Susan M. Lagos Lavenz

**Assistant professors:** Brian P. An, Elizabeth Hollingworth

**Assistant professor emeritus:** Charles M. Mason

**Adjunct assistant professors:** Dorothy M. Persson, Von Stange

**Adjunct assistant professor emeritus:** Wendell C. Boersma

**Visiting assistant professor:** Becki Elkins Nesheim

**Graduate degrees:** M.A., Ed.S., Ph.D. in Educational Policy and Leadership Studies

**Web site:** <http://www.education.uiowa.edu/epls/>

The Department of Educational Policy and Leadership Studies offers programs that prepare administrators, professional personnel, teachers, and researchers in the fields of educational leadership, higher education and student affairs, and schools, culture, and society. The academic programs in the department reflect this diversity of purpose.

## Graduate Programs

The Department of Educational Policy and Leadership Studies offers Master of Arts, Specialist in Education, and Doctor of Philosophy degrees in educational policy and leadership studies, with the following programs: educational leadership (offered in the M.A., Ed.S., and Ph.D.); higher education and student affairs (offered in the M.A., Ed.S., and Ph.D.); school curriculum and assessment policy (offered in the Ed.S.); and schools, culture, and society (offered in the M.A. and Ph.D.). Each program is described below, with information about program and admission requirements.

Applicants for admission to University of Iowa graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### PH.D. REQUIRED RESEARCH COURSES

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

## Educational Leadership

Study in educational leadership prepares individuals for leadership positions. The department offers the M.A., Ed.S., and Ph.D. programs in educational leadership as well as administrative licensure and superintendent endorsement. It also offers joint programs with other College of Education departments and with other colleges at the University.

### Licensure

To be eligible for recommendation by The University of Iowa for licensure in Iowa as a principal or superintendent/area education agency administrator, students must complete the appropriate program. The specific requirements for each program are available from the Department of Educational Policy and Leadership Studies and the Office of Teacher Education and Student Services.

Students who hold an M.A. must satisfy all core requirements and must complete at The University of Iowa the minimum semester-hour program for each licensure level they seek. Because each administrative license has specific requirements, candidates are required to plan their programs with their advisors' approval.

### Superintendent Endorsement

The superintendent endorsement curriculum is designed to prepare individuals for licensure as a school superintendent (pre-K-12) as well as for other school district leadership positions; for the chief administrator position in Iowa's area education agencies (AEA) as well as other AEA leadership positions; and for leadership positions in state or federal departments of education and related agencies.

The superintendent endorsement requires a total of 37 s.h., including 32 s.h. earned in required course work beyond the master's degree plus 5 s.h. earned in elective courses. Electives may be taken in or outside the College of

Education, depending on the student's career goals and interests.

### **M.A. in Educational Leadership**

The Master of Arts program in educational leadership prepares individuals for appointments as school principals and central office administrators, and for positions in area education agencies and state departments of education. The M.A. is a nonthesis program that requires a minimum of 36 s.h. of graduate credit.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Admission decisions are made through a faculty review process. Factors considered include recommendations, grade-point average, Graduate Record Examination (GRE) General Test scores, an aptitude survey, an essay demonstrating writing ability, and other evidence of academic ability and professional promise.

#### **CORE REQUIREMENTS**

With the aid of an advisor, each M.A. student prepares a plan of study that includes the following core requirements.

07B:200 Leadership ePortfolio Production	1 s.h.
07B:201 Foundations of School Administration	3 s.h.
07B:236 Administration of Students with Special Needs	3 s.h.
07B:242 Research for Effective School Leaders	3 s.h.
07B:260 Contemporary Management Strategies for the K-12 Principal	3 s.h.
07B:285 School and Community Relationships	3 s.h.
07B:298 Legal Aspects of School Personnel	3 s.h.
07B:381 Analysis and Appraisal of Curriculum	3 s.h.
07B:383 Supervision and Evaluation	3 s.h.

For Iowa licensure as a principal, students must meet the human relations requirement of the State of Iowa. Students must complete the core requirements listed above and required clinical courses (07B:400 Early Childhood Leadership Clinical, 07B:401 Elementary Leadership Clinical, 07B:402 Secondary Leadership Clinical, and 07B:403 Special Education Leadership Clinical). Candidates may choose electives approved by the advisor.

#### **COMPREHENSIVE EXAMINATION**

The M.A. comprehensive examination consists of a three-hour examination and a presentation of the student's ePortfolio. Students must be registered in the Graduate College during their comprehensive examination semester if they plan to graduate at the end of that semester.

### **Ed.S. in Educational Leadership**

The Specialist in Education program in educational leadership prepares candidates for administrative appointments in school districts, area education agencies, state departments of education, and the U.S. Department of Education. The Ed.S. also helps school administrators upgrade their administrative skills to the level of superintendent of schools. Students seeking licensure plan a program approved by an advisor to meet State of Iowa licensure requirements.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Admission decisions are made through a faculty review process. Factors considered include recommendations, grade-point average, Graduate Record Examination (GRE) General Test scores, and other evidence of academic ability and professional promise.

#### **CORE REQUIREMENTS**

07B:224 Organizational Theory and Administrative Behavior	3 s.h.
07B:291 Administration of Educational Programs and Personnel	3 s.h.
07B:299 Legal Aspects of School Administration	2-3 s.h.
07B:395 Educational Specialist Research	arr.

**PROGRAM EMPHASIS**

Students must complete their remaining minimum required semester hours (minus electives) in one of the following emphasis areas. Courses listed for each emphasis area are required.

**Elementary School Administration**

07P:150 Introduction to Educational Measurement 3 s.h.

**Secondary School Administration**

07P:150 Introduction to Educational Measurement 3 s.h.

**General School Administration**

07B:205 Collective Bargaining in Education 3 s.h.

07B:295 Financial Management of Local School Systems 3 s.h.

07B:404 Central Administration Clinical 1-3 s.h.

07P:143 Introduction to Statistical Methods 3 s.h.

**ELECTIVES**

Students choose electives to complete the 62 s.h. required for the Ed.S. They may choose electives for specialization in fields such as staff personnel, business affairs, instruction, theory, legal aspects, curriculum, and information systems.

**RESEARCH**

All Ed.S. students must complete a formal research paper (4 s.h.) that deals with a specific problem in school administration or instruction.

**COMPREHENSIVE EXAMINATION**

The Ed.S. comprehensive examination consists of two 3-hour examinations: one in educational leadership and the other in a specialized area of educational leadership or a related field. Students must be registered in the Graduate College during their comprehensive examination semester if they plan to graduate at the end of that semester.

**Ed.S. in School Curriculum and Assessment Policy**

The Specialist in Education program in school curriculum and assessment policy is an interdisciplinary. It trains graduate students to become school leaders who know how to use assessment information for accountability purposes and curriculum evaluation. The program offers concentrations in policy, measurement and statistics, and curriculum and draws on course work from across the College of Education. Graduates are qualified to serve as educational leaders in the areas of school policy, assessment, and curriculum at federal, state, and district levels.

The Ed.S. program in school curriculum and assessment policy requires 36 s.h. of graduate credit beyond the master's degree, although a student's academic background experience, needs, and interests may affect the amount of credit required.

For more information, see School Curriculum and Assessment Policy on the Department of Educational Policy and Leadership Studies web site.

**Ph.D. in Educational Leadership**

The Doctor of Philosophy program in educational leadership prepares students for leadership positions at all levels of education and administrative practice (school administration, college and university teaching and research). The program is flexible, with individually designed study plans that include course work in related disciplines and research pursuits. Integration of theory and practice is emphasized.

Ph.D. students are expected to achieve competence in educational program planning, finance and governance, leadership theory, evaluation, and research methodologies that include statistical methods. They also must gain expertise in areas of specialized program and personnel policy analysis.

The Ph.D. program in educational leadership requires a minimum of 90 s.h. of graduate credit. Course content includes prerequisites, a core of common competencies, at least one specialization in the administrative field, cognate study outside the college, research skill development, and a research dissertation.

Common specialization areas are general administration, elementary school administration, secondary school administration, systems analysis and research, school finance, curriculum, legal aspects, theory, and school personnel.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Admission decisions are made through a faculty review process. The program admits a maximum of 10 students each fall semester or preceding summer session. Admission is based on several factors, including recommendations from college or university faculty that speak to the candidate's scholarship and potential for academic success; cumulative grade-point average; Graduate Record Examination (GRE) General Test scores; and a written statement addressing one of several topics (personal philosophy of education, steps in the professionalization of teaching, current educational issues and their administrative impact, or the role of administration in educational organizations).

Applications must be submitted well in advance of the intended semester of admission.

#### **CORE COURSES**

Core courses provide the background necessary for further study, including research in specialized areas. They also develop competencies common to the functional areas of school administration. The core courses integrate planning of educational personnel programs, analysis of the politics and economics of governance and the financing of public education, evaluation of administrative leadership theories, and options in research methodology and quantitative analysis.

Each core course carries 3 s.h. of credit, is open only to Ed.S. and Ph.D. students, and requires the development and practice of interaction, reading, and writing skills.

Seminars designed primarily for doctoral candidates are offered to supplement each functional core area. Student scholarship is reflected in writing, reading, and research in doctoral seminars.

#### **COGNATES**

Students who specialize in administration must complete a 9 s.h. cognate outside the College of Education with the advisor's approval.

#### **REQUIRED RESEARCH COURSES**

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

#### **COMPREHENSIVE EXAMINATION**

Ph.D. students must satisfactorily complete a six-hour comprehensive examination in the six common areas of educational leadership and a three-hour examination based on the student's specialization areas and approved by the student's advisor and the department chair. To be eligible to take the Ph.D. comprehensive examination, students must be completing or must have completed the doctoral core courses and the research tool requirements. Students must be registered in the Graduate College during their comprehensive examination semester. They may not register for more than 3 s.h. of Ph.D. thesis credit that semester, and they may not earn dissertation credit before that semester. No Ph.D. comprehensive examinations are held during summer sessions.

Students pursuing doctoral programs in areas other than educational leadership who want to use some aspect of the educational leadership program as a concentration area for a comprehensive examination should consult with an advisor in the Department of Educational Policy and Leadership Studies early in their program of study.

Any specialization area open to doctoral students in educational leadership is open to other doctoral students who meet the necessary prerequisites for specific courses. Students should complete approximately 12 s.h. in one specialization area before requesting a comprehensive examination. If the student decides to use a field within educational leadership as a related comprehensive area, he or she should plan to complete approximately 18 s.h. of diversified course work in educational leadership.

#### **DISSERTATION**

All students must write a formal dissertation prospectus and submit it for approval first by their dissertation advisor and then by their doctoral committee. The student and advisor determine when the prospectus is complete. The prospectus committee meets to make a final evaluation of the prospectus and to decide whether to grant the student approval to proceed. Dissertation prospectus meetings are not held during summer sessions.

Students must accumulate 10 s.h. of dissertation research credit. The doctoral program culminates with final oral defense of the dissertation. Students must be registered at The University of Iowa during the session in which they graduate.

### **RESIDENCY**

Each doctoral student must successfully complete two semesters (minimum of 9 s.h. on campus) to fulfill the residency requirement.

The following sample Ph.D. program is based on the required minimum of 90 s.h. and assumes that students enter with an M.A. and 36 s.h. of graduate credit.

### **Core Requirements**

07B:206 Research Process and Design	3 s.h.
or	
07B:370 Quantitative Methods for Policy Analysis	3 s.h.
07B:224 Organizational Theory and Administrative Behavior	3 s.h.
07B:291 Administration of Educational Programs and Personnel	3 s.h.

### **Other Required Courses**

07X:150 Introduction to Educational Research (taken during first year in program)	3 s.h.
Cognate courses selected with approval of advisor	9 s.h.
Research design and/or statistics and/or qualitative research courses	15 s.h.
Thesis	10 s.h.

## **Higher Education and Student Affairs**

Advanced study in higher education and student affairs draws upon diverse perspectives from varied disciplines and professional fields to analyze critical issues and policies and their effects on students, faculty, administrators, staff, and other members of the higher education community. It also explores the complex interactive relationships among institutions of higher education, the external environment, and society at large.

The department's graduate programs in higher education and student affairs prepare professionals and scholar-practitioners to serve as administrators, researchers, teachers, specialists, and analysts in institutions of higher and postsecondary education and in related public and private agencies. The programs provide opportunities for concentrated study in organization and administration; policy in higher education; student affairs administration; teaching, learning, and curriculum in higher education; and foundations of higher education.

### **M.A. in Higher Education and Student Affairs**

The Master of Arts program in higher education and student affairs prepares graduates for entry-level and midlevel administrative, programming, and policy positions in two- and four-year institutions. Students choose one of three concentrations when they apply to the program: student affairs, higher education policy, or higher education administration. Through these three concentrations, the program prepares individuals for positions in advising, programming, administration, management, and policy.

### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Admission is based on grade-point average, Graduate Record Examination (GRE) General Test scores, and promise for professional growth. Transcripts, GRE scores, three letters of recommendation, and a statement of educational goals are required. Application deadline is February 15 for admission the following fall.

## **REQUIREMENTS**

The M.A. program in higher education and student affairs requires a minimum of 40 s.h. of graduate credit. Students take six hours of written examinations based on the core, concentration, and specialization, according to the plan of study developed individually for each student.

Concentration areas in which exams may be written include administrative practices, policy studies, and student affairs. Students majoring in another field who want to complete a related field in higher education and to be eligible to write a related-field examination should consult with a higher education and student affairs faculty member early in their study. Plans of study are developed individually and approved by the faculty.

### **Ed.S. in Higher Education and Student Affairs**

The Specialist in Education program in higher education and student affairs provides advanced graduate study in administration, policy studies, and specializations developed in consultation with the advisor. The Ed.S. also may be awarded upon completion of a joint program of graduate work in higher education and an academic field, or upon completion of a higher education sequence following a master's degree program.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Admission is based on grade-point average, GRE General Test scores, and promise for professional growth. Transcripts, GRE scores, three letters of recommendation, and a statement of educational goals are required.

Applications must be submitted well in advance of the intended semester of admission.

#### **REQUIREMENTS**

The Ed.S. program in higher education and student affairs requires 60 s.h. of graduate credit. The program of study must include at least 18 s.h. in professional education and related fields, including an appropriate structured internship determined in consultation with the advisor; at least 28 s.h. in the student's specialization area and 10 s.h. of electives, all approved by the advisor; and 4 s.h. of research credit in 07B:395 Educational Specialist Research.

#### **COMPREHENSIVE EXAMINATION**

The comprehensive examination consists of a take-home written exam covering the field of higher education and student affairs and the student's concentration area. The written exams may be followed by an oral exam.

#### **RELATED FIELD**

Students majoring in another field who want to complete a related field in higher education and student affairs should consult with a higher education and student affairs faculty member early in their study. Plans of study are developed individually.

#### **TEACHING INTERNSHIP**

Program participants teach half-time for a full semester at a cooperating community college under the supervision of an experienced faculty member in that college and with field supervision from The University of Iowa. Interns participate in the academic life of the host community college, and they often gather data for their Ed.S. research project during the internship. Participants must be willing to travel to a community college and reside there for the one-semester program.

### **Ph.D. in Higher Education and Student Affairs**

The Doctor of Philosophy program in higher education and student affairs prepares faculty and scholar-practitioners for leadership in varied higher education settings. Graduates typically serve in leadership positions in student affairs and academic administration, as graduate faculty at research universities, as leaders in conducting research about college students and higher education, and as policy analysts in postsecondary institutions and public or private agencies.

The program offers concentrations in five areas: student affairs administration; policy in higher education; teaching, learning, and curriculum in higher education; organization and administration of higher education; and foundations of higher education.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Each applicant must submit a personal statement explaining his or her professional goals, experiences, and research plans; undergraduate and graduate grade-point averages; undergraduate and graduate transcripts; three letters of recommendation; and scores on the Graduate Record Exam (GRE) General Test. Admission is for fall semester entry. Application deadline is January 15

for admission the following fall.

## **REQUIREMENTS**

The Ph.D. program in higher education and student affairs requires 90 s.h. of graduate credit, including a substantive common core (24 s.h.), a research core (18 s.h.), a concentration area (12 s.h.), graduate electives (24 s.h.), and dissertation research (12 s.h.).

### **Substantive Common Core**

The substantive common core reflects an important foundational understanding of higher education. It is a base of general knowledge that all students must master, regardless of their career goals and interests. All courses in the core (24 s.h.) must be taken at The University of Iowa.

07B:216 Finance in Higher Education	3 s.h.
07B:218 The Law and Higher Education	3 s.h.
07B:220 History of Higher Education	3 s.h.
07B:221 The College Curriculum	3 s.h.
07B:224 Organizational Theory and Administrative Behavior	3 s.h.
07B:225 Introduction to Public Policymaking	2-3 s.h.
07B:240 Topics in Education (when topic is Diversity and Equity in Higher Education)	3 s.h.
07B:251 College Students and Their Environments	3 s.h.

### **Research Core**

The research core assures that the student achieves scholarly autonomy and initiative.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Course selections must be consistent with the following research core requirements.

All students take the following three courses, or their equivalent, as approved by the advisor and the course instructor.

07B:206 Research Process and Design	3 s.h.
07C:338 Essentials of Qualitative Inquiry	3 s.h.
07X:150 Introduction to Educational Research (taken during first year in program)	3 s.h.

In addition, students and their advisors choose at least three more research courses appropriate to the student's research interests.

### **Concentration Area**

The concentration area gives students the opportunity to develop a particular expertise. Students may complete up to 24 s.h. in the program before they must declare a concentration, which they must choose from one of the following five areas: student affairs administration; policy in higher education; teaching, learning, and curriculum in higher education; organization and administration of higher education; and foundations of higher education. Each concentration has its own course requirements and options.

### **Graduate Electives**

Students choose 24 s.h. of elective graduate course work in consultation with their advisors. The student and his or her advisor may determine that some of the graduate elective work may be drawn from appropriate previous graduate course work that complements other aspects of the student's doctoral program.

### **Dissertation Research**

Students conduct their dissertation research (12 s.h.) under the supervision of their faculty advisor. The program culminates with a final oral defense of the dissertation; see "Dissertation" below.

## COMPREHENSIVE EXAMINATION

The Ph.D. comprehensive examination consists of a set of take-home questions with a limited time to respond. Questions are based on the substantive core, the student's concentration, and research core content. The written examination is followed by an oral examination.

## DISSERTATION

The dissertation is a major research study planned in collaboration with the student's advisor. Students must write a formal dissertation proposal and submit it for approval, first to their advisor and then to the members of their doctoral committee. Students and their advisors determine when the proposal is complete. Students must earn 12 s.h. of dissertation research credit. The doctoral program culminates with a final oral defense of the dissertation.

Students must be registered at The University of Iowa each fall and spring semester from the semester in which they complete their comprehensive examination through the semester in which they defend their dissertation and graduate.

## RESIDENCY

Each doctoral student must successfully complete two semesters (minimum of 9 s.h. each semester) on campus to fulfill the residency requirement.

## Schools, Culture, and Society

Schools, culture, and society is an interdisciplinary program designed to enhance students' ability to analyze the influence of social, historical, and philosophical factors that frame contemporary issues in the formal social enterprise of education.

Applicants must meet the admission requirements of the Graduate College. A personal interview with one or more members of the program's faculty is recommended. An undergraduate and/or graduate emphasis in education, philosophy, history, sociology, international studies, or the humanities is recommended. Other areas of study also may be useful.

### M.A. in Schools, Culture, and Society

The Master of Arts program in schools, culture, and society is a nonthesis program that requires a minimum of 32 s.h. of graduate credit. Students complete at least 24 s.h. in schools, culture, and society courses in three disciplinary areas: philosophy, history, and sociology. They earn 9 s.h. in each of two of the areas and 6 s.h. in the third area. The remaining 8 s.h. of course work must be in a concentration area appropriate to the student's career and academic goals.

M.A. students must satisfactorily complete a six-hour comprehensive examination covering the program's three disciplinary areas and the student's concentration area. The examining committee may elect to hold an oral examination after the exam.

### Ph.D. in Schools, Culture, and Society

The Doctor of Philosophy program in schools, culture, and society requires a minimum of 90 s.h. of graduate credit. Requirements include a common core (15 s.h.), a disciplinary foundation (9 s.h.), an interdisciplinary focus (9 s.h.), cognate courses (27 s.h.), research tools (18 s.h.), and a dissertation (12 s.h.).

## COMMON CORE

All Ph.D. students in schools, culture, and society must complete all five courses in the common core.

07B:102 History of American Education	2-3 s.h.
07B:130 Sociology of Education	2-3 s.h.
07B:156 Philosophies of Education	2-3, 5 s.h.
07X:140 Introduction to Multicultural Education and Culturally Competent Practice	3 s.h.
A course in contemporary education conflicts (prefix 07B)	

## DISCIPLINARY FOUNDATION

Students choose one of three disciplinary foundation areas: sociology, history, or philosophy. They take two courses offered by the Department of Educational Policy and Leadership Studies (prefix 07B) in that area and one course offered by the corresponding department in the College of Liberal Arts and Sciences: sociology (prefix 034), history (prefix 016), or philosophy (prefix 026). The following lists provide examples of courses appropriate for the three



disciplinary foundation areas.

Sociology:

07B:134 Education and the World of Work	2-3 s.h.
07B:142 Sociology of Higher Education	3 s.h.
07B:210 Education and Social Change	2-3 s.h.
07B:232 Advanced Theory Sociology of Education	3 s.h.
07B:238 Gender and Education in Historical Perspective	3 s.h.
07B:240 Topics in Education (topic: sociology of education)	arr.

History:

07B:122 History of School Leadership in the United States	3 s.h.
07B:123 History of Ethnic/Minority Education	2-3 s.h.
07B:126 Twentieth-Century Educational Movements	2-3 s.h.
07B:220 History of Higher Education	3 s.h.
07B:237 History of the Teaching Profession	3 s.h.
07B:238 Gender and Education in Historical Perspective	3 s.h.
07B:240 Topics in Education (topic: history of education)	arr.

Philosophy:

07B:155 Critical Thinking	3 s.h.
07B:157 Ethics in Education	3 s.h.
07B:158 John Dewey and Education	2-3 s.h.
07B:240 Topics in Education (topic: philosophy of education)	arr.
07B:358 Seminar in the Philosophy of John Dewey	3 s.h.

**INTERDISCIPLINARY FOCUS**

Students choose one of two interdisciplinary focus areas: diversity and equity, or policy contexts. They take three courses in that area, chosen from the corresponding list below, and must choose courses that are outside their disciplinary foundation area (see "Disciplinary Foundation" above).

Diversity and equity:

07B:120 Teaching in a Culturally Diverse Society	2-3 s.h.
07B:123 History of Ethnic/Minority Education	2-3 s.h.
07B:154 Education, Race, and Ethnicity	2-3 s.h.
07B:157 Ethics in Education	3 s.h.
07B:237 History of the Teaching Profession	3 s.h.
07B:238 Gender and Education in Historical Perspective	3 s.h.
07B:275 Diversity and Equity in Higher Education	3 s.h.
A relevant course from another department, with advisor's approval	

Policy contexts:

07B:126 Twentieth-Century Educational Movements	2-3 s.h.
07B:134 Education and the World of Work	2-3 s.h.
07B:157 Ethics in Education	3 s.h.
07B:210 Education and Social Change	2-3 s.h.
07B:225 Introduction to Public Policymaking	2-3 s.h.
07B:228 Policy Design and Implementation	2-3 s.h.
07B:237 History of the Teaching Profession	3 s.h.
One relevant course from another department, with advisor's approval	

**COGNATE COURSES**

Students earn a maximum of 27 s.h. in College of Liberal Arts and Sciences (CLAS) courses that are relevant to their program of study. CLAS courses taken to fulfill the disciplinary foundation requirement or the interdisciplinary focus requirement do not count toward the cognate course requirement, but relevant courses completed in earlier graduate study may be accepted for this requirement.

**RESEARCH Tools**

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Students must complete one research course (3 s.h.) on the use of quantitative research in policy evaluation (e.g., 07B:250 Introduction to Student Affairs). Students should choose research courses in consultation with their advisors.

## COMPREHENSIVE EXAMINATION

The comprehensive examination consists of three take-home exams, each with a maximum of 12 pages. The first exam covers the common core, the second covers the student's interdisciplinary focus area, and the third covers the student's disciplinary foundation area.

## DISSERTATION

After completing the comprehensive examination, Ph.D. students write a formal dissertation prospectus and submit it for approval first to their dissertation advisor and then to the members of their dissertation committee. The dissertation prospectus must be formally approved by the dissertation advisor and the dissertation committee before the student may begin his or her dissertation research.

Students must earn 12 s.h. of dissertation research credit. The dissertation process culminates with a final oral defense of the dissertation. Students must register at The University of Iowa each fall and spring semester until the dissertation is successfully defended and the Ph.D. is awarded.

## RESIDENCY

Each doctoral student must successfully complete two semesters (a minimum of 9 s.h. per semester) on campus to fulfill the residency requirement.

# Educational Policy and Leadership Studies Courses

<b>07B:100 Issues and Policies in Higher Education</b>	3 s.h.
Development of the idea of a university; selected functions, issues, policies of American higher education.	
<b>07B:101 Professional Seminar: Social Foundations</b>	1 s.h.
Introduction to the five disciplinary components of social foundations; professional development of social foundations scholars; workshop on dissertation, other student-authored scholarly papers.	
<b>07B:102 History of American Education</b>	2-3 s.h.
American educational history, with emphasis on conflicting historical interpretations of pivotal events and educational movements; contemporary reform efforts examined in historical perspective.	
<b>07B:104 Education in the Third World</b>	2-3 s.h.
Educational implications of various development issues, including role of media, and multinational corporations and foreign aid; educational dilemmas currently facing Third World governments.	
<b>07B:110 Administration and Policy in Gifted Education</b>	2 s.h.
Policy, administrative, evaluation issues in developing and maintaining gifted programs in a school setting; participants develop gifted program and policies for a school; for school executives and coordinators of gifted programs.	
<b>07B:111 Evaluation of Gifted Programs</b>	1 s.h.
Fundamentals of program evaluation essential for exemplary gifted programs.	
<b>07B:113 Staff Development for Gifted Programs</b>	1 s.h.
Planning, content, and delivery of staff development regarding gifted students and their needs.	
<b>07B:116 Effective Instructn: Assessmnt Learning</b>	3 s.h.

Professional development sequence designed for practicing teachers to develop conceptual knowledge and understanding of Assessment for Learning implementation and practice, a key component of effective instruction; training modules are aligned with the Iowa Department of Education's "Characteristics of Effective Instruction," with videos of best practice across the state.

**07B:120 Teaching in a Culturally Diverse Society** 2-3 s.h.

Issues in education and individual educators' own practice related to increasing cultural, racial, and linguistic diversity; challenges, concerns.

**07B:122 History of School Leadership in the United States** 3 s.h.

History of public school administration; 19th-century crusade of Horace Mann and other common-school reformers, social-efficiency movement of early 20th century; gender issues, parental involvement in history of school leadership.

**07B:123 History of Ethnic/Minority Education** 2-3 s.h.

Educational histories of American ethnic and minority groups; comprehensive understanding of American educational history, context for contemporary educational policy discussions.

**07B:126 Twentieth-Century Educational Movements** 2-3 s.h.

Current educational policy debates concerning diversity and equity, historical roots of these policies; historical context for 20th-century equal education opportunity movements.

**07B:130 Sociology of Education** 2-3 s.h.

Macrosociological perspective of role of education in social systems; impact of formal education on social stratification, social mobility, economic achievement in the United States and selected countries.

**07B:134 Education and the World of Work** 2-3 s.h.

Relationship between education and work in individual and organizational behavior, and between educational and economic systems; economics, psychology, sociology, education.

**07B:142 Sociology of Higher Education** 3 s.h.

Sociology of education and higher education research combined; inequality and stratification relative to higher education.

**07B:150 Leadership and Public Service I** 3 s.h.

Preparation for providing public service to a local community; leadership skills for effective mentoring of children in grades 6-10.

**07B:151 Leadership and Public Service II** 2 s.h.

Preparation to provide leadership and public service to a local community agency; being a leader and a public servant in the context of societal oppressions such as racism, sexism, able-bodyism; part of the human relations minor.  
Prerequisites: 07B:150.

**07B:154 Education, Race, and Ethnicity** 2-3 s.h.

Role of education in ethnic and racial stratification in the United States and other nations; influence of variations in family structure, stratification patterns, institutional constraints in formation of educational aspirations and achievement levels. GE: Cultural Diversity.

**07B:155 Critical Thinking** 3 s.h.

Formal and informal logic and probabilistic reasoning; focus on construction and critical analysis of arguments; introduction for students planning research in social foundations.

**07B:156 Philosophies of Education** 2-5 s.h.

Principal educational philosophers and philosophies that have influenced Western education; emphasis on how philosophical ideas and conflicts have shaped the educational scene.

**07B:157 Ethics in Education** 3 s.h.

Major theories of the nature of ethical action and of value judgment; theoretical accounts related to the practical decision making contexts of teaching.

**07B:158 John Dewey and Education** 2-3 s.h.

Dewey's philosophy of instrumentalism, with emphasis on his theories of knowledge, valuation, aesthetics, especially as applied to educational theory and practice.

**07B:165 Introduction to Program and Project Evaluation** 3 s.h.

Skills and knowledge required for conducting evaluations of products, projects, and programs; recent scholarship on evaluation and project management. Same as 07P:165.

**07B:176 Demographic Techniques for Educational Research** 3 s.h.

Basic demographic concepts, techniques, resources; life table analysis, enrollment projections, demographic measurement, shift-share analysis.

**07B:180 Human Relations for the Classroom Teacher** 3 s.h.

Influence of social factors such as discrimination, diversity, equity, racism, sexism, and ethnic and socioeconomic pluralism on American schools and classrooms; for teacher education candidates. GE: Cultural Diversity.

**07B:195 Research in Cross-Cultural Settings** 3 s.h.

Cultural, psychological, logistical issues in conducting research in foreign settings; development of a research plan, recent debates in ethnographic research literature.

**07B:200 Leadership ePortfolio Production** 1 s.h.

Foundation and skill practice in technology tasks relevant to educational leadership; experience formulating an education leader's ePortfolio.

**07B:201 Foundations of School Administration** 3 s.h.

Organization and administration of American public education; principles and concepts of leadership and organizations; socioeconomic, political, and professional factors relating to education and school administration.

**07B:202 Information Resources** 3 s.h.

Research strategies, information literacy skills, University of Iowa Libraries and other sources for research.

**07B:205 Collective Bargaining in Education** 3 s.h.

Current status of public sector bargaining in the U.S. collective bargaining system viewed through analysis of historical, legal, institutional perspectives; emphasis on union and management structures.

**07B:206 Research Process and Design** 3 s.h.

Research process, with emphasis on fundamentals of experimental design, internal and external validity, correlational designs, and statistical inference.

**07B:209 Survey Research and Design** 3 s.h.

Survey design and implementation; writing and evaluation of survey questions; error in survey research; techniques to reduce error; sampling; postcollection processing of survey data. Prerequisites: 07B:206 or 07P:143. Same as 07P:209.

**07B:210 Education and Social Change** 2-3 s.h.

Role of educational institutions, in connection with political and economic structures, in the process of social change; illumination of theories of social change through case studies of educational systems in both less-developed and industrialized nations. Same as 034:310.

**07B:214 Individualized Instruction, Law** arr.

Readings, special projects, and/or studies that reflect joint instructor/student interest in area of law.

**07B:216 Finance in Higher Education** 3 s.h.

Theory, research, policy, and practice related to public and private funding of higher and postsecondary education.

**07B:217 Theory and Practice of Leadership** 2-3 s.h.

Theory-based literature and critiques of leadership as applied to educational institutions.

**07B:218 The Law and Higher Education** 3 s.h.

The role of law as it affects postsecondary institutions; analysis of case law in specific areas of concern to administrators, faculty, staff, students.

- 07B:220 History of Higher Education** 3 s.h.  
Major themes and developments in American higher education; ideologies, people, movements that have influenced those developments.
- 07B:221 The College Curriculum** 3 s.h.  
Issues, principles, policies, and practices in college curriculum development; diverse philosophical, historical, cultural, social, psychological, political foundations of contemporary college curricula; perspectives on and models of college curriculum, related processes of teaching and learning; principles and practices that guide design and change of higher education curriculum.
- 07B:222 Introduction to Policy Analysis and Evaluation** 3 s.h.  
Theoretical and technical approaches to analysis and evaluation of contemporary public policies.
- 07B:224 Organizational Theory and Administrative Behavior** 3 s.h.  
Theories and concepts of organizational behavior applied in structural, organizational, administrative contexts of American education.
- 07B:225 Introduction to Public Policymaking** 2-3 s.h.  
Overview of public policy making and the tools used to create and deliver policy benefits to constituents.
- 07B:226 Educational Management** 2-3 s.h.  
Literature and research on management; emphasis on American education.
- 07B:228 Policy Design and Implementation** 2-3 s.h.  
Review of literature, emphasis on policy drafting skills for administration and management in education and other settings.
- 07B:230 Alternative Models of Schooling** 2-3 s.h.  
Popular alternatives to K-12 and postsecondary education; homeschooling, boarding schools, charter schools, magnet schools; construction of a conceptual framework for understanding alternatives.
- 07B:232 Advanced Theory Sociology of Education** 3 s.h.  
Sociology of education; concepts and nature of the field; strengths and weaknesses of theories and paradigms; research. Prerequisites: 07B:130.
- 07B:236 Administration of Students with Special Needs** 3 s.h.  
Foundation for and skill practice in tasks performed by directors of special education and others administering to needs of special education students, and economically and socially deprived students; for prospective school administrative personnel. Same as 07U:236.
- 07B:237 History of the Teaching Profession** 3 s.h.  
History of public school teaching, and teachers' problematic professional status; teacher education in the 19th and 20th centuries; formation and activities of teacher unions in the 20th century.
- 07B:238 Gender and Education in Historical Perspective** 3 s.h.  
Female students K-12 and in higher education; women teachers, professors, administrators; reading-intensive seminar.
- 07B:240 Topics in Education** arr.  
Seminar for intensive study of one problem, issue, or work field. Repeatable.
- 07B:242 Research for Effective School Leaders** 3 s.h.  
Fundamental language of contemporary research; identification and application of basic research components to contemporary educational leadership problems; applicability of research toward effective decision making.
- 07B:245 The American Professoriate** 3 s.h.  
Research on college and university faculty members; perspectives on faculty careers, values, beliefs, role in shared governance; tenure process and policies; issues unique to faculty members of color and women faculty members.
- 07B:247 Multiculturalism in Higher Education** 3 s.h.

Theory and application of multicultural competency in higher education.

- 07B:250 Introduction to Student Affairs** 3 s.h.  
Foundations of student affairs work; overview of institutional cultures, legal issues, ethical principles, standards of practice in student affairs.
- 07B:251 College Students and Their Environments** 3 s.h.  
Characteristics of college students and issues they face; students' institutional, social, cultural environments; impact of environments on student learning, development.
- 07B:260 Contemporary Management Strategies for the K-12 Principal** 3 s.h.  
Leadership skills and management techniques for daily organization and operation of schools; emphasis on climate, communication, group processes, conflict resolution, curriculum management.
- 07B:265 Standards-Based Education and Accountability** 3 s.h.  
Standards-based education; academic content standards, K-12 articulation, alignment studies, use of standardized test results to evaluate academic programs.
- 07B:270 Policy and Politics of Leadership** 3 s.h.  
Current issues from academic journals, states, think tanks, consortia.
- 07B:275 Diversity and Equity in Higher Education** 3 s.h.  
Historical, contemporary, theoretical, and empirical aspects of diversity and equity in higher education; unique experiences of members of historically under-represented groups; challenges of transforming institutions to make them more responsive to the experiences of diverse groups.
- 07B:278 Helping Skills in Student Affairs Work** 3 s.h.  
Development of ability to identify, understand, and intentionally apply the active attending and influencing skills; readings and class presentations.
- 07B:285 School and Community Relationships** 3 s.h.  
Community analysis, politics and education, power groups and influences, school issues and public responses, public relations strategies.
- 07B:290 Master's Project** arr.  
Research for the nonthesis program; topic approved by advisor.
- 07B:291 Administration of Educational Programs and Personnel** 3 s.h.  
Personnel and program planning examined against statements of educational purpose; interrelationships and internal consistencies of program and staff administration from perspectives of philosophy, psychology, learning theory, sociology, curriculum theory.
- 07B:293 Individualized Instruction** arr.  
Readings, special projects, and/or studies that reflect joint instructor/student interest.
- 07B:295 Financial Management of Local School Systems** 3 s.h.  
School business administration; emphasis on fiscal management, including budgetary procedures, short- and long-range fiscal and facilities planning, management techniques.
- 07B:297 Administrative Leadership Theory** 3 s.h.  
Administrative leadership theory drawn from social psychology, sociology, political science, communications, business, and their applications; analysis and formulation of strategies for performing leadership functions in educational administration.
- 07B:298 Legal Aspects of School Personnel** 3 s.h.  
Teacher and student: liability, negotiations, rights, privileges, responsibilities of school personnel; principles of law derived from court decisions; constitutional and statutory provisions; for teachers and administrators.
- 07B:299 Legal Aspects of School Administration** 2-3 s.h.

Nonpersonnel concepts in education: organization, property, finance, religion, discrimination, intergovernmental relations; use of constitutional and statutory provisions plus court decisions; primarily for administrators but applicable to teachers.

- 07B:301 Professional Seminar in Student Affairs I** 1 s.h.  
Orientation to field; writing and research support.
- 07B:302 Professional Seminar in Student Affairs II** 1 s.h.  
Working with groups, budgets in higher education.
- 07B:303 Professional Seminar in Student Affairs III** 1 s.h.  
Consulting, training, and curriculum development in student affairs.
- 07B:304 Professional Seminar in Student Affairs IV** 1 s.h.  
Professional identity, job search support.
- 07B:311 Seminar: Research Topic in Education** 2-3 s.h.  
Topic submitted by students, faculty.
- 07B:315 Orientation to the Superintendency** 3 s.h.  
Leadership theory and research of the superintendent's role of increasing student achievement; personal goals for communication; ethics, integrity, flexibility, reflective, and collaborative leadership; expectations of the superintendent by the board of directors; defining one's role; developing an entry plan; dealing with social/emotional isolation of superintendency; and influences in the larger political, social, economic, legal, and cultural context.
- 07B:317 Operational Leadership and Management** 1 s.h.  
Managing fiscal and physical resources responsibly, efficiently, and effectively; effective communication of school operations; leadership and management of nutrition program, transportation program, facilities, construction; board policy, legal issues; state reporting, ethical decision-making; relationship building, problem solving amidst barriers and various stakeholder groups.
- 07B:319 Human Resources Leadership** 4 s.h.  
Leadership theory and research of the superintendent's role of aligning human resources practice and increasing student achievement; employment law; contract negotiations process/collective bargaining; contract maintenance; recruiting, selecting, developing, and retaining employees; working with labor unions and Public Employee Relations Board; special education law; Evaluator 2 Training.
- 07B:321 Social Advocacy Summit** 1 s.h.  
Summit format; challenges and opportunities in Iowa's K-12 schools with changing demographics; opportunity for K-12 school districts and higher education institutions to engage in conversation on how to meet the needs of students and local school districts.
- 07B:323 School Finance** 2 s.h.  
Manage fiscal and physical resources; communicate effectively with internal and external audiences regarding school operations; comply with state and federal mandates and local board policies; align educational programs, plans, actions, and resources with the district vision and goals.
- 07B:325 Organizational and Educational Leadership** 2 s.h.  
Facilitate connections of students and families to health and social services that support a focus on learning as a district level leader in a school district; collaboratively establish a culture that welcomes and honors families and community and seeks ways to engage them in students learning; AEA structure, compliance and regulatory functions including special education.
- 07B:329 Legislative Summit** 1 s.h.  
Collaborate with families and community members, respond to diverse community interests and needs, and mobilize community resources as a district level leader in a school district; work with legislators, build advocacy groups in a community, engage stakeholders, how to lobby legislators and meet with local senate and house representatives to participate in lobbying.
- 07B:332 College Student Psychosocial and Identity Development** 3 s.h.

Theoretical models of psychosocial and identity development in college students; applications to student affairs work.

**07B:333 Practicum**

arr.

Small-scale research projects; supervised experience in planning, design, management, analysis, reporting of research activities; assignments to current and personal faculty research projects; student assumes major responsibility.

**07B:334 College Student Learning, Cognitive, and Moral Development**

3 s.h.

Learning and development of college students; theoretical models of learning, cognitive development, moral development; applications to student affairs work.

**07B:336 Impact of College on Students**

3 s.h.

Introduction to literature; career and economic returns, values and attitudes, learning and cognitive development, assessment and methodological issues of studying college outcomes. Prerequisites: 07B:206.

**07B:337 Theoretical Perspectives on Student Affairs Administration**

3 s.h.

Issues and problems in student affairs administration; theories of organization, administration, leadership. Requirements: enrollment in educational policy and leadership studies Ph.D. program.

**07B:358 Seminar in the Philosophy of John Dewey**

3 s.h.

John Dewey and education; extensive reading of the works of Dewey and of contemporary authors who comment on, interpret, or employ Deweyan philosophy. Prerequisites: 07B:158.

**07B:367 Seminar: Current Issues in Special Education Administration**

arr.

New developments in administration; new content each year. Repeatable. Prerequisites: 07B:236.

**07B:370 Quantitative Methods for Policy Analysis**

3 s.h.

Methodological strategies of quantitative researchers; secondary data analysis for investigation of educational problems and policies; interpretation of results, communication of policy considerations. Prerequisites: 07P:143 and 07P:243.

**07B:373 Qualitative Research Design and Methods**

3 s.h.

Theory and practice of qualitative research design and methodology; exploratory field experience in collection and analysis of data; individual and focus group interviews, participant observation. Requirements: Ph.D. standing.

**07B:381 Analysis and Appraisal of Curriculum**

3 s.h.

Comprehensive investigation of systematic procedures and resources for identifying and evaluating essential features and constituent elements of a given school district's curricular offering; state and federal requirements of the curricular program; for persons in administration, curriculum, and supervision programs or positions.

**07B:383 Supervision and Evaluation**

3 s.h.

Data collection and management skills; data-driven leadership; coaching and feedback techniques; teacher quality legislation; research and best practice regarding teacher evaluation, supervision; teaching standards.

**07B:385 Teaching and Learning in Higher Education**

3 s.h.

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as 07C:385, 07P:385, 07S:384, 650:385.

**07B:395 Educational Specialist Research**

arr.

Individual instruction in the design, research, and writing of a research project of significant quality for upper-level graduate work.

**07B:400 Early Childhood Leadership Clinical**

2-3 s.h.

Classroom instruction and supervised experience with problems in early childhood educational administration; organization, planning, evaluation, decision making.

**07B:401 Elementary Leadership Clinical**

1-3 s.h.

Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.



- 07B:402 Secondary Leadership Clinical** 1-3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- 07B:403 Special Education Leadership Clinical** 1-3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- 07B:404 Central Administration Clinical** 1-3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- 07B:415 Orientation to the Superintendency Clinical** 2 s.h.  
Clinical experience aligned with course topics and assignments in a K-12 school or other educational organization; development of a clinical plan with the guidance of a university professor and local school district mentor based on course requirements, career goals, and interests.
- 07B:417 Operational Leadership Clinical** 1 s.h.  
Clinical experience aligned with course topics and assignments in the operational leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.
- 07B:419 Human Resources Leadership Clinical** 2 s.h.  
Clinical experience aligned with course topics and assignments in the human resources leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.
- 07B:425 Organizational and Educational Leadership Clinical** 1 s.h.  
Clinical experience aligned with course topics and assignments in the organizational and educational leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.
- 07B:431 Seminar: Research on College Students** 3 s.h.  
College student learning and development, outcomes, persistence. Requirements: enrollment in educational policy and leadership studies Ph.D. program.
- 07B:432 Seminar: Multicultural Initiatives in Higher Education** 3 s.h.  
Impact of culture, race, ethnicity and the intersection of identity examined in higher education, student affairs, and community agency settings; builds on a foundation of a personal understanding of one's own individual values and attitudes as well as the most recent literature that explores theory and application of how multicultural initiatives are designed and facilitated in various work settings. Requirements: enrollment in educational policy and leadership studies Ph.D. program.
- 07B:433 Seminar: Current Issues in Student Affairs Administration** 3 s.h.  
Critical and current issues in student affairs professional practice. Requirements: enrollment in educational policy and leadership studies Ph.D. program.
- 07B:444 Advanced Practicum in Student Affairs** arr.  
Supervised work experience in student affairs settings.
- 07B:493 Ph.D. Thesis** arr.  
Supervision of research, design, and writing of Ph.D. thesis; individual instruction.

## Psychological and Quantitative Foundations

**Chair:** Timothy N. Ansley

**Professors:** Elizabeth M. Altmaier, Susan Assouline, Robert Brennan, Stephen B. Dunbar, Stewart W. Ehly, Michael J. Kolen, William M. Liu, David F. Lohman, Thomas R. Rocklin, Walter P. Vispoel, Catherine J. Welch, John S. Westefeld, Donald B. Yarbrough

**Professors emeriti:** Leonard S. Feldt, Robert A. Forsyth, David A. Frisbie, Hiram D. Hoover, Nancy Ewald Jackson, Lowell A. Schoer

**Clinical professor:** Sam V. Cochran

**Associate professors:** Stephen M. Alessi, Saba Ali, Robert D. Ankenmann, Timothy N. Ansley, Kathryn C. Gerken, Won-Chan Lee, Kristen Missall, Joyce L. Moore, John Northup, Kathy L. Schuh

**Associate professor emeritus:** Carl S. Davis

**Adjunct associate professor:** E. James Maxey

**Clinical associate professor:** Mitchell Kelly

**Assistant professors:** Kathy Banks, Megan Foley Nicpon

**Adjunct assistant professors:** Audrey S. Bahrnick, Sheila Barron, Brenda Bassingthwaite, Melissa Chapman, Heather M. Cochran, Julie Corkery, Richard L. Ferguson, Michael J. Hall, Deborah J. Harris, Dau-Shen Ju, Valerie J. Keffala, Todd Kopelman, Michelle Mengeling, Mary G. Mitchell, Robert F. Musson, Daniel R. Orme, Amy Stockman, Doris J. Stormoen, Wendy A. VanVoorst

**Clinical assistant professor:** Ann Garcia-Santos

**Undergraduate nondegree program:** Minor in Educational Psychology

**Graduate degrees:** M.A., Ed.S., Ph.D. in Psychological and Quantitative Foundations

**Web site:** <http://www.education.uiowa.edu/pandq>

The Department of Psychological and Quantitative Foundations offers programs in four areas: educational measurement and statistics, counseling psychology, educational psychology, and school psychology. These programs have two general goals: to help students acquire the knowledge and skills necessary to function effectively in settings that require the application of psychological and quantitative principles, and to extend knowledge and understanding of the teaching/learning process as it occurs in a variety of settings. The major emphasis in the M.A. and Ed.S. programs is on the first of these goals; that in the Ph.D. programs is on the second. However, there is some emphasis on both goals in all programs.

### Undergraduate Program

The department offers a minor in educational psychology. It also offers a course approved for the quantitative or formal reasoning area of the College of Liberal Arts and Sciences General Education Program.

#### Minor

The minor in educational psychology provides an enriched background in educational psychology, education testing, and research methods in education. It does not lead to certification for public school teaching.

The minor requires 15 s.h., including 12 s.h. earned in 100-level courses. Students select a department advisor, who helps them choose appropriate course work.

Contact the Office of Teacher Education and Student Services for more information about the minor.

#### General Education Program

One of the General Education Program requirements for graduation from the College of Liberal Arts and Sciences is successful completion of a course designed to develop skills in quantitative or formal reasoning; 07P:025 Elementary Statistics and Inference may be used to satisfy this requirement.

### Graduate Programs

The Department of Psychological and Quantitative Foundations offers Master of Arts, Specialist in Education, and Doctor of Philosophy degrees in psychological and quantitative foundations, with the following programs: counseling psychology (offered in the Ph.D.); educational measurement and statistics (offered in the M.A. and Ph.D.); educational psychology (offered in the M.A. and Ph.D.); and school psychology (offered in the Ed.S. and Ph.D.). Each program is described below, with information about program requirements and application for admission.

Applicants for admission to University of Iowa graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

#### PH.D. REQUIRED RESEARCH COURSES

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

## **Counseling Psychology**

### **Ph.D. in Counseling Psychology**

The Doctor of Philosophy program in counseling psychology was granted full accreditation by the American Psychological Association in 1983. Full accreditation was renewed in 2005.

The program's goal is to prepare counseling psychologists who will promote psychology as a science and contribute to the advancement of the profession. No master's degree is offered in counseling psychology. The faculty endorses a scientist/practitioner model of training and expects students to become competent researchers and proficient practitioners. Graduates find positions in a variety of settings, including higher education, counseling centers, clinics, private practice settings, and hospitals.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Preference is given to applicants who have an undergraduate g.p.a. above 3.00 and a graduate g.p.a. above 3.50; an undergraduate major, minor, or substantial course work in psychology; a combined verbal and quantitative score above 1200 on the Graduate Record Examination (GRE) General Test; and previous research and counseling experience.

Application materials must include a Graduate College application form; official transcripts of all previous college work; an official report of GRE General Test scores (the GRE advanced test in psychology is recommended but not required); a personal statement outlining career goals and reasons for seeking advanced training in counseling psychology; and three letters of recommendation from individuals qualified to assess the applicant's potential for completing the doctoral program. The faculty encourages applications from minorities, women, and persons from a wide range of backgrounds and academic preparation. The program typically accepts between five and eight students each year.

Admission is for fall entry. Application deadline is December 1. Admissions decisions usually are made by March 1. Applicants are invited to campus for interviews before final selection. All students must study full-time.

#### **REQUIREMENTS**

The Ph.D. program in counseling psychology requires a minimum of 96 s.h. of graduate credit.

#### **Basic Psychology**

All students are required to have a thorough grounding in the basic discipline of psychology. This may be achieved through a minimum of 3 s.h. of credit in each of the following four areas: biological bases of behavior, cognitive-affective bases of behavior, social bases of behavior, and history and systems. Students complete an additional 6 s.h. in the area of individual differences.

#### **Required Research Courses**

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Course selections must be consistent with the requirements listed under "Statistics and Research Design" below.

#### **Statistics and Research Design**

Two courses are required.

07P:243 Intermediate Statistical Methods 4 s.h.

One of these:

07P:244 Correlation and Regression 4 s.h.

07P:246 Design of Experiments 4 s.h.

**Counseling Psychology Core**

07P:223 & 07P:225 Introduction to Counseling Psychology Practice/Research I-II	6 s.h.
07P:235 Multicultural Counseling	3 s.h.
07P:305 Psychotherapy I: Dynamic and Phenomenological Approaches	3 s.h.
07P:306 Psychotherapy III: Career Interventions	3 s.h.
07P:309 Personality Assessment	3 s.h.
07P:310 Intelligence Assessment	3 s.h.
07P:356 Process and Outcomes in Counseling Psychotherapy	3 s.h.
07P:365 Psychotherapy II: Cognitive and Behavioral Approaches	3 s.h.
07P:434 Practicum in Counseling Psychology	3 s.h.
07P:453 Advanced Practicum in Counseling Psychology (repeatable)	1-3 s.h.
07P:465 Issues and Ethics in Professional Psychology	3 s.h.

Students must enroll in practicums to reach a specified level of client contact, supervision, and additional experience hours. The first practicum's site typically is University Counseling Service. Subsequent placements at other sites must have prior approval of the counseling psychology faculty. Students must successfully complete one semester of 07P:299 M.A. Project: The Portfolio before enrolling in 07P:453 Advanced Practicum in Counseling Psychology.

**Other Requirements**

Elective courses are determined in collaboration with the major advisor.

The dissertation research study is planned in collaboration with the doctoral student's major advisor. Dissertation credit can range from 12 to 15 s.h.

Students spend a calendar year in an internship setting approved by the counseling psychology faculty. The faculty determines student readiness to apply for the internship based on completion of all or almost all required course work, satisfactory progress toward completion of the portfolio requirement, and successful completion of practicum requirements. Internships usually require geographic relocation.

Comprehensive examinations are written in counseling psychology ethics and issues. The comprehensive examination is structured as a component of the portfolio review. For more information, contact the program coordinator.

Students must show appropriate levels of emotional balance and interpersonal skills and act within the American Psychological Association Ethical Principles of Psychologists. For more information, contact the program director.

**Educational Measurement and Statistics****M.A. in Educational Measurement and Statistics**

The Master of Arts program in educational measurement and statistics provides students with basic knowledge of educational measurement and research methodology. Graduates find employment in large school systems, state departments of education, test publishing organizations, and research centers. The program also is appropriate for students who wish to broaden their knowledge of measurement and research methodology for personal development or professional improvement.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should have a combined verbal and quantitative score of at least 1000 on the Graduate Record Examination (GRE) General Test. Completion of at least one college mathematics course and experience as a teacher or researcher are desirable. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.

Applicants must submit a statement of purpose that explains how the educational measurement and statistics program will help them accomplish their educational and vocational goals.

For information about admission dates, contact the educational measurement and statistics program coordinator.

**REQUIREMENTS**

The M.A. program in educational measurement and statistics with thesis requires a minimum of 30 s.h. of graduate

credit (at least 28 s.h. of course work plus 2-4 s.h. of thesis credit); the nonthesis option requires a minimum of 32 s.h. All students must complete a core of courses (approximately 26 s.h.) that includes a graduate-level survey course in educational psychology, elementary and intermediate courses in statistical methods, a course in educational research methodology, and courses in the development and use of evaluation instruments. Students who already have completed equivalent courses at another institution may add more advanced courses to the core.

The six-hour comprehensive examination typically includes three-hour examinations in educational measurement and in applied statistics. With the approval of the M.A. committee, a student may take two-hour examinations in these fields plus a two-hour examination in educational psychology or a substitute area. Three-hour examinations assume a minimum of three courses in the area; two-hour examinations assume a minimum of two courses in the area.

### **Ph.D. in Educational Measurement and Statistics**

The Doctor of Philosophy program in educational measurement and statistics prepares students for senior professional positions in educational measurement, evaluation, and statistical methods. Graduates find employment in colleges and universities, state and federal agencies, large public and private school systems, test publishing firms, and research centers.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have a combined verbal and quantitative score of at least 1000 on the Graduate Record Examination (GRE) General Test. They also must hold an M.A. from an accredited institution. At least one year of professional experience in teaching, research, or a related field is desirable. Applicants who expect to concentrate in statistics should have training in college mathematics through differential and integral calculus. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.

Applicants must submit a statement of purpose that explains how the educational measurement and statistics program will help them accomplish their educational and vocational goals.

For information about admission dates, contact the educational measurement and statistics program coordinator.

#### **REQUIREMENTS**

The Ph.D. program in educational measurement and statistics requires a minimum of 90 s.h. of graduate credit, including at least 12 s.h. of thesis credit.

During the first year of graduate study, the student and his or her advisor plan a program of study appropriate for the student's interests and vocational objectives. The typical program involves advanced work in educational measurement, data analysis methods, research methodology, and educational psychology. Work in other departments of the University is encouraged.

Students who concentrate in statistics and intend to teach at the college level take courses in the mathematical theory of statistics. Those who concentrate in educational measurement and evaluation take appropriate courses in curriculum, counseling, or higher education.

All students are required to develop familiarity with computer programming techniques and equipment.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

Students who enter the program without completing an M.A. thesis must complete a substitute project before taking the Ph.D. comprehensive examinations.

After completing most of their course work, students take the comprehensive examination, which typically consists of three 3-hour written examinations on educational measurement, applied statistics, and program evaluation, or approved substitute areas, such as educational psychology or mathematical statistics, in which the student has completed at least 9 s.h. of course work. In place of one written examination, the student's committee may assign a project involving analytical and evaluative skills, or research creativity. The written examinations are followed by an oral examination in which the committee seeks further evidence of the student's command of the three fields. A single decision is made on all aspects of the comprehensive examination.

### **Educational Psychology**

#### **M.A. in Educational Psychology**

The Master of Arts program in educational psychology is designed to help students become more effective practitioners by enhancing their ability to make responsible and creative decisions about how to help all of their students learn. By providing an evidence-based perspective on instructional approaches that work, it also addresses the emphasis on teachers' accountability for choosing empirically supported approaches.

The M.A. in educational psychology is designed for working educators. Many of the program's courses are offered in late afternoons, evenings, and summers.

Full-time M.A. students are expected to complete the degree in two years. Each student's progress is evaluated by the faculty after one academic year (two semesters) of study and during subsequent years.

### ADMISSION

Applicants must meet the admission requirements of the Graduate College, including minimum grade-point average. They must have a combined verbal and quantitative score of at least 1000 on the Graduate Record Examination (GRE) General Test; successful applicants usually score higher. International applicants whose first language is not English must submit acceptable scores on the Test of English as a Foreign Language (TOEFL). Teaching experience is desirable but not required.

Application deadline for fall semester entry is February 1. Review of applications for fall semester begins January 1, when applicants who wish to be considered for fellowships and other awards are screened. Application deadline for spring semester entry is October 1. Admission decisions are announced approximately one month after the application deadlines.

Applicants who accept admission or financial aid and do not relinquish either one on or before April 15 are committed not to solicit or accept another offer. Offers made by the program after April 15 include the provision that the offer is void if the applicant has accepted and continues to hold a previous offer from another program listed in the American Psychological Association publication *Graduate Study in Psychology and Associated Fields*. This policy is consistent with standards set by the association's Board of Educational Affairs.

### REQUIREMENTS

The M.A. program in educational psychology requires a minimum of 30 s.h. of graduate credit. A thesis is not required. Students develop a program of study in consultation with their advisors.

Students complete a required common core of courses, select additional educational psychology courses and electives appropriate to their professional goals, and complete a portfolio project. The two core courses, which are taken during the first year, prepare students for the M.A. program. Educational Psychology for Effective Teaching (07P:221) introduces them to a broad sampling of topics in educational psychology (e.g., development, cognition, motivation). Also during the first year, students begin their portfolios, which they continue to build throughout the program and complete during their final M.A. semester.

Full-time M.A. students typically take at least 9 s.h. each semester, with the option of additional summer session work; they usually complete the program in four semesters. Part-time M.A. students take 3-6 s.h. each semester; they usually complete the degree in two or three years.

Students may apply to substitute equivalent course work from another institution or department for required or recommended courses.

#### Required Core

07P:202 Understanding Educational Research	3 s.h.
07P:221 Educational Psychology for Effective Teaching	3 s.h.

#### Educational Psychology Courses

Five of these:

07P:106 Child Development	3 s.h.
07P:111 Motivation	3 s.h.
07P:203 Learning, Technology, and Effective Teaching	3 s.h.
07P:205 Design of Instruction	3 s.h.
07P:208 Designing Educational Multimedia	3 s.h.
07P:281 Cognitive Theories of Learning	3 s.h.
07P:301 Human Abilities	3 s.h.

## Electives

Students select two electives (6 s.h.) based on their interests and in consultation with their advisors. Electives typically are chosen from areas outside educational psychology.

## Portfolio Project

The program's capstone project is a portfolio. Students enroll in 07P:299 M.A. Project: The Portfolio (3 s.h.) during their final M.A. semester. The goal of the portfolio is to show how understanding and practical application of educational psychology can help the student become a more effective educator.

The portfolio is a creative and highly individual project. Each student's portfolio reflects his or her own unique learning and synthesis of knowledge. Students begin building the portfolio during their first year, making an entry as they complete each course throughout the M.A. program. Portfolio entries vary widely. For example, the entry for a technology course might include a web site the student developed for the course, while the entry for a development course might detail an intervention program the student constructed to address problems of student aggression.

During enrollment in 07P:299 M.A. Project: The Portfolio, the student revises and adds to his or her portfolio, then presents the portfolio to a group of faculty and students.

## Ph.D. in Educational Psychology

The Doctor of Philosophy program in educational psychology is designed to help students master the core content and methods of educational psychology and acquire the depth of knowledge and methodological sophistication necessary for original research that contributes to the discipline.

Ph.D. students are reviewed annually by the faculty. Students must complete a second-year project by the end of their second academic year in the program. Those who do not fulfill this requirement or who otherwise fail to make satisfactory progress may be required to withdraw.

Students who enter the Ph.D. program without having completed an M.A. thesis are required to complete an independent research course sequence and its assigned research project in either their first or second year. Students who have completed an empirical M.A. thesis that is acceptable to the faculty may omit the independent research sequence and second-year project.

## ADMISSION

Applicants must meet the admission requirements of the Graduate College, including minimum grade-point average. They must have a combined verbal and quantitative score of at least 1000 on the Graduate Record Examination (GRE) General Test; successful applicants usually score higher. International applicants whose first language is not English must submit acceptable scores on the Test of English as a Foreign Language (TOEFL). Applicants who do not meet all admission requirements may be granted conditional admission on the basis of other evidence, such as high grade-point average, strong academic preparation, and highly supportive recommendations. Conditional admission is rare.

Admission is for fall entry. Application deadline is January 1; late applications might not be considered. Review of applications begins January 1, when applicants who wish to be considered for fellowships and other awards are screened. Admission decisions are announced approximately six weeks after the application deadline.

Applicants who accept admission or financial aid and do not relinquish either one on or before April 15 may not solicit or accept another offer. Offers made by the program after April 15 include the provision that the offer is void if the applicant has accepted and continues to hold a previous offer from another program listed in the American Psychological Association publication *Graduate Study in Psychology and Associated Fields*. This policy is consistent with standards set by the association's Board of Educational Affairs.

## REQUIREMENTS

The Ph.D. program in educational psychology requires a minimum of 72 s.h. of graduate credit. Students develop a plan of study in consultation with their advisors. Some of the required courses listed below encompass substantive areas within educational psychology. Other required courses include a research practicum, in which students assist with and eventually design and carry out original research, and several courses in measurement and statistics.

Some requirements may be waived for students who begin the Ph.D. program with a master's degree or with course work from another program.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Course selections must be consistent with the following course requirements for the Ph.D.

#### Required Courses

All of these (or equivalents):

07P:200 Educational Psychology	3 s.h.
07P:205 Design of Instruction	3 s.h.
07P:220 Quantitative Educational Research Methodologies	3 s.h.
07P:230 Research in Educational Psychology (taken second year of program)	1-3 s.h.
07P:257 Educational Measurement and Evaluation	3 s.h.
07P:281 Cognitive Theories of Learning	3 s.h.
07P:283 Cognitive Development	3 s.h.
07P:301 Human Abilities	3 s.h.
07P:493 Ph.D. Thesis in Psychological and Quantitative Foundations (minimum requirement)	10 s.h.
07X:150 Introduction to Educational Research (taken during first year in program)	3 s.h.

#### Recommended Courses

At least four of these:

07P:208 Designing Educational Multimedia	3 s.h.
07P:212 Advanced Life-Span Development	3 s.h.
07P:215 Web-Based Learning	3 s.h.
07P:265 Program Evaluation	3 s.h.
07P:269 Advanced Personality	3 s.h.
07P:275 Constructivism and Design of Instruction	3 s.h.
07P:335 Advanced Motivation: Laboratory and Classroom Investigation	3 s.h.

#### Electives

At least two of these (or equivalents):

07P:243 Intermediate Statistical Methods	4 s.h.
07P:244 Correlation and Regression	4 s.h.
07P:245 Applied Multivariate Analysis	3 s.h.
07P:246 Design of Experiments	4 s.h.
07P:247 Nonparametric Statistical Methods	3 s.h.
07P:252 Introduction to Multivariate Statistical Methods	3 s.h.

#### Minor Area

Students must complete a minimum of 12 s.h. that constitute a coherent program of course work outside educational psychology and beyond the courses listed above. The minor area may be from a foundation discipline, such as psychology, or in another area of education, such as mathematics education, educational philosophy, or program evaluation. Course work must be at or above the 200-level, may span departments and colleges, and must reflect a plan approved by the student's advisor.

#### Second-Year Research Project

As part of their participation in 07P:230 Research in Educational Psychology, Ph.D. students are required to complete a research project of modest scope under the direction of a faculty member. They must present the work in both oral and written form to the program's faculty and students. The written report must be completed by the end of the student's second academic year in the program.



Students who enter the Ph.D. program holding an M.A. or M.S. with an acceptable empirical thesis are exempt from 07P:299 M.A. Project: The Portfolio and the project.

### **COMPREHENSIVE EXAMINATION**

The Ph.D. comprehensive examination emphasizes competence and depth in one or more narrowly defined areas of research and theory. Students choose from three options in consultation with their advisor and with the approval of the examining committee, which is made up of five faculty members. The options are a review article, an extended research activity, or a traditional comprehensive examination. For details of each option's requirements, see <http://www.education.uiowa.edu/edpsych/doctoral.htm> or contact the Department of Psychological and Quantitative Foundations.

### **School Psychology**

The graduate program in school psychology is designed for students seeking a Doctor of Philosophy. All prospective students must apply to the Ph.D. program. Doctoral students may receive an Education Specialist degree when they complete the Ed.S. requirements.

#### **Ed.S. in School Psychology**

The Educational Specialist program in school psychology provides course work and supervised field experience in education and psychology, enabling graduates to qualify for Iowa licensure as school psychologists (State of Iowa Endorsement 40). The Ed.S. is granted only to students working toward a Ph.D. in school psychology.

#### **REQUIREMENTS**

The Ed.S. program in school psychology requires a minimum of 60 s.h. of graduate credit (the total depends on students' previous course work). It includes courses in psychological foundations, psychoeducational foundations, school psychology, and research methods. Other requirements include a written comprehensive examination and a research paper prepared in conjunction with 07P:342 Research Project in School Psychology (1-6 s.h.).

#### **Ph.D. in School Psychology**

The Doctor of Philosophy program in school psychology was granted full accreditation by the American Psychological Association in 1992; full accreditation was renewed in 2005. The program's goal is to prepare doctoral-level school psychologists who will promote psychology as a science and contribute to the advancement of the profession. The faculty members endorse a scientist/practitioner model of training and expect students to become competent researchers and proficient practitioners.

Specializations are available in gifted and talented and in pediatric psychology.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Preference is given to applicants with an undergraduate major in psychology or education, a g.p.a. above 3.00, and combined verbal and quantitative scores above 1000 on the Graduate Record Examination (GRE) General Test. The faculty also encourages applications from individuals with an M.A. or Ed.S. and experience as psychologists or other human service providers.

Applications must include three letters of recommendation, a personal statement of interest and goals, and a writing sample. Complete application materials, including transcripts and test scores, must be received by January 1 to be considered for fall semester admission. Admission decisions usually are made by March 15. The program admits from six to eight students each year.

#### **REQUIREMENTS**

The Ph.D. program in school psychology requires a minimum of 108 s.h. of graduate credit. All students are required to have a thorough grounding in the basic discipline of psychology, which may be achieved through earning a minimum of 3 s.h. of credit in each of the following areas: biological bases of behavior, cognitive/affective bases of behavior, social bases of behavior, individual differences, and history and systems.

The plan of study is developed by students and their academic advisors. Students are required to complete yearly portfolio reviews, which include oral examinations; carry out a preliminary dissertation research project equivalent in scope to an M.A. thesis; participate in an internship; and complete a doctoral dissertation, earning a minimum of 10 s.h. in 07P:493 Ph.D. Thesis in Psychological and Quantitative Foundations.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative

course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Course selections must be consistent with other course requirements for the Ph.D.

The following courses constitute the school psychology core.

07P:224 Prepracticum in School Psychology	3 s.h.
07P:237 Practicum in School Psychological Service (minimum 150 hours)	3 s.h.
07P:238 Assessment of Learning Differences (taken with 07P:237)	3-4 s.h.
07P:251 Individual Intelligence Testing (taken with 07P:237)	3 s.h.
07P:263 Consultation Theory and Practice (taken with 07P:337)	3 s.h.
07P:313 Psychopathology in Childhood	3 s.h.
07P:315 Psychodiagnostics: Children and Adolescents	3 s.h.
07P:337 Advanced Practicum in School Psychology (minimum 750 hours)	12 s.h.
07P:340 School Psychology Professional Seminar	1-6 s.h.
07P:352 Seminar: Behavioral Assessment and Evaluation	3 s.h.
07P:367 Social Psychology and Social Systems	3 s.h.
07P:380 Practicum in College Teaching (optional)	1-3 s.h.
07P:390 Supervision of School Psychology Practicum/Internship	1 s.h.
07P:437 Internship in School Psychology (one year full-time or two years half-time, total of 1800 hours)	3 s.h.
07X:150 Introduction to Educational Research (taken during first year in program)	3 s.h.

Program course work in evaluation is required.

Students must enroll in practicums to reach a specified level of client contact, supervision, and additional experience hours. Placements must have prior approval of the school psychology faculty. Students must successfully complete one semester of 07P:237 Practicum in School Psychological Service before enrolling in 07P:337 Advanced Practicum in School Psychology. Students must adhere to the most recent ethical principles and standards of the American Psychological Association.

## Psychological and Quantitative Foundations Courses

Students may receive credit for only two of these three courses: 22S:002 Statistics and Society, 22S:008 Statistics for Business, and 22S:025 Elementary Statistics and Inference (same as 07P:025). Credit for 22S:002 Statistics and Society is given only if the course is taken before 22S:008 Statistics for Business or 22S:025 Elementary Statistics and Inference (same as 07P:025 Elementary Statistics and Inference).

### **07P:025 Elementary Statistics and Inference** 3 s.h.

Graphing techniques for presenting data, descriptive statistics, correlation, regression, prediction; logic of statistical inference, elementary probability models, estimation and tests of significance. Prerequisites: 22M:001. GE: Quantitative or Formal Reasoning. Same as 22S:025.

### **07P:026 Mindfulness: Being Here With It All** 2 s.h.

Training in Mindfulness-Based Stress Reduction; application to dealing with life changes (i.e., transition to University life); navigating daily life (academics, roommates, schedules); improving academic skills; self-regulation of emotions; questions of meaning and purpose. Same as 407:025.

### **07P:029 First-Year Seminar** 1 s.h.

Investigate factors keeping students from being successful, such as lack of study skills and academic preparation, alcohol and drug abuse, gambling, credit card debt; other issues leading to dropping out of school include depression, dating violence, not fitting in; course is driven by student interest; participants pick topics, find readings, research topics, and lead a class discussion on their topic.

### **07P:075 Educational Psychology and Measurement** 3 s.h.

Principles and classroom applications of cognitive and social development, learning and cognition, motivation, and assessment.

### **07P:106 Child Development** 3 s.h.

Theories and research findings about typical course of child development, differences in development. Requirements: junior standing.

### **07P:111 Motivation** 3 s.h.

Principles of motivation and their application to applied settings, especially to the classroom as teachers try to motivate students. Requirements: junior standing.

**07P:115 Introduction to Counseling Psychology** 3 s.h.  
Historical and philosophical foundations of counseling psychology; theories, application, and work of counseling psychologists.

**07P:120 Psychology of Giftedness** 3 s.h.  
Theories of learning, child development, motivation; issues unique to gifted education. Same as 07C:120.

**07P:121 Identification of Students for Gifted Programs** 3 s.h.  
Interpretation of standardized tests and other measurement instruments used to identify academic talent and program effectively for grades K-12; ability, aptitude, achievement tests; current issues in the uses of various instruments. Same as 07C:121.

**07P:122 Math Programming for High Ability Students** 1 s.h.  
Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as 07S:122.

**07P:123 Academic Acceleration: Providing Excellence and Equity in Education for High Ability Students** arr.  
Acceleration as an effective curricular intervention for high-ability students; forms of acceleration, research evidence for acceleration, and process of implementing acceleration; reasons for persistent negative attitudes about acceleration; advocacy for acceleration; skills for effective practice and implementation. Requirements: computer with internet access, sound card, Adobe Reader, and Adobe Flash Player.

**07P:125 Counseling and Psychological Needs of the Gifted** 1 s.h.  
Psychological aspects of giftedness, counseling techniques appropriate for gifted children, adolescents; socio-emotional concerns, career development, underachievement. Same as 07C:125.

**07P:126 Cognitive and Affective Needs of Underachieving Gifted** 1 s.h.  
Diagnostic strategy for identifying types of underachievement, teaching and counseling interventions appropriate for each. Same as 07C:126.

**07P:128 Neuroscientific Implications for Gifted** 1 s.h.  
Neurology of behavior and neurodegenerative disease; the psychology of learning and memory, its application to gifted education.

**07P:129 Creativity: Issues and Applications in Gifted Education** 1 s.h.  
Theories that underpin contemporary definitions of creativity; instruments developed to measure creativity; activities in the school environment that enhance or inhibit student creativity. Same as 07C:129.

**07P:130 Early Adolescent Development** 3 s.h.  
Psychological growth and development of the early adolescent (ages 10-14), including the physical, cognitive, social, emotional, and sexual development of the middle-school aged child.

**07P:133 The Adolescent and Young Adult** 3 s.h.  
Psychological and social aspects of adolescence and young adulthood; emphasis on theory, research, and practical applications.

**07P:134 Parent-Teacher Communication** 1-3 s.h.  
Realities of working with parents; interpersonal skills; options for parent support services. Same as 07U:134.

**07P:136 Home/School/Community Partnerships** 3 s.h.  
Issues related to collaboration among families, educators, community members in implementing school programs. Same as 07U:136.

**07P:143 Introduction to Statistical Methods** 3 s.h.  
Analysis, interpretation of research data; descriptive statistics; introduction to probability, sampling theory, statistical inference (binomial, normal distribution, t-distribution models); linear correlation, regression. Same as 22S:102.

- 07P:148 Bayesian Statistics** 3 s.h.  
Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: 22S:120 and 22S:152. Same as 22S:138.
- 07P:150 Introduction to Educational Measurement** 3-4 s.h.  
Test development procedures, reliability, validity, item writing, evaluation of item and test characteristics; classroom assessment methods; interpretation of scores from standardized achievement and aptitude tests; no background in statistics assumed.
- 07P:165 Introduction to Program and Project Evaluation** 3 s.h.  
Skills and knowledge required for conducting evaluations of products, projects, and programs; recent scholarship on evaluation and project management. Same as 07B:165.
- 07P:181 ePortfolio Production** 1-2 s.h.  
Experience producing an ePortfolio and uploading it to the Internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser and access to the Internet and to a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as 07C:181, 07E:181, 07X:181.
- 07P:193 Special Readings and Projects** arr.  
Supervised individual study. Requirements: senior standing.
- 07P:199 Topical Workshop in Psychological and Quantitative Foundations** arr.  
School, educational, and counseling psychology and allied disciplines; for professionals and graduate students in education, mental health, social services, related fields. Repeatable.
- 07P:200 Educational Psychology** 3 s.h.  
Psychology of the learning/instruction process: theoretical perspectives on learning, instruction, motivation, and assessment; developmental concepts, social processes, individual variation, learning and technology, biological basis of learning.
- 07P:202 Understanding Educational Research** 3 s.h.  
Quantitative and qualitative research methods; emphasis on critical analysis of educational research rather than performance of research.
- 07P:203 Learning, Technology, and Effective Teaching** 3 s.h.  
Theories and issues in the use of technology in learning and teaching; project to design a technology-supported learning solution for an educational problem.
- 07P:205 Design of Instruction** 3 s.h.  
Introduction to processes used to design, develop, implement, and evaluate effective instruction; projects.
- 07P:206 Advanced Child Development** 3 s.h.  
Theories of social and cognitive development; in-depth study of several current controversies in the field. Prerequisites: 07P:106.
- 07P:207 Evaluation of Children with ADHD and LD** arr.  
Clinical experience in conducting pediatric neuropsychology examinations in the Pediatric Attention/Learning Disorders Clinic. Requirements: course on psychological testing (including IQ) and graduate psychology standing (school, counseling, rehabilitation, clinical). Same as 070:245.
- 07P:208 Designing Educational Multimedia** 3 s.h.  
Theory, design, and evaluation of instructional software.
- 07P:209 Survey Research and Design** 3 s.h.  
Survey design and implementation; writing and evaluation of survey questions; error in survey research; techniques to reduce error; sampling; postcollection processing of survey data. Prerequisites: 07B:206 or 07P:143. Same as 07B:209.

<b>07P:212 Advanced Life-Span Development</b>	3 s.h.
Selected theories and research in development across the life span, especially from adolescence through late adulthood; focus on relevance for instruction and counseling.	
<b>07P:215 Web-Based Learning</b>	3 s.h.
Theory and practice of designing web sites to support or deliver instruction; student team project to create an instructional web site that integrates the theory and principles from class readings.	
<b>07P:217 Seminar in College Teaching</b>	1-3 s.h.
Preparation for college teaching; for graduate students planning to teach.	
<b>07P:220 Quantitative Educational Research Methodologies</b>	3 s.h.
Procedures for planning, conducting, and reporting research; evaluation of current methods in educational research; quantitative designs and methods. Prerequisites: 07P:143 or 22S:102.	
<b>07P:221 Educational Psychology for Effective Teaching</b>	3 s.h.
How educators use educational psychology theories and research to develop expertise in teaching and learning; cognition, motivation, technology, individual differences.	
<b>07P:223 Introduction to Counseling Psychology Practice/Research I</b>	3 s.h.
Historical, theoretical, professional, scientific traditions associated with counseling psychology; professional ethical principles.	
<b>07P:224 Prepracticum in School Psychology</b>	1-3 s.h.
Introduction to the practice of school psychology; framework for understanding role and function, legal and ethical boundaries, professional requirements; preparation for practicum.	
<b>07P:225 Introduction to Counseling Psychology Practice/Research II</b>	3 s.h.
Learning and performance of basic helping skills; integration of these skills with counseling theories, broader counseling strategies; laboratory-based.	
<b>07P:226 Assessment of Giftedness</b>	3 s.h.
Training and practice in assessment of gifted children. Same as 07C:226.	
<b>07P:230 Research in Educational Psychology</b>	1-3 s.h.
Design, implementation, and presentation of an educational psychology empirical research project. Requirements: graduate standing in educational psychology.	
<b>07P:234 Advanced Multimedia Design</b>	3 s.h.
Theory and development of multimedia programs that use video, CD-ROM, computer animation, digital audio; emphasis on team-development of software.	
<b>07P:235 Multicultural Counseling</b>	3 s.h.
Theoretical and practical aspects of the cultural adaptation process; implications for interventions in diverse populations; issues. Requirements: counseling skills introductory course.	
<b>07P:236 Therapy for Persons with Disabilities</b>	3 s.h.
Preparation for future psychologists and counselors to work with persons with disabilities throughout the lifespan; examination of disability issues within the context of present and past theoretical constructs. Requirements: enrollment in psychological and quantitative foundations or rehabilitation and counselor education. Same as 07C:236.	
<b>07P:237 Practicum in School Psychological Service</b>	arr.
Supervised practicum in psychological and educational evaluation in school settings. Repeatable. Prerequisites: 07P:238 and 07P:251.	
<b>07P:238 Assessment of Learning Differences</b>	3-4 s.h.
<b>07P:242 Selected Applications of Statistics</b>	3 s.h.

Application and interpretation of correlation techniques, chi-square, t- and f-tests, interval estimation, simple cases of analysis of variance. Prerequisites: 07P:143.

**07P:243 Intermediate Statistical Methods** 4 s.h.

Foundation for more advanced applied courses; logic of statistical inference, chi-square, and other tests of statistical hypotheses; small sample error theory, interval estimates, introduction to analysis of variance, selected nonparametric methods. Prerequisites: 07P:143. Requirements: (for 22S:148) 22S:102. Same as 22S:148.

**07P:244 Correlation and Regression** 4 s.h.

Correlation techniques; selected bivariate procedures, multiple, partial, curvilinear correlation; multiple linear regression; sampling theory applied to regression analysis and correlation coefficients; simple causal models. Prerequisites: 07P:243. Requirements: (for 22S:157) 22S:148. Same as 22S:157.

**07P:245 Applied Multivariate Analysis** 3 s.h.

Multivariate descriptive statistics, multivariate normal distribution, Hotelling's T-squared, MANOVA, multivariate regression, principal components, discrimination and classification, cluster analysis. Prerequisites: 22S:152 and 22S:158. Requirements: facility with matrix algebra. Same as 22S:161.

**07P:246 Design of Experiments** 4 s.h.

Theory and methods in the planning and statistical analysis of experimental studies; testing of hypotheses about linear contrasts among means in single-factor and multifactor, completely randomized, and repeated measurement designs. Prerequisites: 07P:243. Requirements: (for 22S:159) 22S:148. Same as 22S:159.

**07P:247 Nonparametric Statistical Methods** 3 s.h.

Selected nonparametric methods; one- and two-sample location tests and estimation methods, measures of association, analyses of variance; emphasis on relationships to classical parametric procedures. Prerequisites: 07P:243 or 22S:120. Same as 22S:163.

**07P:249 Factor Analysis and Structural Equation Models** 3 s.h.

Foundations of exploratory and confirmatory factor analysis methods; least squares and maximum likelihood approaches; problems in factor extraction, rotation, interpretation; structural equation models via LISREL; assumptions and limitations of alternative approaches. Prerequisites: 07P:244 and 07P:246.

**07P:250 Computer Packages for Statistical Analysis** 1-3 s.h.

Computer programs and systems designed to execute statistical analysis (SAS, SPSS, BMDP, and others); lectures on regression techniques, analysis of variance, multivariate techniques; practice in entering data, calling up desired programs, interpreting computer output. Prerequisites: 07P:243. Requirements: elementary knowledge of computer programming.

**07P:251 Individual Intelligence Testing** 3 s.h.

Administration of individual intelligence tests; interpretation of test results; issues in psychological testing; factors that influence performance. Prerequisites: 07P:143 or 07P:150.

**07P:252 Introduction to Multivariate Statistical Methods** 3 s.h.

Selected topics in multivariate analysis, including multivariate significance tests, principal components and factor analysis, discriminant analysis, canonical correlation, multivariate analysis of variance (MANOVA). Prerequisites: 07P:244 and 07P:246.

**07P:255 Construction and Use of Evaluation Instruments** 3 s.h.

Design and construction of measures used in educational evaluation: achievement tests, attitude scales, performance measures, questionnaires; emphasis on methods of instrument development and evaluation of instrument characteristics. Prerequisites: 07P:143 and 07P:257.

**07P:257 Educational Measurement and Evaluation** 3 s.h.

Evaluation and use of standardized tests and inventories in individual and group assessment; analyzing reliability, validity, normative data; interpreting measures of achievement, intelligence, aptitude, interests, attitudes, personality; current issues; for counselors, administrators, teachers, measurement specialists. Corequisites: 07P:143.

**07P:258 Theory and Technique in Educational Measurement** 3 s.h.

Mathematical foundations, principal results, and applications of classical test theory; perspectives on conditional error variance; binomial error model and applications; introduction to generalizability theory; advanced measurement topics. Prerequisites: 07P:243 and 07P:257.

**07P:259 Scaling Methods** 3 s.h.

Unidimensional and multidimensional scaling techniques; item response theory with a focus on polytomous models; introduction to available computer programs for scaling; applications in educational and psychological research. Prerequisites: 07P:262. Corequisites: 07P:249 and 07P:252.

**07P:262 Item Response Theory** 3 s.h.

Theoretical foundations and practical applications; mathematical models and estimation techniques; emphasis on current applications and issues in testing; computer estimation programs. Prerequisites: 07P:243 and 07P:257.

**07P:263 Consultation Theory and Practice** 2-3 s.h.

Same as 07C:263.

**07P:265 Program Evaluation** 3 s.h.

Theoretical issues and considerations in evaluation of educational and social programs; evaluation design, methodology; metaevaluation; evaluation utilization.

**07P:269 Advanced Personality** 3 s.h.

Current research and research methods in the psychology of personality; emphasis on individual differences in personality that have implications for teaching, learning, well-being.

**07P:275 Constructivism and Design of Instruction** 3 s.h.

Theoretical foundations of constructivism; application of constructivist principles to the design of instruction.

**07P:281 Cognitive Theories of Learning** 3 s.h.

Theories of learning and cognition as they relate to education; development of expertise, transfer of learning, design of learning environments, use of learning technologies. Prerequisites: 07P:200.

**07P:283 Cognitive Development** 3 s.h.

Information-processing, dynamic systems, social-contextual, and neo-Piagetian theories of cognitive development and their educational implications; individual differences in cognitive development.

**07P:285 Instructional Computer Simulations** 3 s.h.

Theory and development of computer-based simulations, games; research on design characteristics and effectiveness; design, development, evaluation of simulation software by student teams. Prerequisites: 07P:208.

**07P:292 Supervised Research in Educational Psychology** 1-3 s.h.

Identification of research problems, development of research designs and materials, conducting of research studies; faculty-guided activity or seminars.

**07P:293 Individual Instruction in Psychological and Quantitative Foundations** arr.

**07P:299 M.A. Project: The Portfolio** 3 s.h.

Individual portfolio project; reflection, revision, and presentation of educational psychology portfolio.

**07P:301 Human Abilities** 3 s.h.

Psychology of abilities required by or developed through schooling; theories of cognitive abilities, age, sex, ethnic differences; cultivation of intelligence through schooling. Prerequisites: 07P:143.

**07P:305 Psychotherapy I: Dynamic and Phenomenological Approaches** 3 s.h.

Major psychodynamic and existential-phenomenological theories of personality; emphasis on implications for psychotherapy.

**07P:306 Psychotherapy III: Career Interventions** 3 s.h.

Foundations of career interventions; emphasis on major assessment instruments (vocational interests, values, abilities/skills, personality) and career counseling processes, skills, techniques.

- 07P:309 Personality Assessment** 3 s.h.  
Standardized and projective techniques for personality assessment; preparation for competent administration and interpretation of varied tests and measures.
- 07P:310 Intelligence Assessment** 3 s.h.  
Standardized intelligence testing; preparation to administer and interpret intelligence tests for children and adults.
- 07P:311 Practicum in Counseling and Psychological Services for Gifted Students** 1-6 s.h.  
Prerequisites: 07C:178. Requirements: course work in counseling education, counseling psychology, school psychology, educational psychology, or related fields. Same as 07C:311.
- 07P:312 Psychopathology Across the Lifespan** 3 s.h.  
DSM IV categories, related diagnostic issues.
- 07P:313 Psychopathology in Childhood** 3 s.h.  
Current theories regarding the development of psychopathology in children and adolescents; current approaches to treatment for disorders in children and adolescents.
- 07P:315 Psychodiagnostics: Children and Adolescents** 3 s.h.  
Link between personality theory, child and adolescent assessment; interpretation, integration of assessment information; record reviews, interviews, objective tests, projective techniques. Prerequisites: 07P:238 and 07P:251.
- 07P:320 History and Systems of Psychology** 3 s.h.  
Philosophical underpinnings of psychology, early systems in psychology, developments in the 20th century.
- 07P:331 Seminar: Educational Psychology I--Current Topics** arr.  
Intensive investigation of a specific research topic.
- 07P:335 Advanced Motivation: Laboratory and Classroom Investigation** 3 s.h.  
Contemporary theories of motivation, with focus on theory and application; in-depth study concentrating on one approach to motivation; student project.
- 07P:337 Advanced Practicum in School Psychology** arr.  
Supervised experience in psychological interventions, consultation, counseling in school and clinic settings. Prerequisites: 07P:237, 07P:238, and 07P:251.
- 07P:340 School Psychology Professional Seminar** 1-6 s.h.  
Current issues influencing the practice of school psychology in relation to its historical roots.
- 07P:342 Research Project in School Psychology** arr.  
Experience in research facilities on campus; writing research questions, planning a research study, writing a research article.
- 07P:345 Seminar in Psychoeducational Interventions I** 3 s.h.  
Interventions used by school and support system personnel to address academic skill deficits among children, adolescents; instructional design and delivery problems associated with deficits.
- 07P:346 Seminar in Psychoeducational Interventions II** 3 s.h.  
Interventions used by school and support system personnel to address behavioral and social/emotional status of children, adolescents.
- 07P:347 Home/School/Community: System Interventions** 3 s.h.  
Interventions used by school and support system personnel; focus on work with parents, siblings. Same as 07C:347.
- 07P:348 Family Interventions** 3 s.h.  
Theoretical and research literature on interventions with families of school-age children; opportunities to engage in intervention activities.
- 07P:350 Seminar in Evaluation** 2-3 s.h.



In-depth examination of selected topics. Prerequisites: 07P:265. Requirements: two courses in program evaluation.

- 07P:352 Seminar: Behavioral Assessment and Evaluation** 3 s.h.  
Broadens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as 07U:252.
- 07P:354 Seminar: Experimental Approaches in Counseling Research** arr.  
Application of experimental methodology to study of counseling and vocational phenomena. Repeatable.
- 07P:355 Seminar: Educational Measurement and Evaluation** arr.  
Critical examination of current issues and problems of the professional worker in the field of educational measurement and evaluation as reflected in research literature, other professional communication media.
- 07P:356 Process and Outcomes in Counseling Psychotherapy** 3 s.h.  
Advanced knowledge of the state of process and outcome research on psychotherapeutic procedures. Requirements: Ph.D. candidacy in appropriate field.
- 07P:357 Counseling Psychology Research Writing** 3 s.h.  
How to write scientifically in counseling psychology; qualitative and quantitative research writing, literature reviews, methodologies, discussions; APA style.
- 07P:358 Equating and Scaling of Educational Tests** 3 s.h.  
Designs and methods, including linear, equipercentile, and item response theory methods; emphasis on concepts, applications to testing programs, research. Prerequisites: 07P:243 and 07P:257.
- 07P:359 Group Psychotherapy** 3 s.h.  
Theoretical foundation for working with clients in group settings; major theories on group psychotherapy processes; integration of empirical research on effectiveness of group work; varied theoretical approaches to group psychotherapy.
- 07P:365 Psychotherapy II: Cognitive and Behavioral Approaches** 3 s.h.  
Major cognitive and behavioral theories of personality and psychotherapy; emphasis on implications for clinical practice.
- 07P:367 Social Psychology and Social Systems** 3 s.h.  
Social aspects of behavior in organizations; behavioral science theory and research on organizations, system change, transformation, leadership.
- 07P:375 Topics in Educational Measurement and Statistics** 1-3 s.h.  
Repeatable.
- 07P:380 Practicum in College Teaching** arr.  
Supervised college teaching experience in courses related to major academic areas, in collaboration with faculty course instructors.
- 07P:385 Teaching and Learning in Higher Education** 3 s.h.  
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as 07B:385, 07C:385, 07S:384, 650:385.
- 07P:390 Supervision of School Psychology Practicum/Internship** arr.  
Experience supervising school psychology practicum or internship students. Requirements: Ph.D. standing.
- 07P:393 M.A. Thesis in Psychological and Quantitative Foundations** arr.
- 07P:394 Supervised Research in Counseling Psychology** 1-3 s.h.
- 07P:434 Practicum in Counseling Psychology** 3 s.h.

Supervised practice in counseling services. Prerequisites: 07P:223 and 07P:225.

**07P:437 Internship in School Psychology**

arr.

Supervised internship for Ph.D. students in school psychology. Requirements: completion of required courses.

**07P:450 Practicum in Program Evaluation**

arr.

Supervised experience in designing and implementing components of program evaluations. Prerequisites: 07P:265. Requirements: two courses in program evaluation.

**07P:453 Advanced Practicum in Counseling Psychology**

1-3 s.h.

Supervised work in counseling services. Repeatable. Prerequisites: 07P:434.

**07P:455 Generalizability Theory**

3 s.h.

Analysis of variance methods applied to estimation of components of various types of measurement error variance; basic concepts, mathematical foundations, models, assumptions, designs, applications; relationships with other measurement theories. Prerequisites: 07P:246 and 07P:258.

**07P:458 Internship in Counseling Psychology**

arr.

Supervised work in internship setting. Repeatable. Prerequisites: 07P:434 and 07P:453. Requirements: Ph.D. standing in counseling psychology, and completion of all requirements except the dissertation.

**07P:465 Issues and Ethics in Professional Psychology**

3 s.h.

Professional ethics; issues in professional practice of psychology.

**07P:466 Psychological Services to Children, Adolescents, and Families: Legal and Ethical Standards**

3 s.h.

Review of laws at state and federal level which are related to child, adolescent, and family functioning; emphasis on APA and NASP ethical standards, application of these standards, and ethical decision making models; open to graduate students who will provide services to children, adolescents, and families.

**07P:493 Ph.D. Thesis in Psychological and Quantitative Foundations**

arr.

# Rehabilitation and Counselor Education

**Chair:** Dennis R. Maki

**Professors:** Nicholas Colangelo, Dennis Harper, Dennis R. Maki, Leslie Margolin, Vilia Tarvydas, Elizabeth J. Whitt

**Professors emeriti:** Richard Dustin, Albert B. Hood, David A. Jepsen

**Adjunct professor:** Harvey Joanning

**Associate professors:** Debora Liddell, Tarrell Portman, Jodi Saunders, John Wadsworth, Sherry Watt

**Associate professors emeriti:** William A. Matthes, Ralph R. Roberts Jr.

**Assistant professors:** David Duys, Noel Estrada-Hernandez, Malik Henfield, Susannah Wood

**Adjunct assistant professors:** Barbara O'Rourke, Anne Zalenski

**Clinical assistant professor:** Carol M. Smith

**Adjunct lecturers:** Leanne Eichinger, Valerie Garr, James Stachowiak, Peter Teahen, Orville Townsend

**Undergraduate nondegree program:** Minor in Human Relations

**Graduate degrees:** M.A., Ph.D. in Counseling, Rehabilitation, and Student Development

**Web site:** <http://www.education.uiowa.edu/rce>

The Department of Rehabilitation and Counselor Education prepares students to facilitate human development across the life span, to advocate for clients and students, and to serve local, national, and international communities. It achieves these goals by advancing knowledge, skills, and attitudes appropriate for effective and ethical professional counseling practice and by conducting and disseminating research.

The department prepares practitioners and scholars primarily at the graduate level, through degree programs in counselor education and supervision, rehabilitation and mental health counseling, rehabilitation counselor education, school counseling, and student affairs. It also offers basic courses in interviewing and interpersonal skills for students in other professional and graduate programs.

## Undergraduate Program

The department offers a minor in human relations. Contact the Department of Rehabilitation and Counselor Education for information.

## Graduate Programs

The Department of Rehabilitation and Counselor Education offers Master of Arts and Doctor of Philosophy degrees in counseling, rehabilitation, and student development, with the following programs: counselor education and supervision (offered in the Ph.D.); rehabilitation counselor education (offered in the Ph.D.); rehabilitation and mental health counseling (offered in the M.A.); and school counseling (offered in the M.A.).

The M.A. program in student development in postsecondary education and the Ph.D. program in student affairs administration and research are merging with the Department of Educational Policy and Leadership Studies program in higher education and student affairs.

Each of the department's programs is described below, with information about program and admission requirements.

Upon completing a degree in the department, students are evaluated and are expected to have awareness, knowledge, and skills in the following areas:

- current definitions, professional standards, and appropriate professional practices regarding multiculturalism;
- what it means to be a multiculturally competent helping professional;
- integration of feedback into practice and professionalism in interpersonal interactions;
- personal limitations and strengths that could ultimately support or harm a client or student;
- a personal plan for future practice in the field regarding multicultural relationships.

Prospective students must meet admission requirements for the individual programs as well as the department's general admission requirements (see "Admission" later in this section). Criminal background checks may be required.

### PH.D. REQUIRED RESEARCH COURSES

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

## Counselor Education and Supervision

### Ph.D. in Counselor Education and Supervision

The Doctor of Philosophy program in counselor education and supervision prepares students with knowledge and skills related to general counseling (including mental health and school counseling), teaching, consulting, supervising

counselors, and conducting research. Graduates enter professional work as counselors, counselor supervisors, counselor educators, researchers and/or consultants, or work in other positions requiring expertise in human relations. Students may choose an emphasis in gifted and talented education, school counseling, professional leadership, or other area agreed upon by faculty advisors.

Counselor education and supervision graduates are prepared to teach the knowledge and skills required of professional counselors and to supervise beginning and advanced counselors; perform counseling interventions with individuals and groups; and teach human relations skills in colleges or universities. They provide professional consultation with counseling practitioners and policy makers about counseling program development and evaluation. They also may perform research that contributes to knowledge about counseling, supervision, and counselor education.

The program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The American Counseling Association (ACA) and the Association for Counselor Education and Supervision (ACES) are the professional organizations most related to program activities.

### **ADMISSION**

In addition to the department's admission requirements (see "Admission" later in this section), Ph.D. applicants must provide evidence of successful experience in counseling or a closely related profession. Applicants without experience may be admitted if their credentials indicate exceptional strengths.

Students may be admitted for fall, spring, or summer entry, but the department strongly advises application for fall entry. Consideration of applications begins January 15 for fall entry; all application materials should be received at the University by this date.

### **REQUIREMENTS**

The Ph.D. program in counselor education and supervision requires 90 s.h. of graduate credit. Students complete required courses in counseling and in research tools and applications, an optional emphasis area, and a minor outside the department. They also take comprehensive examinations and complete a dissertation.

Most students complete their course work in three years and take a fourth year to complete the dissertation. Students who have not completed a master's degree program approved by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) may need to remedy deficiencies by taking appropriate master's-level course work.

#### **Required Courses**

07C:255 Advanced Career Development and Counseling (or equivalent)	3 s.h.
07C:347 Home/School/Community: System Interventions	3 s.h.
07C:353 Advanced Counseling and Psychotherapy	3 s.h.
07C:357 Advanced Group Counseling and Psychotherapy	3 s.h.
07C:360 Advanced Practicum in Counseling (section 002)	3 s.h.
07C:380 Practicum in College Teaching	3 s.h.
07C:385 Teaching and Learning in Higher Education	3 s.h.
07C:400 Seminar: Ethics and Issues in Counseling	3 s.h.
07C:451 Advanced Multiculturalism	3 s.h.
07C:454 Supervision Theory and Practice	3 s.h.
07C:455 Practicum in Clinical Supervision	3 s.h.
07C:457 Seminar: Professional Orientation to Counselor Education and Supervision	3 s.h.
07C:458 Seminar: Current Issues and Trends in Counselor Education and Supervision	3 s.h.
07C:459 Seminar: Leadership and Advocacy in Counselor Education and Supervision	3 s.h.
07C:465 Internship in Counselor Education (at least 240 hours)	3 s.h.
At least one course in human development	3 s.h.
At least one advanced course in psychological or educational measurement	3 s.h.

#### **Research Tools and Applications**

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z

directory on the college's web site). Course selections must be consistent with the following research tools and applications requirements.

The following are minimum requirements. Students are expected to master research tools and applications beyond the minimum requirements in order to develop research skills consistent with their professional goals.

07C:338 Essentials of Qualitative Inquiry	3 s.h.
07C:394 M.A. Equivalency Research (for students without an approved M.A./M.S. thesis)	1-3 s.h.
07C:460 Seminar: Research in Counseling	3 s.h.
07C:493 Ph.D. Thesis	10-15 s.h.
07P:243 Intermediate Statistical Methods	4 s.h.
07X:150 Introduction to Educational Research (taken during first year in program)	3 s.h.

At least one course in quantitative research methods chosen from these (at least 3 s.h.) or one additional course in qualitative research:

07C:438 Advanced Qualitative Research Seminar in Rehabilitation and Counselor Education	3 s.h.
07P:244 Correlation and Regression	4 s.h.
07P:245 Applied Multivariate Analysis	3 s.h.
07P:246 Design of Experiments	4 s.h.
07P:252 Introduction to Multivariate Statistical Methods	3 s.h.

#### **Minor Area**

Students take a series of courses (typically a minimum of three) in an area of study outside the Department of Rehabilitation and Counselor Education. They select course work in collaboration with their minor area advisor, a faculty member from the area, and with approval of the curriculum plan committee.

#### **Master's Thesis Project or Equivalency**

Students are required to submit a previously conducted master's thesis for faculty review and approval or to complete a new supervised experiential research project before taking comprehensive exams.

#### **COMPREHENSIVE EXAMINATION**

The comprehensive examination consists of three 3-hour exams and an oral defense, including a department comprehensive exam, a counselor education and supervision program comprehensive exam, and an exam on the minor area. The comprehensive exam may be taken during the student's final semester of course work, which typically includes internship.

#### **DISSERTATION**

The major research project culminating in the doctoral thesis may be on any topic related to counseling and counselor education. The thesis advisor and the examining committee approve the topic and procedures at a formal prospectus meeting. The final oral examination on the thesis is conducted by the examining committee. Students usually earn 10 s.h. for dissertation work, but in some instances they may earn up to 15 s.h.

### **Rehabilitation and Mental Health Counseling**

#### **M.A. in Rehabilitation and Mental Health Counseling**

The Master of Arts program in rehabilitation and mental health counseling prepares professional counselors to provide assistance in employment, independent living, and personal or economic development to persons with disabilities and other individuals who encounter barriers in meeting their functional needs. It also prepares counselors in mental health counseling/psychiatric rehabilitation to obtain licensure as professionals who provide services in community mental health settings.

Rehabilitation and mental health counselors work in a variety of settings, including public agencies such as state vocational rehabilitation programs and Veterans Affairs vocational rehabilitation programs; independent living centers; community-based rehabilitation centers and supported employment programs; private for-profit worker's compensation and insurance rehabilitation agencies; and mental health agencies. They provide interventions designed to help persons with disabilities adapt to the demands of their environments. They also prepare the environments to accommodate the individual's needs. Assessment, personal and vocational counseling, development of rehabilitation

and treatment plans, case management, service coordination, psychosocial adjustment, job development, placement, and follow-up are typical services that rehabilitation and mental health counselors provide.

The M.A. program in rehabilitation and mental health counseling is accredited by the Council on Rehabilitation Education (CORE). The program also is accredited in community counseling by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Graduates of the M.A. program are eligible for certification by the Commission on Rehabilitation Counselor Certification (CRC) and the National Board for Certified Counselors. By completing the program's course work, students also complete the courses they must take in order to apply for licensure as mental health counselors in Iowa.

### **ADMISSION**

No specific undergraduate major area of study is required, but a major in one of the social sciences is considered good preparation for the M.A. program in rehabilitation and mental health counseling. Applicants should have a good academic record and relevant experience, such as assisting individuals with disabilities. Postbaccalaureate work experience relevant to the field of rehabilitation and mental health counseling is preferred. The program encourages applications from persons traditionally underrepresented in the field, particularly those with a disability and/or members of minority or ethnic groups. Applicants also must meet the department's admission requirements (see "Admission" later in this section). A personal interview is required, either in person or by telephone.

Applications for full-time study are accepted for summer session (June) entry. Application deadline for full-time study is April 1 for U.S. applicants, March 1 for international applicants. Applications for part-time study are accepted for fall and spring semesters.

Students pursue a sequenced plan of study that begins in summer session. Although students may be admitted for any semester, the program highly recommends that full-time students begin in summer.

### **REQUIREMENTS**

The M.A. program in rehabilitation and mental health counseling requires a minimum of 60 s.h. of graduate credit. Full-time students can complete the program in two academic years (four semesters plus two summer sessions, approximately 21 months).

The curriculum blends academic work with supervised clinical experiences. Students take three semesters of practicum concurrently with academic courses. The program concludes with a full-time internship (40 hours per week) during a spring semester. Students are assigned to rehabilitation and community mental health agencies or facilities that meet CORE and CACREP accreditation standards and that have programs or clientele who match the student's interests and educational objectives. Clinical placements require criminal background checks.

Supervised practicums, internships, and comprehensive examinations are not offered during summer sessions.

Requirements are as follows.

#### **Department Requirements**

07C:202 Introduction to Group Counseling	3 s.h.
07C:221 Theories of Counseling and Human Development Across the Life Span	3 s.h.
07C:250 Multiculturalism in Helping Professions (or equivalent)	3 s.h.
07C:270 Issues and Ethics in Counseling	3 s.h.
07C:276 Research in Rehabilitation and Mental Health Counseling	3 s.h.
07C:278 Applied Microcounseling	3 s.h.
Clinical practice (see "Clinical Practice" below)	16 s.h.

#### **Program Requirements**

07C:210 Rehabilitation Client Assessment	3 s.h.
07C:241 Introduction to Rehabilitation and Mental Health Counseling	3 s.h.
07C:247 Medical Aspects of Disability	3 s.h.
07C:249 Psychiatric Disorders and Interventions	3 s.h.
07C:341 Job Development Placement and Follow-up	3 s.h.
07C:342 Psychosocial and Developmental Aspects	3 s.h.

**Clinical Practice**

All of these:

07C:348 Prepracticum in Rehabilitation and Mental Health Counseling	3 s.h.
07C:349 Practicum in Rehabilitation and Mental Health Counseling	3 s.h.
07C:352 Internship in Rehabilitation and Mental Health Counseling	9-12 s.h.

One of these:

07C:350 Advanced Practicum in Rehabilitation and Mental Health Counseling	3 s.h.
07C:351 Advanced Practicum in Mental Health and Substance Abuse	3 s.h.

**COMPREHENSIVE EXAMINATION**

In addition to the departmental comprehensive examination, a three-hour written examination on the process and practice of rehabilitation and mental health counseling is required. Exams are offered only during fall and spring semesters.

**Ph.D. in Rehabilitation Counselor Education**

The Doctor of Philosophy program in rehabilitation counselor education prepares professionals for leadership roles in rehabilitation counselor education, research, administration, and service delivery systems. It provides rehabilitation counselors the opportunity to master knowledge; clinical, teaching, and supervisory skills; and research competencies at the most advanced levels.

Ph.D. students focus on three areas of advanced development: rehabilitation counselor education and supervision, research, and professional practice. The program is flexible, permitting students to pursue individualized plans of study within the required curriculum. Ph.D. graduates are expected to have sufficient knowledge and skill to teach at colleges and universities, supervise other professionals, and provide clinical services to clients. They also should have competencies to engage in and evaluate theoretical, qualitative, and quantitative research.

**ADMISSION**

Applicants should have a master's degree in rehabilitation counseling or a related area and a graduate g.p.a. of 3.00 or higher. One year of full-time work experience in rehabilitation or a related field is strongly encouraged. Applicants should include a written statement of purpose for pursuing the Ph.D. in rehabilitation counselor education and personal career objectives, official score on the Graduate Record Exam (GRE) General Test, and three letters of recommendation. A personal interview is required.

Applications are accepted for fall, spring, or summer entry; fall entry is strongly advised. Faculty consideration of applications begins January 15 for fall entry, November 15 for spring entry, and April 1 for summer entry.

**REQUIREMENTS**

The Ph.D. program in rehabilitation counselor education requires a minimum of 90 s.h. of graduate credit, including relevant course work taken for the master's degree. Students take comprehensive examinations and complete a dissertation. Most students complete their course work in three years and take a fourth year to complete the dissertation. Students who have not completed a master's degree in rehabilitation counseling must take appropriate masters-level courses or their equivalents. This combination of master's and doctoral course work ensures exposure to vocational rehabilitation as well as to independent living rehabilitation and community-based counseling processes, concepts, programs, and services.

Each student is required to submit a curriculum plan. The rehabilitation counseling faculty reviews each student annually. To continue in the program, students must meet the department's requirements for maintaining candidacy.

Requirements are as follows.

**Department Core**

07C:255 Advanced Career Development and Counseling (or equivalent)	3 s.h.
07C:353 Advanced Counseling and Psychotherapy	3 s.h.
07C:357 Advanced Group Counseling and Psychotherapy	3 s.h.
07C:400 Seminar: Ethics and Issues in Counseling	3 s.h.

### Program Requirements

Students are expected to have completed core rehabilitation counseling requirements during master's degree work (see "M.A. in Rehabilitation and Mental Health Counseling" above). The advisor and program faculty determine which master's-level courses must be taken to correct deficiencies. Students also must complete the following.

07C:360 Advanced Practicum in Counseling	3 s.h.
07C:369 Advanced Seminar in Rehabilitation Counseling	3 s.h.
07C:380 Practicum in College Teaching	1-3 s.h.
07C:385 Teaching and Learning in Higher Education	3 s.h.
07C:450 Advanced Social Psychology of Disability	3 s.h.
07C:454 Supervision Theory and Practice	3 s.h.
07C:455 Practicum in Clinical Supervision	3 s.h.
07P:217 Seminar in College Teaching	1-3 s.h.

### Statistics and Research Design

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Course selections must be consistent with the following statistics and research design requirements and with the student's dissertation research.

All of these:

07C:338 Essentials of Qualitative Inquiry	3 s.h.
07C:438 Advanced Qualitative Research Seminar in Rehabilitation and Counselor Education	3 s.h.
07C:460 Seminar: Research in Counseling	3 s.h.
07C:461 Practicum in Research	3 s.h.
07P:243 Intermediate Statistical Methods	4 s.h.
07P:246 Design of Experiments	4 s.h.
07X:150 Introduction to Educational Research (taken during first year in program)	3 s.h.
One additional advanced quantitative or qualitative course approved by the advisor	

### MINOR AREA

Students plan a minor area in collaboration with their major advisor and curriculum plan committee. The minor area must be outside the department. Students select a minimum of 9 s.h. of course work in the minor area, in collaboration with their minor advisor and with the approval of their curriculum plan committee.

### COMPREHENSIVE EXAMINATION

The comprehensive examination consists of three exams that total nine hours. They cover the department core (three hours), rehabilitation counseling--theory, practice, and research (three hours), and the minor area (three hours).

### DISSERTATION

The dissertation is a major research study planned in collaboration with the student's major advisor. At least two rehabilitation counseling faculty members serve on the dissertation committee; one of them chairs or co-chairs the committee.

07C:493 Ph.D. Thesis	10-15 s.h.
----------------------	------------

### School Counseling

#### M.A. in School Counseling

The Master of Arts program in school counseling prepares individuals to work effectively as counselors in K-12 school settings. The program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Successful graduates are eligible for K-12 school counselor licensure in Iowa. Students may apply to the National Board for Certified Counselors at the completion of their programs.



School counseling students are strongly encouraged to earn an endorsement in talented and gifted education or a certificate from the Belin-Blank Center for Gifted Education. Most required course work for the endorsement is required by the program.

### ADMISSION

Applicants should have an undergraduate g.p.a. of 3.00 or higher. The department prefers that applicants have one year of teaching experience or successful experiences with children and/or adolescents, which they must document in a written statement. Graduate Record Examination (GRE) General Test scores must be on file at the University.

Applications are accepted for summer entry. Applications should be submitted by March 1 for U.S. applicants, February 1 for international applicants.

### REQUIREMENTS

The M.A. program in school counseling requires a minimum of 54 s.h. of graduate credit. The program emphasizes gifted education. During the first few semesters, students take core cognate courses, including course work on gifted education, and the microcounseling clinical skills laboratory. Then they enter a counseling practicum followed by an internship. Students who enter without teaching licensure are required to take additional course work in education, 07E:100 Foundations of Education, 07U:100 Foundations of Special Education, and 07P:200 Educational Psychology or equivalent) to meet school counselor licensure standards. Students are expected to complete at least 100 clock hours in practicum and 600 clock hours in internship activities in an approved school setting, under the supervision of an experienced licensed school counselor and a University faculty supervisor.

Students must complete program and department core courses as outlined on the Department of Rehabilitation and Counselor Education web site before enrolling in 07C:300 Practicum in School Counseling for the summer session of their last year in the program. All students are required to complete a background check the spring before they enroll in the practicum. Students who are not licensed teachers must complete course work in education before enrolling in the practicum.

Each student's progress is reviewed periodically by the program faculty. Students who have successfully completed all prerequisites for 07C:300 Practicum in School Counseling are reviewed in the semester before they take the practicum course, to assure that they are prepared for it. During the summer, students are evaluated to assure their readiness for the internship 07C:321 Internship in Elementary School Counseling or 07C:322 Internship in Secondary School Counseling, which requires assignment in approved schools for the fall and/or spring semesters.

The following schedule of required courses reflects a three-year program of study. Students who do not have teacher licensure are required to complete at least three additional courses in education before the third year of classes.

07C:137 Introduction to Educating Gifted Students	3 s.h.
07U:140 Characteristics of Disabilities	3 s.h.
07C:200 Professional School Counselor	3 s.h.
07C:202 Introduction to Group Counseling	3 s.h.
07C:203 Career Development	3 s.h.
07C:204 School Culture and Classroom Management for School Counselors	3 s.h.
07B:206 Research Process and Design	3 s.h.
07C:221 Theories of Counseling and Human Development Across the Life Span	3 s.h.
07C:222 Counseling Children and Adolescents in Schools	3 s.h.
07C:223 Counseling Gifted and Talented Students	3 s.h.
07C:230 School Counseling Program Leadership and Management	3 s.h.
07C:250 Multiculturalism in Helping Professions	3 s.h.
07C:254 Assessment and Appraisal	3 s.h.
07C:256 Action Research: School-Based Field Research	3 s.h.
07C:278 Applied Microcounseling	3 s.h.
07C:300 Practicum in School Counseling	3 s.h.
07C:321 Internship in Elementary School Counseling	3 s.h.
07C:322 Internship in Secondary School Counseling	3 s.h.

### COMPREHENSIVE EXAMINATION

All students are required to take comprehensive exams for the departmental core and for school counseling during their final semester of internship. Comprehensive exams include a written six-hour exam in the departmental core and school counseling. An oral exam also is required unless waived by the comprehensive exam committee.

## **Student Affairs**

### **M.A. in Student Development in Postsecondary Education**

The Master of Arts program in student development and postsecondary education is merging with the Department of Educational Policy and Leadership Studies program in higher education and student affairs. Students must fulfill the requirements that were in force when they enrolled in the program, as published in the General Catalog. See archived editions at Catalog Snapshots on the Office of the Registrar web site.

The Master of Arts program in student development and postsecondary education emphasizes theory and practice. It prepares students for a wide variety of entry- and mid-level positions in colleges and universities, including work in admissions and orientation, student activities, career planning, academic planning and support, residence life, and international student programs and advising. M.A. students are required to pass written comprehensive examinations. A thesis is optional.

The program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

#### **ADMISSION**

Applicants who meet the following criteria are given preference for admission: an undergraduate g.p.a. of at least 3.00, significant undergraduate leadership experience, writing ability, and fit with the program.

The admissions committee considers each applicant's entire application portfolio. Personal interviews are encouraged and may be required. All applications must include complete application forms; three letters of reference and/or completed recommendation forms; a written statement of goals, interests, and experiences relevant to graduate study in student development at The University of Iowa; official Graduate Record Exam (GRE) General Test scores; and official transcripts for previous postsecondary course work.

Applications are considered for fall semester and are due by February 1.

Campus visit days, held each March, give admitted M.A. applicants the opportunity to interview for assistantships and meet current students. Prospective students also may arrange campus visits at other times.

#### **REQUIREMENTS**

The M.A. program in student development and postsecondary education requires 48 s.h. of graduate credit. It is designed for two years of full-time study (9-12 s.h. per semester), although some students study part-time toward the degree.

The curriculum is based on theories of student learning and development; good administrative practices; knowledge of higher education contexts; research on college students, student affairs, and higher education; helping skills in multicultural environments; and connections among research, theories, and practice.

#### **Experiential Components**

The program requires a practicum and an internship. This experiential course work provides professional development experiences for the program's students. Practical experiences include developmental work with individual students; program planning, implementation, and evaluation; understanding and advising groups; administration and supervision; exposure to diverse students; use of assessment and evaluation tools; and application of ethical guidelines.

M.A. students must complete at least one eight-hour-per-week practicum in a student services office, usually during the second semester of the first year. An M.A. site supervisor and program faculty members supervise the practicum, which includes a weekly seminar (07C:333 Practicum in Student Services).

After successfully completing the practicum, students are eligible to begin a required internship in an approved student services site. The internship helps students integrate theory and standards into practice and develop a professional identity in the field. Interns must complete 600 clock hours under the supervision of an M.A. supervisor. Most students complete this requirement in half-time graduate assistantships over two semesters during the second year. Regular evaluations are required. Students meet weekly with their classmates and faculty supervisor in 07C:363 Capstone Seminar in Student Services.

In addition to practicums and internships on campus, there are field site opportunities at several nearby colleges. Cornell College, Mount Mercy University, Coe College, and Kirkwood Community College are within a 20-mile drive from Iowa City. Grinnell College, Saint Ambrose University, Muscatine Community College, and Augustana College are within a 60-minute drive.

**Sample Course Schedule**

First year, fall semester:

07B:334 College Student Learning, Cognitive, and Moral Development	3 s.h.
07C:278 Applied Microcounseling	3 s.h.

First year, spring semester:

07C:203 Career Development	3 s.h.
07C:250 Multiculturalism in Helping Professions	3 s.h.
07C:333 Practicum in Student Services	3 s.h.
One elective	3 s.h.

Second year, fall semester:

07B:206 Research Process and Design	3 s.h.
07C:335 Administration of Student Services	3 s.h.
07C:363 Capstone Seminar in Student Services	3 s.h.
Elective or advanced practicum	3 s.h.

Second year, spring semester:

07B:100 Issues and Policies in Higher Education	3 s.h.
07C:363 Capstone Seminar in Student Services	3 s.h.
Elective or advanced practicum	3 s.h.

**Ph.D. in Student Affairs Administration and Research**

In fall 2009, the Ph.D. program student affairs administration and research began to merge with the Department of Educational Policy and Leadership Studies program in higher education and student affairs. Students in the program must fulfill the requirements that were in force when they enrolled in the program, as published in the General Catalog. See archived editions at Catalog Snapshots on the Office of the Registrar web site.

**Admission**

All M.A. and Ph.D. applicants must submit the following:

- a completed graduate application form;
- copies of official transcripts of all previous undergraduate and graduate college work;
- official report of Graduate Record Examination (GRE) General Test verbal and quantitative scores;
- a statement of the applicant's reasons for seeking an advanced degree in the department, including a statement of personal career objectives;
- three current letters of recommendation from persons in a position to assess both the applicant's prospects for completing either the M.A. or Ph.D., and his or her commitment to the profession.

The department may request a personal or telephone interview.

The following admission standards are considered for individual program admission decisions.

M.A. applicants should have an undergraduate g.p.a. of at least 3.00.

Ph.D. applicants should have an undergraduate g.p.a. of at least 3.00, or if they hold a graduate degree, a graduate g.p.a. of at least 3.00.

International applicants must score at least 550 (paper-based), 213 (computer-based), or 80 (Internet-based) on the Test of English as a foreign language (TOEFL). The department may require applicants with lower TOEFL scores to complete University of Iowa course work in English language fluency. TOEFL scores must be submitted with the application for admission.

Typically, doctoral students are not admitted unless they have completed a master's degree in counseling or a related field. Relevant work experiences are important. Students who are accepted without a related master's degree must complete core master's-level course work before taking advanced Ph.D. courses. Required remedial courses and experiences are determined in consultation with the advisor and are included in a student's curriculum plan.

Visit the Department of Rehabilitation and Counselor Education web site for details about admission and program requirements.

**FINAL DECISION, SPECIAL REQUIREMENTS**

The criteria listed above are minimum standards for admission. Final admission decisions are made by faculty committees. Some programs may have special admission requirements due to licensure/certification standards. Special admission requirements are listed with individual program information.

**CONDITIONAL ADMISSION**

Applicants who do not meet the requirements for regular admission may be admitted on conditional status if the faculty determines that they show strengths and promise warranting conditional admission. Applicants admitted on conditional status must satisfy the following requirements in order to achieve regular status.

M.A. students admitted on conditional status must complete at least 12 s.h. of core courses (approved by an advisor) over two consecutive sessions and earn a cumulative g.p.a. of at least 3.00.

Ph.D. students admitted on conditional status must complete at least 12 s.h. of core courses (approved by an advisor) over two consecutive sessions and earn a cumulative g.p.a. of at least 3.00.

**MAINTAINING CANDIDACY**

All graduate students must meet the following standards in order to maintain their candidacy for a degree:

- maintain a g.p.a. of at least 3.00;

- successfully complete a practicum, internship, or equivalent professional experience;

- maintain professional behavior consistent with the American Counseling Association code of ethics and any additional code of professional ethics adhered to in any agency in which the student completes a practicum or internship;

- demonstrate progress toward the degree through successful completion of semester hours specified in the curriculum plan and active registration each session (exceptions may be approved by the advisor).

Each student's academic and professional progress is reviewed annually. A written report is provided to the student and a copy is placed in his or her department file.

**PROBATIONAL STATUS**

M.A. and Ph.D. students who earn a cumulative g.p.a. lower than 3.00 are placed on probational status and are notified in writing. Students on probational status have two consecutive sessions to raise their grade-point average to the established standard. If that requirement is not met, the student may be removed from the program. Each student is allowed one probational status during his or her program of study.

**APPLICATION**

For application materials, visit the Department of Rehabilitation and Counselor Education web site.

Applications must be complete before they can be reviewed. Applicants are responsible for providing a complete application dossier; to check on whether an application dossier is complete, contact the College of Education Office of Teacher Education and Student Services. Application forms are available on the web.

Applicants are notified in writing after their applications have been reviewed. Applicants who are accepted must reply in writing in order to maintain their admission status.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## **Financial Support**

There is a wide variety of graduate assistantships for students in the department. For example, many of the University's student service units award graduate assistantships. Applicants for assistantships should contact the department or the coordinator of the particular graduate program they plan to enter.

Applicants seeking fellowships or assistantships should complete their applications as early as possible.

## **Facilities**

An on-campus counseling suite serves as a laboratory for training. In addition, a wide variety of supervised clinical experiences are available in community agencies, schools, and colleges, as well as throughout the University. Internships may be completed at approved sites nationwide.

## Rehabilitation and Counselor Education Courses

- 07C:030 Belin-Blank Center First-Year Seminar** 1 s.h.  
Presentations and discussions by University resource experts and Belin-Blank Center for Gifted Education staff.  
Requirements: Belin-Blank Center student.
- 07C:081 Making a Vocational-Educational Choice** 2 s.h.  
Vocational decision-making process, self-evaluation, exploration of the world of work; for students who are uncertain about their educational and vocational goals.
- 07C:119 Family Issues in Giftedness** 1 s.h.  
Family dynamics and issues that arise when one or more children are identified as gifted; parent/child, sibling, school/family relationships.
- 07C:120 Psychology of Giftedness** 3 s.h.  
Theories of learning, child development, motivation; issues unique to gifted education. Same as 07P:120.
- 07C:121 Identification of Students for Gifted Programs** 3 s.h.  
Interpretation of standardized tests and other measurement instruments used to identify academic talent and program effectively for grades K-12; ability, aptitude, achievement tests; current issues in the uses of various instruments. Same as 07P:121.
- 07C:123 Gender Issues and Giftedness** 1 s.h.  
Effect of gender on development of giftedness; differential needs of girls, boys; strategies for effective teaching, gender equity.
- 07C:124 Ethnic and Cultural Issues and Giftedness** 1 s.h.  
Effect of ethnicity and culture on development of giftedness; special needs of Black, Hispanic, Native American, and Asian gifted students; strategies for identification, programming.
- 07C:125 Counseling and Psychological Needs of the Gifted** 1 s.h.  
Psychological aspects of giftedness, counseling techniques appropriate for gifted children, adolescents; socio-emotional concerns, career development, underachievement. Same as 07P:125.
- 07C:126 Cognitive and Affective Needs of Underachieving Gifted** 1 s.h.  
Diagnostic strategy for identifying types of underachievement, teaching and counseling interventions appropriate for each. Same as 07P:126.
- 07C:127 Research and Theory in Talent/Giftedness** 1 s.h.  
Biennial research symposium.
- 07C:128 Advanced Leadership Seminar in Gifted Education** 1 s.h.  
Development of administrative policies and programming based on empirical research; for experienced leaders in gifted education.
- 07C:129 Creativity: Issues and Applications in Gifted Education** 1 s.h.  
Theories that underpin contemporary definitions of creativity; instruments developed to measure creativity; activities in the school environment that enhance or inhibit student creativity. Same as 07P:129.
- 07C:130 Human Sexuality** 3 s.h.  
How young adults experience, discuss, and engage in sex; short essays.
- 07C:137 Introduction to Educating Gifted Students** 3 s.h.  
Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as 07U:137.

- 07C:145 Marriage and Family Interaction** 3 s.h.  
Contemporary American marriage, family relationships; mate selection.
- 07C:162 Introduction to Marriage and Family Counseling and Psychotherapy** 3 s.h.  
Evolution of the family therapy movement and issues related to functional and dysfunctional family systems; significant models of family therapy and specific techniques.
- 07C:163 Marriage and Family Counseling and Psychotherapy** 3 s.h.  
Experience working with families as human systems; skills that family therapists use in their work with couples and families.
- 07C:174 Positive Psychology** 3 s.h.  
Promotion of human potential as a focus for counseling professionals that provides a supplement to diagnosis and treatment of pathology; how to achieve happiness, resilience, wellness, and life satisfaction through enhancement of human strengths and virtues.
- 07C:175 Motivational Interviewing** 3 s.h.  
Motivational Interviewing (Miller & Rollnick) and the stages of change model.
- 07C:176 Child Abuse: Assessment, Intervention, and Advocacy** 3 s.h.  
Preparation for work involving abused children or child abuse issues; appropriate for careers in counseling, education, health sciences, law, psychology, social work, and so forth; interactive approach.
- 07C:178 Microcounseling** 1-3 s.h.  
Basic skills of listening, responding, empathy, focus; advanced skills of meaning, confrontation, reframing, directives, action skills.
- 07C:179 Sexuality Within the Helping Profession** 3 s.h.  
Relationship between sexuality and mental health; varied ethical and professional issues in sex therapy.
- 07C:180 Topical Seminar for Helping Professionals** arr.  
Topics for the continuing education of counselors and related professionals.
- 07C:181 ePortfolio Production** 1-2 s.h.  
Experience producing an ePortfolio and uploading it to the Internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser and access to the Internet and to a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as 07E:181, 07P:181, 07X:181.
- 07C:182 Workshop for Helping Professionals** 1-2 s.h.  
One-week workshop; students choose a topic for community practitioners working with or interested in counseling individuals, groups, families, organizations.
- 07C:185 Introduction to Substance Abuse** 3 s.h.  
Theories of addiction and pharmacology of psychoactive drugs; legal, familial, biological, multicultural, historical issues related to substance use and misuse.
- 07C:187 Introduction to Assistive Technology** 3 s.h.  
How assistive technology can be used for attainment of goals in education or work. Same as 07U:187.
- 07C:188 Practicum in Teaching and Curriculum Development in Gifted Education** 1-6 s.h.  
Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as 07U:188.
- 07C:190 Group Processes for Related Professions** 3 s.h.  
Small-group procedures for personal and organizational development in educational settings; discussions of theoretical and ethical issues, multicultural considerations, and research findings supplemented with demonstrations; participation in a personal growth group.

- 07C:192 Group Leadership in Human Sexuality** 0-3 s.h.  
How to teach human sexuality; how to help students achieve an open-minded yet responsible attitude toward their own and others' sexuality. Prerequisites: 07C:130.
- 07C:193 Individual Instruction--Undergraduate** arr.
- 07C:194 Interpersonal Effectiveness** 3 s.h.  
Paradigms and techniques that enhance interpersonal relationship skills.
- 07C:195 Ethics in Human Relations and Counseling** 3 s.h.  
Morality and ethics; ethical issues; models and techniques for effective ethical decision making in personal and professional interactions.
- 07C:197 Citizenship in a Multicultural Society** 3 s.h.  
Human relationships in the context of societal oppressions such as racism, sexism, able-bodyism, and heterosexism.
- 07C:199 Counseling for Related Professions** 3 s.h.  
Counseling theories and techniques; ethical and multicultural considerations; small-group discussions, demonstrations, lectures.
- 07C:200 Professional School Counselor** 3 s.h.  
Professional identity of school counselors, K-12 school counseling program delivery systems, legal and ethical issues. Requirements: admission to school counseling program.
- 07C:202 Introduction to Group Counseling** 3 s.h.  
Research, theory, ethics, planning, and practice in group counseling; leadership styles and multicultural considerations; group participation. Prerequisites: 07C:221. Corequisites: 07C:278. Requirements: rehabilitation and counselor education enrollment.
- 07C:203 Career Development** 3 s.h.  
Preparation for counselors and student affairs professionals; career development concepts and theories, family and work, career counseling goals and objectives, exemplary techniques and materials, career program planning, evaluation procedures. Requirements: rehabilitation and counselor education enrollment.
- 07C:204 School Culture and Classroom Management for School Counselors** 3 s.h.  
American public elementary and secondary schools and the school counselor's role; classroom management for school counselors.
- 07C:210 Rehabilitation Client Assessment** 3 s.h.  
Process and practice of assessing persons with disabilities for rehabilitation plan development and decision making; multicultural and ethical considerations.
- 07C:221 Theories of Counseling and Human Development Across the Life Span** 3 s.h.  
Philosophical bases, ethical considerations, processes, issues, multicultural and life-span developmental considerations in counseling theories and techniques. Requirements: rehabilitation and counselor education M.A. enrollment.
- 07C:222 Counseling Children and Adolescents in Schools** 3 s.h.  
Theory and practice of school-based counseling interventions; child and adolescent development; prevention; special topics. Prerequisites: 07C:221 or 07C:278.
- 07C:223 Counseling Gifted and Talented Students** 3 s.h.  
Learning theories and best practices related to school counseling of gifted and talented students; academic, career, and personal/social development. Prerequisites: 07C:137.
- 07C:226 Assessment of Giftedness** 3 s.h.  
Training and practice in assessment of gifted children. Same as 07P:226.
- 07C:230 School Counseling Program Leadership and Management** 3 s.h.

Comprehensive K-12 school counseling program components and structures; program leadership, planning, accountability; behavioral consultation and collaboration; ethical, multicultural, family considerations. Corequisites: 07C:321 or 07C:322.

**07C:236 Therapy for Persons with Disabilities** 3 s.h.

Preparation for future psychologists and counselors to work with persons with disabilities throughout the lifespan; examination of disability issues within the context of present and past theoretical constructs. Requirements: enrollment in psychological and quantitative foundations or rehabilitation and counselor education. Same as 07P:236.

**07C:237 Seminar in Gifted Education** 2-3 s.h.

Teaching and counseling needs of gifted students K-12; intensive 10-day residential program. Requirements: work as teacher with Belin Fellowship.

**07C:238 Advanced Seminar in Gifted Education** 1 s.h.

Supervisory, administrative, and research issues; fellowships for seminar participants. Prerequisites: 07C:237.

**07C:241 Introduction to Rehabilitation and Mental Health Counseling** 3 s.h.

Historical, philosophical, legislative, societal, and multicultural overview of rehabilitation and mental health process and practice in community-based settings; roles of rehabilitation and mental health professionals, nature of agencies, resources, contemporary issues and ethics.

**07C:247 Medical Aspects of Disability** 3 s.h.

Medical evaluation as part of the rehabilitation process; body systems, medical terminology, medical description of disabilities; functional limitations; projection of potential for rehabilitation and mental health applied to planning and placement.

**07C:248 Diagnosis and Treatment Planning for Psychiatric Rehabilitation** 3 s.h.

Psychiatric conditions, their diagnostic criteria using the DSM-IV-TR, treatment planning considerations; medical and psychiatric rehabilitation models, interrelationship in providing services to persons with psychiatric disabilities; functional assessment and client-driven rehabilitation planning for community reintegration. Requirements: rehabilitation and counselor education enrollment.

**07C:249 Psychiatric Disorders and Interventions** 3 s.h.

Description, classification, and theoretical perspectives related to psychiatric disorders; models of intervention in community-based settings.

**07C:250 Multiculturalism in Helping Professions** 3 s.h.

Theory and application of multicultural competency in the helping professions; ethical treatment of clients in the context of a multiculturally diverse society; knowledge, skill, self-awareness components relevant for helping practitioners. Requirements: rehabilitation and counselor education enrollment.

**07C:254 Assessment and Appraisal** 3 s.h.

Didactic experiences related to individual and group assessment and appraisal; for school professionals.

**07C:255 Advanced Career Development and Counseling** 3 s.h.

Major concepts and research evidence about life-span vocational behavior; theories of vocational choice, adjustment, development in a multicultural world.

**07C:256 Action Research: School-Based Field Research** 3 s.h.

Field-based research experiences in school settings; students conceptualize, design, conduct, and articulate school-based research findings. Prerequisites: 07C:254.

**07C:262 Marriage and Family Counseling and Psychotherapy** 3 s.h.

Introduction to counseling theory, ethics, and techniques as applied to problems of marriage and the family over the life span; multicultural considerations. Requirements: advanced graduate standing. Recommendations: 07C:162.

**07C:263 Consultation Theory and Practice** 2-3 s.h.

Same as 07P:263.

**07C:270 Issues and Ethics in Counseling** 3 s.h.



Ethical standards and decision making; current issues; ethical, legal, and multicultural considerations for counseling in agencies and schools; emphasis on professional practice.

**07C:276 Research in Rehabilitation and Mental Health Counseling** 3 s.h.

Current state of counseling practice and emphasis on accountability as a professional quality; need for counselors to be knowledgeable and skillful in identifying and using "what works" in counseling endeavors; introduction to major principles, concepts, and practices in social science research, including program evaluation; preparing counselors-in-training as future research consumers. Requirements: rehabilitation and mental health counseling major.

**07C:278 Applied Microcounseling** 3 s.h.

Development of basic and advanced counseling skills; preparation for work in education and community settings.

**07C:280 Topical Seminar in RCE** arr.

Special topics dealing with contemporary problems of concern to counselors in specific settings.

**07C:293 Individual Instruction--Graduate** arr.

**07C:300 Practicum in School Counseling** 3 s.h.

Supervised experience counseling and consulting in elementary and secondary school settings. Requirements: completion of school counseling core courses.

**07C:311 Practicum in Counseling and Psychological Services for Gifted Students** 1-6 s.h.

Prerequisites: 07C:178. Requirements: course work in counseling education, counseling psychology, school psychology, educational psychology, or related fields. Same as 07P:311.

**07C:321 Internship in Elementary School Counseling** 3 s.h.

Supervised placement in an elementary school setting; performance of tasks, responsibilities of an elementary school counselor. Prerequisites: 07C:300. Requirements: completion of all required school counseling courses.

**07C:322 Internship in Secondary School Counseling** 3 s.h.

Supervised placement in a secondary school setting; performance of tasks, responsibilities of a secondary school counselor. Prerequisites: 07C:300. Requirements: completion of all required school counseling courses.

**07C:333 Practicum in Student Services** arr.

Supervised experience in college student service agencies. Repeatable.

**07C:335 Administration of Student Services** 3 s.h.

Administrative structures and processes, contexts and principles of effective student services practice, research and assessment in student services. Prerequisites: 07C:330.

**07C:338 Essentials of Qualitative Inquiry** 3 s.h.

Principles, processes of qualitative research in education; methods of design, data collection and analysis, interpretation, trustworthiness. Requirements: Ph.D. enrollment and introductory research course.

**07C:341 Job Development Placement and Follow-up** 3 s.h.

Obtaining appropriate jobs for individuals with disabilities who have received rehabilitation services; client, counselor, employer, job specifications.

**07C:342 Psychosocial and Developmental Aspects** 3 s.h.

Dynamics of adjustment and coping for persons with chronic illness or those with disabilities through the life span; somatopsychological, psychosocial, and developmental perspectives on disability.

**07C:347 Home/School/Community: System Interventions** 3 s.h.

Interventions used by school and support system personnel; focus on work with parents, siblings. Same as 07P:347.

**07C:348 Prepracticum in Rehabilitation and Mental Health Counseling** 3 s.h.

Counseling laboratory to promote knowledge, skills, and awareness of effective and ethical counseling methods, and fundamentals of helping relationships and case management. Prerequisites: 07C:221. Corequisites: 07C:278.

- 07C:349 Practicum in Rehabilitation and Mental Health Counseling** arr.  
Experience in a community agency serving individuals with disabilities and mental health disorders, supervised by a certified rehabilitation counselor in an approved site. Prerequisites: 07C:348.
- 07C:350 Advanced Practicum in Rehabilitation and Mental Health Counseling** 3 s.h.  
Experience to enhance competency in agencies and with persons represented in the student's specialty area. Prerequisites: 07C:349.
- 07C:351 Advanced Practicum in Mental Health and Substance Abuse** 3 s.h.  
Supervised experience counseling clients with substance-related and/or mental health problems; practical application of theory and ethics through individual, group, family, community counseling. Prerequisites: 07C:349.
- 07C:352 Internship in Rehabilitation and Mental Health Counseling** arr.  
Full-time clinical experience in rehabilitation and mental health settings; training in wide range of counseling and mental health activities, under supervision of a qualified M.A. counselor with appropriate credentials. Prerequisites: 07C:350 or 07C:351.
- 07C:353 Advanced Counseling and Psychotherapy** 3 s.h.  
Theories, techniques, and ethics of counseling clients with personal and interpersonal problems; ethical and multicultural considerations.
- 07C:357 Advanced Group Counseling and Psychotherapy** 3 s.h.  
Theories and techniques of group counseling and psychotherapy; integration of theory, experience, and research in group counseling; ethical and multicultural considerations.
- 07C:360 Advanced Practicum in Counseling** arr.  
Supervised practice in counseling; intensive analysis of counselor ethics, styles, methods. Prerequisites: 07C:221. Requirements: Ph.D. enrollment, advanced graduate standing in counselor education, and counseling introductory practicum; and concurrent enrollment in 07C:249 for rehabilitation counselor education student.
- 07C:363 Capstone Seminar in Student Services** 3 s.h.  
Synthesis, integration, and application of prior course work on college students and their environments, student learning and development, student affairs administration, counseling and helping skills; focus on program development and implementation, environmental and needs assessment, program evaluation, student group advising, transition to professional student affairs roles; internship supervision. Repeatable. Prerequisites: 07C:250 and 07C:333. Requirements: advanced M.A. standing in student development in postsecondary education.
- 07C:369 Advanced Seminar in Rehabilitation Counseling** 3 s.h.  
Philosophy, theory, research base, practice of rehabilitation counseling, psychology; ethical and multicultural considerations; relationship to disability studies; psychological aspects of disability, client assessment, history, systems, contemporary issues.
- 07C:380 Practicum in College Teaching** arr.  
Supervised college teaching experience in counselor education courses; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations.
- 07C:385 Teaching and Learning in Higher Education** 3 s.h.  
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as 07B:385, 07P:385, 07S:384, 650:385.
- 07C:393 M.A. Thesis** arr.
- 07C:394 M.A. Equivalency Research** 1-3 s.h.  
Preparation for comprehensive examination.
- 07C:400 Seminar: Ethics and Issues in Counseling** 3 s.h.  
Ethical, professional, and contemporary issues in counseling practice, education, and research. Requirements: rehabilitation and counselor education Ph.D. enrollment.

- 07C:438 Advanced Qualitative Research Seminar in Rehabilitation and Counselor Education** 3 s.h.  
Exploration of qualitative research at advanced theoretical, practical, and technical level, in- and outside a typical classroom environment; scholarly discussions. Prerequisites: 07C:338.
- 07C:450 Advanced Social Psychology of Disability** 3 s.h.  
Disability issues from individual and societal perspectives; psychosocial aspects of disability and disability studies; seminar. Requirements: Ph.D. enrollment.
- 07C:451 Advanced Multiculturalism** 3 s.h.  
Impact of culture, race, ethnicity, and intersections of identity on counseling in higher education and student affairs settings. Prerequisites: 07C:250.
- 07C:454 Supervision Theory and Practice** 3 s.h.  
Conceptual models, ethics, multicultural considerations, research, and program design for counselor supervision and consultation.
- 07C:455 Practicum in Clinical Supervision** arr.  
Supervision of students enrolled in counseling practicum. Prerequisites: 07C:454.
- 07C:456 Seminar: Research in Rehabilitation Counselor Education** 3 s.h.  
Opportunity to acquire skills in varied aspects of research and scholarly work.
- 07C:457 Seminar: Professional Orientation to Counselor Education and Supervision** 3 s.h.  
Professional orientation issues in counselor education and supervision; related documents, bylaws, professional expectations.
- 07C:458 Seminar: Current Issues and Trends in Counselor Education and Supervision** 3 s.h.  
Recent trends, including debates and findings in literature related to best practices for the profession.
- 07C:459 Seminar: Leadership and Advocacy in Counselor Education and Supervision** 3 s.h.  
Leadership principles and theories, including applications to counselor education; student leadership potential and skills explored through self-reflective model.
- 07C:460 Seminar: Research in Counseling** 3 s.h.  
Methods, examples, ethics, multicultural issues, problems of counseling research. Requirements: Ph.D. enrollment.
- 07C:461 Practicum in Research** arr.  
Experience designing and implementing research relevant to student's plan of study, under supervision of rehabilitation and counselor education faculty member. Repeatable.
- 07C:462 Advanced Practicum in Clinical Teaching** 1-3 s.h.  
Preparation for doctoral students to conduct didactic and experiential learning opportunities with counselors in training. Prerequisites: 07C:454.
- 07C:465 Internship in Counselor Education** 1-3 s.h.  
Supervised experience in professional counseling, counselor supervision, consultation, teaching counseling; field placement and seminar.
- 07C:493 Ph.D. Thesis** arr.

## Teaching and Learning

**Chair:** Peter Hlebowitsh

**Professors:** Don D. Coffman, Greg Hamot, Brian Hand, Dennis C. Harper, Jo M. Hendrickson, Peter Hlebowitsh, Steve McGuire, Paul M. Retish, Bonnie Sunstein, Kathryn F. Whitmore

**Professors emeriti:** Jack Bagford, Louise Beltramo, Alan R. Frank, Beatrice A. Furner, Susan Hamre-Nietupski, Alfred Healy, Jerry N. Kuhn, William H. Nibbelink, Kenneth H. Phillips, Edward L. Pizzini, Harold L. Schoen, Richard Shepardson, Douglas M. Trank, Rahima Wade, Robert E. Yager, Marilyn J. Zweng

**Clinical professors:** Vicki Burketta, Ellen Herman

**Associate professors:** Richard T. Cary, Carolyn Colvin, Michael E. Everson, Bruce Fehn, Linda G. Fielding, Geoffrey Hope, John Hosp, Leslie L. Schrier, Walter I. Seaman, Bill Therrien, Rachel Williams

**Associate professors emeriti:** Alice M. Atkinson, George W. Cossman, Richard Elardo, Gary F. Hansen, John Kiraly Jr., Darrell G. Phillips, Jeannette Scahill, Daniel S. Sheldon, John T. Wilson

**Adjunct associate professor:** John Achrazoglou

**Clinical associate professors:** John D. Dunkhase, Nancy Langguth, Pamela Ries, Amy Shultz

**Assistant professors:** Kyong Mi Choi, Mary Cohen, Cos Fi, Cory Forbes, Youjia Hua, Melissa McNaught, Soonhye Park, Lia Plakans, Pamela Wesely, Suzanne Woods-Groves

**Undergraduate degrees:** B.A., B.S. (granted through College of Liberal Arts and Sciences)

**Graduate degrees:** M.A.T., M.A., M.S., Ph.D. in Teaching and Learning

**Web site:** <http://www.education.uiowa.edu/teach>

Department of Teaching and Learning programs prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All licensure programs are approved by the Iowa Department of Education. Undergraduate students pursuing a major in elementary education must meet the College of Liberal Arts and Sciences requirements for the Bachelor of Arts or Bachelor of Science; see the CLAS Academic Handbook.

## Teacher Education Program and Licensure/Certification

Before taking required professional education courses, undergraduate students must be admitted to the Teacher Education Program (TEP). The application for admission should be submitted to the College of Education Office of Teacher Education and Student Services. Deadlines for application are March 15 and October 15 for admission to restricted course work in the following semester. Each program reviews applications and chooses a limited number of students for admission.

In order to be considered for admission, students must have a University of Iowa and cumulative g.p.a. of at least 2.70 at the time of application and must have completed a minimum of 33 s.h. of course work. For some subject areas, applicants must meet additional criteria. A limited number of applicants are accepted into each Teacher Education Program, so a 2.70 g.p.a. does not ensure admission. Admission decisions are based on grade-point average in the major and other criteria relevant to teaching success.

The application process includes submission of an application form, a writing sample, two letters of recommendation, and an Iowa criminal history check request form. Applicants are required to submit PRAXIS I test scores in mathematics, reading, and writing. Scores from either the PRAXIS computer-based tests (CBT) or the PRAXIS Pre-Professional Skills Tests (PPST) are accepted. Applicants must have a composite score of at least 522, with a minimum score of 170 on any single portion of the test. Applicants must also submit verification of completion of a 10-hour volunteer experience in a K-12 classroom setting.

If at any time after admission a student's University of Iowa and/or cumulative g.p.a. falls below 2.70, he or she is placed on probation for one semester. Students who do not attain a 2.70 g.p.a. during the probationary semester are dropped from the TEP. Students should consult a College of Education advisor in their program area, or the Office of Teacher Education and Student Services for more information on admission criteria.

Graduate students who apply to the Graduate College for a teacher licensure program must apply separately for admission to the Teacher Education Program. Deadlines for application to either program are October 15 or March 15 for admission to restricted course work in the following semester. Graduate and postbaccalaureate students may submit Graduate Record Exam (GRE) General Test scores instead of PRAXIS I scores. Applicants must have a verbal and quantitative score of at least 900 and an analytical writing score of at least 3.5.

A limited number of applicants are accepted into each Teacher Education Program, so meeting the Graduate College admission requirements does not ensure admission. Admission decisions are based on grade-point average in the undergraduate major and other criteria relevant to teaching. Upon admission to the TEP, students are assigned an education advisor.

### Admission to Student Teaching

Admission to the student teaching semester requires a separate application. Applications must be submitted one year before the student teaching semester. Applicants' credentials and academic and professional progress are reviewed to ensure that the student is qualified for placement in the profession. Verification that the student meets all specific program area requirements is made when the student applies for student teaching.

Consult a College of Education advisor or the Office of Teacher Education and Student Services for information about admission and requirements for student teaching in specific licensure programs.

## Undergraduate TEP: Elementary Education

The undergraduate elementary education program is designed to prepare students to teach kindergarten through grade 6. In Iowa, the elementary specialization areas are designated as kindergarten through grade 8.

The College of Liberal Arts and Sciences and elementary education requirements total 113-139 s.h. Students who meet or test out of the General Education Program requirements in rhetoric, foreign language, mathematics, and other areas may be able to complete their program requirements with as few as 113 s.h.

A passing Praxis II score on the elementary content test is required for all students seeking elementary licensure in Iowa and for satisfaction of requirements for an approved Teacher Education Program.

### FOUNDATION COURSES

These four courses must be completed before methods courses (Block A/B below) are begun.

07E:090 Orientation to Elementary Education	1-2 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom	2 s.h.
07P:075 Educational Psychology and Measurement	3 s.h.

### METHODS COURSES

#### Block A

Three courses taken concurrently:

07E:123 Reading and Responding to Children's Literature	2 s.h.
07E:160 Methods: Elementary School Language Arts	3 s.h.
07E:164 Methods: Elementary School Reading	3 s.h.

#### Block B

Three courses taken concurrently:

07E:161 Methods: Elementary School Social Studies	3 s.h.
07E:162 Methods: Elementary School Science	3 s.h.
07E:163 Methods: Elementary School Mathematics	3 s.h.

### Methods Practicum

Students complete a semester-length practicum and classroom management.

07E:170 Elementary Classroom Management	2 s.h.
07E:172 Reading Instruction: Teaching Practicum	4 s.h.
or	
07E:174 Elementary Education: Practicum	4 s.h.

### OTHER REQUIREMENTS

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:127 Physical Education and Health for Elementary Teachers	2 s.h.
07U:100 Foundations of Special Education	3 s.h.
07E:120 Methods and Materials: Music for the Classroom Teacher	2-3 s.h.
or	
07E:122 Methods and Materials: Art for the Classroom Teacher	2 s.h.
22M:006 Logic of Arithmetic	3 s.h.

or

22M:012 Theory of Arithmetic

3 s.h.

**AREA OF SPECIALIZATION**

Students must complete a minimum of 24 s.h. in one of the following areas of specialization: art, English language arts, ESL, hearing impaired, mathematics, middle school, music, physical education, reading, science, social sciences (history, social studies), special education (Instructional Strategist I: Mild/Moderate), and speech communication/theatre. Courses in the area of specialization may be taken pass/nonpass if they are offered with the pass/nonpass option.

Requirement lists for each K-8 area of specialization are available from the Department of Teaching and Learning office.

**STUDENT TEACHING**

Students seeking initial licensure must complete a minimum of 14 s.h. of student teaching.

07E:190 Supervised Teaching in the Elementary School: Interactive Phase 7 s.h.

07E:191 Supervised Teaching in the Elementary School: Pre- and Post-Active Phase 7 s.h.

**TRANSFER STUDENTS**

Before they student teach, transfer students must complete the following courses at The University of Iowa.

All of these:

07E:090 Orientation to Elementary Education 1-2 s.h.

07E:102 Technology in the Classroom 2 s.h.

A practicum

Two of these:

07E:123 Reading and Responding to Children's Literature 2-3 s.h.

07E:160 Methods: Elementary School Language Arts 3 s.h.

07E:161 Methods: Elementary School Social Studies 2-3 s.h.

07E:162 Methods: Elementary School Science 2-3 s.h.

07E:163 Methods: Elementary School Mathematics 2-3 s.h.

07E:164 Methods: Elementary School Reading 3 s.h.

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Teacher Education and Student Services to contact all institutions where they have done professional preparatory work.

**ADDING ENDORSEMENTS TO LICENSES**

As an addition to the K-6 Iowa endorsement, students may complete requirements for an Iowa subject area endorsement (see "Area of Specialization," above). This option is not open to students who choose the Strategist I area of specialization.

The University of Iowa also offers an added endorsement in talented and gifted education.

**Undergraduate and Graduate TEP: Secondary Education**

Undergraduate students seeking secondary school licensure/certification are degree candidates in the College of Liberal Arts and Sciences. They must complete the requirements for the Bachelor of Arts, Bachelor of Science, Bachelor of Music, or Bachelor of Fine Arts degrees; see the CLAS Academic Handbook.

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Eligible graduate students also may complete initial teacher licensure/certification requirements by pursuing an M.A.T. in English education, foreign language education, or science education, or an M.A. in social studies (program B).

Licensure/certification requires a major of at least 30 s.h. of course work in a subject area taught in the secondary

school. Course requirements for each major are available from the Department of Teaching and Learning office. Candidates for secondary school teaching licensure/certification also may receive approval to teach in additional subject areas by completing an approved program of 12-24 s.h. or more of course work in those areas.

Secondary school teacher preparation programs are provided in the following areas.

Art  
 \*Coaching  
 English  
 \*English as a second language  
 Foreign languages--Chinese, French, German, Italian, Japanese, Latin, Russian, Spanish  
 \*Hearing impaired  
 \*Journalism  
 Mathematics  
 \*Middle School  
 Music  
 \*Reading  
 Science, including \*physical science, biology, chemistry, \*general science, physics, earth science, and 9-12 all science  
 Social science, including anthropology, economics, geography, history, political science, psychology, and sociology  
 \*All social sciences  
 \*Talented and gifted

\*Available as an additional approval area only; a major in one of the other areas is required for licensure.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Students planning to teach art or music typically complete a program that prepares them for both elementary- and secondary-level licensure.

Secondary teacher preparation programs in mathematics and foreign language also offer a program that leads to licensure/certification as a subject matter specialist in grades K-8. This K-8 licensure/certification is available only in the same subject area as the secondary certification.

For more information and the name of an advisor, contact the Department of Teaching and Learning.

#### REQUIREMENTS

Undergraduates working toward licensure/certification to teach in secondary schools must complete the following requirements, in addition to the requirements of their major. All course work must be completed before student teaching.

One introduction and practicum course in the major field	2-3 s.h.
07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom (must be taken during student's first semester in the college)	2 s.h.
07P:075 Educational Psychology and Measurement	3 s.h.
07S:171 Secondary Classroom Management (required for art, mathematics, science, social studies education)	2 s.h.
07S:190 Orientation to Secondary Education (must be taken during student's first semester in the college)	1 s.h.
07S:195 Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1 s.h.
07U:100 Foundations of Special Education	3 s.h.
One or more methods of teaching courses in the major field	3-9 s.h.
One college-level mathematics course (except 22M:001, 22M:003, and 22M:008)	
Student teaching	12 s.h.

For initial licensure in all subject areas, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special programs provide experience in districts with diverse populations, including Aldine, Texas (Houston area); Adams County, Colorado (Denver area); Rialto, California; and Clark County, Nevada (Las Vegas area). In most program areas, students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Teacher Education and Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline is November 15 for students planning to student teach the following fall semester and February 15 for students planning to student teach the following spring semester.

#### TRANSFER STUDENTS

Transfer students must complete the following work before they student teach.

07E:102 Technology in the Classroom	2-3 s.h.
07S:190 Orientation to Secondary Education	0-1 s.h.
07S:195 Teaching Reading in Secondary Content Areas	1 s.h.
Appropriate methods courses	
A practicum at The University of Iowa	
All course work in the major	

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Teacher Education and Student Services to contact all institutions where they have done professional preparatory work.

## Graduate Programs

The Department of Teaching and Learning offers Master of Arts, Master of Arts in Teaching, Master of Science, Specialist in Education, and Doctor of Philosophy degrees in teaching and learning. Programs are offered in three areas—elementary education, secondary education, and special education.

Elementary education programs include developmental reading (offered in the M.A.) and language, literacy, and culture (offered in the Ph.D.). The elementary education M.A. and Ph.D. programs are closing; enrollment is suspended.

Secondary education programs include art education (offered in the M.A. and Ph.D.); curriculum and supervision (offered in the M.A. and Ph.D.); English education (offered in the M.A. and M.A.T.); foreign and second languages education (offered in the M.A. and M.A.T.); foreign language and English as a Second Language (ESL) education (offered in the Ph.D.); language, literacy, and culture (offered in the Ph.D.); mathematics education (offered in the M.A. and Ph.D.); science education (offered in the M.A., M.A.T., and Ph.D.); and social studies education (offered in the M.A. and Ph.D.).

The secondary education area also collaborates with the College of Liberal Arts and Sciences to offer an education option for graduate students earning an M.S. in mathematics; an M.A. and Ph.D. in music with a concentration in music education; and a joint B.A./M.A.T. in science education for undergraduates majoring in biology, chemistry, or physics. In addition, the area offers an ESL endorsement for individuals who are enrolled in a Department of Teaching and Learning graduate degree program or who are licensed in-service teachers.

The special education area offers a program in special education (offered in the M.A. and Ph.D.) and a program leading to special education consultant authorization.

Each program is described below, with information about program and admission requirements.

Applicants for admission to University of Iowa graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### PH.D. REQUIRED RESEARCH COURSES

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

### PH.D. REQUIRED CORE COURSES

All Ph.D. students in the Department of Teaching and Learning must complete one or both of the following Ph.D. core courses, depending upon program requirements.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.



**PH.D. REQUIRED COGNATES**

All Ph.D. students in the Department of Teaching and Learning must complete one approved cognate area as part of their doctoral study plan. Most comprehensive exams in the department are designed to cover the student's core area plus two cognate areas, so selection of cognate areas is important. Cognates also may enhance students' employment possibilities, since they represent a minor area of study.

The following list of cognates offered by program areas in the department is not exhaustive; students may select cognates from this list, or they may customize their own cognate areas in consultation with their advisors.

**Curriculum Theory and Development**

Both of these:

07E:300 Design and Organization of Curriculum	3 s.h.
07S:186 Curriculum Foundations	2-3 s.h.

One of these:

07B:265 Standards-Based Education and Accountability	3 s.h.
07B:381 Analysis and Appraisal of Curriculum	3 s.h.
07P:255 Construction and Use of Evaluation Instruments	3 s.h.

**Foreign Language and ESL Education**

Both of these:

07S:183 Second Language Classroom Learning	3 s.h.
07S:200 Fundamentals of Second Language Assessment	3 s.h.

One of these, in consultation with faculty:

07S:180 Issues in Foreign Language Education	3 s.h.
07S:184 Reading in a Second Language	3 s.h.
07S:197 Principles of Course Design for Second Language Instruction	3 s.h.
07S:203 Second Language Planning in Education	3 s.h.

**Gifted Education**

Administrative strand—two of these, in consultation with faculty:

07B:110 Administration and Policy in Gifted Education	2 s.h.
07B:111 Evaluation of Gifted Programs	1 s.h.
07B:113 Staff Development for Gifted Programs	1 s.h.

Programming strand:

07E:166 Curriculum Concepts in Gifted Education	3 s.h.
07E:196 Topics in Teaching and Learning (when topic is program models in gifted education)	arr.

Psychology strand—two of these, in consultation with faculty:

07C:120 Psychology of Giftedness	3 s.h.
07C:121 Identification of Students for Gifted Programs	3 s.h.
07C:137 Introduction to Educating Gifted Students	3 s.h.
07C:226 Assessment of Giftedness	3 s.h.
07C:237 Seminar in Gifted Education	2-3 s.h.

**Global Education**

07B:104 Education in the Third World	2-3 s.h.
--------------------------------------	----------

07B:195 Research in Cross-Cultural Settings	3 s.h.
07S:341 Infusing a Global Perspective into the Curriculum	3 s.h.

### Language, Literacy, and Culture

07S:415 Ph.D. Seminar in Language, Literacy, and Culture (when topic is historical and theoretical perspectives) An additional 07S:415 seminar with a topic chosen in consultation with advisor	arr.
--	------

General emphasis—one of these:

07E:308 Seminar: Research and Current Issues An additional 07E:308 seminar with a topic chosen in consultation with advisor	arr.
--	------

Elementary emphasis—one of these:

07E:204 Literature for Children II	3 s.h.
07E:264 Early Literacy Development and Instruction	2-3 s.h.
07E:265 Reading and Writing Across Intermediate Grades	3 s.h.

Secondary emphasis—one of these:

07S:193 Reading and Teaching Adolescent Literature	3 s.h.
07S:315 M.A. Seminar: English Education	arr.

### Mathematics Education

07S:235 Current Issues in Mathematics Education	1-3 s.h.
07S:335 Seminar: Research in Mathematics Education	arr.

Two of these:

07S:230 Workshop in School Mathematics	1-3 s.h.
07S:231 Technology in School Mathematics	2-3 s.h.
07E:234 Foundations of Mathematics Education	2-3 s.h.
07S:236 Teaching of Geometry	2-3 s.h.
07S:239 Teaching of Algebra	2-3 s.h.

### Science Education

07S:255 Practices of Inquiry in Science Learning Environments	3 s.h.
07S:257 Learning in the Science Classroom	2-3 s.h.
07S:259 Advanced Pedagogy	3 s.h.

### Special Education

Special education—generalist:

07U:140 Characteristics of Disabilities	3 s.h.
07U:345 Current Issues and Trends in Learning Disabilities	3 s.h.
07U:348 Contemporary Research in Behavioral Disorders	3 s.h.

Special education—research:

07U:345 Current Issues and Trends in Learning Disabilities	3 s.h.
07U:348 Contemporary Research in Behavioral Disorders	3 s.h.
07U:353 Seminar: Single Subject Design Research	3 s.h.

Special education—behavioral disorders:

07U:140 Characteristics of Disabilities	3 s.h.
07U:150 Behavioral and Social Interventions	3 s.h.
07U:348 Contemporary Research in Behavioral Disorders	3 s.h.

## Special education—learning disabilities:

07U:140 Characteristics of Disabilities	3 s.h.
07U:275 Explicit Instruction	3 s.h.
07U:345 Current Issues and Trends in Learning Disabilities	3 s.h.

**Elementary Education**

Elementary education programs are offered in developmental reading and in language, literacy, and culture.

**M.A. in Developmental Reading**

The Master of Arts program in developmental reading prepares graduate students for positions as reading specialists in kindergarten and grades 1-12. The required course work develops the skills, knowledge, and competence needed for supervisory, curricular, and remedial teaching positions in reading. The program also builds a background in reading for students who want to specialize further in the area and eventually to teach and/or conduct research at a college or university.

Successful completion of this program, combined with one year of successful teaching experience that includes teaching reading as a significant part of the responsibility, qualifies the student for certification as a reading specialist.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00; hold an early childhood, elementary, or secondary school teaching certificate; and show evidence of completing two years of successful teaching experience.

**REQUIREMENTS**

The M.A. program in developmental reading with thesis requires a minimum of 33 s.h. of graduate credit; the M.A. without thesis requires a minimum of 35 s.h. Students must complete the following courses.

07E:171 Reading and Writing: Processes and Instruction	3 s.h.
07E:264 Early Literacy Development and Instruction	2-3 s.h.
07E:265 Reading and Writing Across Intermediate Grades	3 s.h.
07E:271 Advanced Reading Clinic Techniques	2-3 s.h.
07E:272 Advanced Reading Clinic Practicum	2-3 s.h.
07E:308 Seminar: Research and Current Issues (Reading)	3 s.h.
07S:194 Methods: Secondary Reading	2-3 s.h.

One of these:

07P:106 Child Development	3 s.h.
07P:133 The Adolescent and Young Adult	3 s.h.
07P:200 Educational Psychology	3 s.h.

One of these:

07P:150 Introduction to Educational Measurement	3 s.h.
07U:138 Assessment of Learning Problems	3 s.h.

An approved literacy assessment course

One of these:

07E:267 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms	3 s.h.
07E:300 Design and Organization of Curriculum	3 s.h.
07S:186 Curriculum Foundations	2-3 s.h.

One of these:

07B:383 Supervision and Evaluation	3 s.h.
07E:365 Reading Clinic: Supervision	arr.

Thesis (required for thesis option):

07S:393 Master's Thesis	arr.
-------------------------	------

**Electives**

Students, in consultation with their advisor, may select the remaining required semester hours as electives from areas such as curriculum, supervision, language arts, testing and evaluation, linguistics, or speech pathology.

**COMPREHENSIVE EXAMINATION**

The comprehensive examination consists of two 3-hour exams. Each three-hour exam is based on an aspect of reading or literacy. With agreement of the student's advisor and committee, a comprehensive project may be substituted for the written examination in one or both areas.

**Ph.D. in Language, Literacy, and Culture**

The Doctor of Philosophy program in language, literacy, and culture brings together scholarly traditions and contemporary theory in literacy and cultural studies. Course work provides both a broad background in relevant theoretic and research literature and opportunities to conduct original studies that explore the nature of literacy practices both in and out of school. Graduates find employment in university and college teaching, research, curriculum development, and administration of literacy programs.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should have at least three years of experience teaching or tutoring language or literacy (reading, writing, English, language arts) and should have earned a master's degree in a literacy-related field. Application materials should include a statement of purpose explaining the applicant's reasons for pursuing graduate study and describing his or her future goals; transcripts of all undergraduate and graduate course work; Graduate Record Exam (GRE) General Test scores; a sample of academic writing; and three letters of recommendation.

Applications for admission and for financial aid are reviewed by December 1 each year.

**REQUIREMENTS**

The Ph.D. program in language, literacy, and culture requires a minimum of 88-90 s.h. of graduate credit. Course work includes an introductory seminar in language, literacy, and culture; at least 9 s.h. of additional doctoral seminars in the program; an approved cognate area (see "Required Ph.D. Cognates" above); and 9-12 s.h. of graduate course work outside the Department of Teaching and Learning (6 s.h. of that outside the College of Education). Students also earn 10-12 s.h. of dissertation credit.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

In addition, all language, literature, and culture students must complete one of the following Department of Teaching and Learning core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

**COMPREHENSIVE EXAMINATION AND DISSERTATION**

As students near the completion of their course work, they identify several key strands for review and synthesis. With guidance from their advisors, students prepare three forms of written and oral exams: they answer take home questions in two areas of literacy; they submit a substantive issues paper, typically a report of an exploratory study or a review of research literature on a topic of special interest; and they design a syllabus for a literacy course and write a reflective commentary that demonstrates understanding of the relationship between theory and practice.

Following successful completion of all components of the comprehensive exam, students work with a faculty member to develop a proposal for a study that will make an original contribution to the understanding of some aspect of literacy. After the proposal has been approved, students conduct research and report their findings under the primary guidance of a dissertation chair.

For detailed information on the Ph.D. in language, literacy, and culture, see Our Programs on the Department of Teaching and Learning web site.

**M.A. in Elementary Education**

The Master of Arts program in elementary education is closing. Enrollment in the program is suspended.

**Ph.D. in Elementary Education**

The Doctor of Philosophy program in elementary education is closing. Enrollment in the program is suspended.

**Secondary Education**

The Department of Teaching and Learning offers, or jointly administers with departments in the College of Liberal Arts and Sciences, advanced degree programs in the following fields of professional interest: art education; curriculum and supervision; English education; foreign language, second language, and English as a Second Language education; mathematics education; music education; science education; and social studies education.

**M.A. in Art Education**

The Master of Arts program in art education is administered by the School of Art and Art History (College of Liberal Arts and Sciences) in cooperation with the College of Education. Application should be made to the School of Art and Art History.

The program prepares highly qualified teachers of art for elementary and secondary schools and community colleges. The program's strong academic emphasis helps teachers who are creative artists to become highly literate in the history and language of art.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have completed the equivalent of the minimum course work in art required for a University of Iowa B.A. or B.F.A. in art and must have a license/certificate to teach art. Applications must include a representative portfolio of the applicant's work, consisting of eight slide reproductions of artwork and one example of written work, which may be a paper previously written for a course or an original paper. Deficiencies in undergraduate art or courses recommended for teacher licensure/certification are evaluated following admission so that students can make up required course work concurrent with work for the degree.

**REQUIREMENTS**

The M.A. program in art education requires a minimum of 38 s.h. of graduate credit. The plan of study includes a total of 18 s.h. in studio art and art history (either 12 s.h. of studio art and 6 s.h. of art history, or 12 s.h. of art history and 6 s.h. of studio art); a total of 8 s.h. in 07S:367 Seminar: Current Issues in Art Education; and a total of 12 s.h. in additional course work, specified after the student begins the program.

M.A. students also must complete a studio thesis or a written thesis.

**Ph.D. in Art Education**

The Doctor of Philosophy program in art education is administered by the College of Education with the cooperation of the School of Art and Art History (College of Liberal Arts and Sciences). Application should be made to the College of Education.

The program prepares college teachers and researchers in art education and supervisors of community-based art learning programs in state departments of education and school systems. It also provides students with an opportunity to continue inquiry and creative work in art history and in studio.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have an M.A. in art education or an M.F.A. from The University of Iowa, or an equivalent degree from an accredited degree-granting college or university. Applications must include a representative portfolio of the applicant's work, consisting of 12 slide reproductions of artwork and two examples of written work, which may consist of papers previously written for a course or original papers. The portfolio should be submitted to the art education office in the School of Art and Art History.

In the case of course work deficiencies, students must register for appropriate remedial courses. Two years of successful teaching experience in an elementary or secondary school is required before admission to or completion of the doctoral program.

**REQUIREMENTS**

The Ph.D. program in art education requires at least 60 s.h. of graduate credit beyond the M.A., including at least 15

s.h. in the School of Art and Art History, 15 s.h. in art education seminars, 15 s.h. in a related area (e.g., aesthetics, anthropology, higher education, early childhood education, psychology, sociology), an approved cognate area (see "Ph.D. Required Cognates" above), and 15 s.h. in thesis and tool courses. Students plan the course of study with their advisors.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

In addition, all Ph.D. students in the Department of Teaching and Learning must complete one or both of the following Ph.D. core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

### **COMPREHENSIVE EXAMINATION**

The comprehensive examination includes both oral and written exams. The written exam consists of an in-depth research problem assigned by the examining committee, to be completed within 14 days. An oral exam on the project is then held. The written portion of the exam is not intended to relate directly to the dissertation proposal.

### **DISSERTATION**

Students must satisfactorily complete a written dissertation that constitutes a contribution to scholarship, for at least 12 s.h. The student is expected to prepare a dissertation proposal and defend it before the dissertation committee. An oral examination on the dissertation is the Ph.D. final examination.

### **M.A. in Curriculum and Supervision**

The Master of Arts program in curriculum and supervision prepares teachers and administrators for positions as consultants, directors, and coordinators in curriculum development. It is offered with thesis and nonthesis options.

### **ADMISSION**

Students must meet the admission requirements of the Graduate College. Teaching experience is desirable.

### **REQUIREMENTS**

The M.A. program in curriculum and supervision with thesis requires a minimum of 30 s.h. of graduate credit; the nonthesis option requires a minimum of 32 s.h.

#### **Common Curriculum Core**

Total of 15 s.h., as follows:

07S:186 Curriculum Foundations	3 s.h.
07E:300 Design and Organization of Curriculum	3 s.h.

Three of these:

07B:222 Introduction to Policy Analysis and Evaluation	3 s.h.
07B:381 Analysis and Appraisal of Curriculum	3 s.h.
07E:267 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms	3 s.h.
07P:203 Learning, Technology, and Effective Teaching	3 s.h.
07P:205 Design of Instruction	3 s.h.
07P:255 Construction and Use of Evaluation Instruments	3 s.h.
07S:132 Middle School Curriculum and Methods	3 s.h.

#### **Research Core**

Students select two courses (total of 6 s.h.) in consultation with the advisor.

**Supervision Core**

Students select two courses (total of 6 s.h.) in consultation with the educational policy and leadership studies advisor.

**Cognates**

Students complete a total of 6 s.h. in a subject field such as social studies education or educational measurement.

**Thesis**

Students who elect a thesis program earn 2-4 s.h. in 07S:393 Master's Thesis.

**COMPREHENSIVE EXAMINATION**

Two 3-hour comprehensive exams are required: one in curriculum and one in a related field in education or in a cognate field; or three 2-hour examinations.

**Ph.D. in Curriculum and Supervision**

The Doctor of Philosophy program in curriculum and supervision is administered by the College of Education. It prepares students for leadership positions in curriculum for elementary, middle, and secondary schools, state departments, intermediate systems, and college teaching.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must hold a valid teaching license/certificate, and have at least two years of teaching experience. A faculty review committee makes admission decisions.

**REQUIREMENTS**

The Ph.D. program in curriculum and supervision requires a total of at least 90 s.h. of graduate credit, including other approved graduate course work.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

ED students in curriculum and supervision must complete one or both of the Department of Teaching and Learning Ph.D. core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

All curriculum and supervision doctoral students are required to complete at least 9-12 s.h. of cognate work selected in consultation with their advisors. Suggested cognates include foreign language and ESL education, gifted education, global education, language literacy and culture, mathematics education, science education, and special education (see "Ph.D. Required Cognates" above).

Additional requirements for the Ph.D. in curriculum and supervision are as follows.

**Common Curriculum Core**

Seven of these (21 s.h.):

07B:222 Introduction to Policy Analysis and Evaluation	3 s.h.
07B:381 Analysis and Appraisal of Curriculum	3 s.h.
07E:267 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms	3 s.h.
07E:300 Design and Organization of Curriculum	3 s.h.
07P:205 Design of Instruction	3 s.h.
07P:255 Construction and Use of Evaluation Instruments	3 s.h.

07P:257 Educational Measurement and Evaluation	3 s.h.
07S:132 Middle School Curriculum and Methods	3 s.h.
07S:186 Curriculum Foundations	2-3 s.h.

**Supervision Core**

A minimum of four courses in educational policy and leadership studies, selected in consultation with advisor 12 s.h.

**Electives**

Elective courses chosen in consultation with the advisor 9-12 s.h.

**COMPREHENSIVE EXAMINATION**

Candidates take three 3-hour comprehensive exams, one in secondary school curriculum and two in related fields in education or in a cognate field.

**DISSERTATION**

Ph.D. students earn 10-18 s.h. of dissertation credit in 07S:493 Ph.D. Thesis.

**M.A. in English Education**

The Master of Arts program in English education is intended for experienced teachers of English. It provides opportunities for professional development and preparation for department chairs, supervisors of English, and curriculum specialists for secondary schools. Application should be made to the College of Education.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should have taken extensive course work in English and should have taught English for at least two years.

**REQUIREMENTS**

The M.A. program in English education requires a minimum of 30 s.h. of graduate credit. Students specialize in English education and in one or two other areas. The other area(s) may include reading, writing, curriculum, adolescent literature, or a literary area. Students and their advisors plan the program of study together. The only required course is 07S:315 M.A. Seminar: English Education. At the end of the program, students take a comprehensive examination in English education and in their chosen area(s).

Students must maintain a g.p.a. of at least 3.00 while enrolled in the program.

**M.A.T. in English Education**

The Master of Arts in Teaching program in English education is designed for students who have an undergraduate degree in English and few or no professional education courses. Successful completion of the program enables students to receive a credential to teach English in secondary schools.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have a B.A. in English or the equivalent, with an undergraduate g.p.a. of at least 3.00. They also must take the Graduate Record Exam and meet all TEP application requirements. Since the M.A.T. is a credentialing program, candidates must not have qualified previously for a credential. Applicants are expected to have no more than 6 s.h. of course work in professional education courses prior to admission.

**REQUIREMENTS**

The M.A.T. program in English education requires a minimum of 45 s.h. of graduate credit, including the following courses.

**English**



07S:315/08P:405 M.A. Seminar: English Education	arr.
08N:141 Approaches to Teaching Writing	3 s.h.
08P:182 Language and Learning	2-3 s.h.
08P:198 Reading and Teaching Adolescent Literature	3 s.h.

Students may take the following English courses as part of the M.A.T. program or as part of their undergraduate program.

A course in Shakespeare  
 Three courses in American literature  
 A course in British literature  
 A course in nonfiction or creative writing (in addition to 08N:141)

#### **Education**

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom (must be taken during student's first semester in the college)	2 s.h.
07P:200 Educational Psychology	3 s.h.
07S:114 Introduction and Practicum: Secondary English (must be completed before enrollment in 07S:115 and 07S:194)	3 s.h.
07S:115 Methods: Secondary English	3 s.h.
07S:187 Seminar: Curriculum and Student Teaching	1-3 s.h.
07S:190 Orientation to Secondary Education	1 s.h.
07S:191 Observation and Laboratory Practice in the Secondary School	arr.
07S:192 Observation and Laboratory Practice in the Secondary School	arr.
07S:194 Methods: Secondary Reading	2-3 s.h.
07U:100 Foundations of Special Education	3 s.h.

#### **COMPREHENSIVE EXAMINATION**

The comprehensive examination involves a series of reflective projects supervised by English education faculty. The projects encompass issues explored throughout the course of study and involve integration of theory and practice.

#### **M.A.T. in Foreign Language Education**

The Master of Arts in Teaching program in foreign language education is designed for superior liberal arts and sciences graduates who have had few or no professional education courses. Successful completion of the program leads to elementary and/or secondary teacher licensure. The M.A.T. is available in Chinese, French, German, Japanese, Latin, Spanish, and Russian.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree with a major or a strong concentration in a second language and an undergraduate g.p.a. of at least 3.00. They also must meet all TEP application requirements.

#### **REQUIREMENTS**

The M.A.T. program in foreign language education requires a minimum of 67 s.h. of graduate credit. Students must complete at least 18 s.h. in graduate course work in the collaborating foreign language department and the following professional education courses.

#### **Professional Education**

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom (must be taken during student's first semester in the college)	2 s.h.
07P:200 Educational Psychology	3 s.h.
07S:190 Orientation to Secondary Education (must be taken during student's first semester in the college)	1 s.h.
07S:195 Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1 s.h.

07U:100 Foundations of Special Education

3 s.h.

**Foreign Language Teaching**

All of these:

07S:183 Second Language Classroom Learning

3 s.h.

07S:197 Principles of Course Design for Second Language Instruction

3 s.h.

07S:200 Fundamentals of Second Language Assessment

3 s.h.

Total of 21-27 s.h. from these:

07S:106 Foreign Language Education Practicum I

3 s.h.

07S:107 Foreign Language Education Practicum II

3 s.h.

07S:116 Learning to Teach Second Languages I

3 s.h.

07S:117 Learning to Teach Second Languages II

3 s.h.

07S:187 Seminar: Curriculum and Student Teaching

1 s.h.

07S:191 Observation and Laboratory Practice in the Secondary School

arr.

07S:192 Observation and Laboratory Practice in the Secondary School

arr.

**Optional for K-12 Licensure**

07S:189 Elementary School Special Subject Area Student Teaching

1-4 s.h.

**COMPREHENSIVE EXAMINATION**

A comprehensive examination is required. The examination reflects candidate's depth and breadth of knowledge in foreign language education, including but not limited to theory and practice as well as knowledge of and proficiency in the target language and/or literature of the candidate's choice. The candidate and his or her advisor discuss the exam's content and format eight months before the exam.

**ESL ENDORSEMENT**

An ESL endorsement enables an individual to teach English as a Second Language in K-12 in the state of Iowa. Because teaching endorsements are additional areas of expertise added to a teaching license, applicants must be current students in a TEP program or licensed in-service teachers.

**ADMISSION**

Applicants are admitted to the ESL endorsement program twice a year; application deadlines are October 15 and March 15. Each applicant must submit a one-page essay explaining why he or she wishes to teach ESL; a transcript of all university-level course work; and evidence of having completed two semesters of foreign language beyond the language component of the College of Liberal Arts and Sciences General Education Program or a documented score of "advanced plus" on the oral proficiency interview (OPI) given in the language department. Applicants whose first language is not English must provide evidence of scoring 55 or higher on the Test of Spoken English (TSL) or 26 (Internet-based) on the speaking section of the Test of English as a Foreign Language (TOEFL).

**M.A. in Foreign Language Education**

The Master of Arts program in foreign language education is designed for students who would like to pursue a foreign language education specialization in teaching (kindergarten through college) or in related fields (e.g., language laboratory directors, instructional materials designers, or evaluation specialists). It also offers enrichment in foreign language pedagogical knowledge for practicing teachers. Students may design programs with a special focus.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must be proficient in English and in another language and have earned at least 20 s.h. in undergraduate, upper-division foreign language course work. Applicants should submit a statement of purpose explaining their graduate study goals. A g.p.a. of at least 3.00 in undergraduate course work and some experience living, working, and/or studying in the applicant's chosen target language culture are preferred. International applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL) with a speaking score of 26 and a writing score of 25.

**REQUIREMENTS**

The M.A. program in foreign language education requires a minimum of 33-36 s.h. of graduate credit. It offers three specializations: second languages education, a target language area (may subsume language, linguistics, literature, history, geography, or civilization), and a cognate area. The cognate area may be teacher education, reading, instructional design, measurement and statistics, or another area selected in consultation with the advisor.

Students take at least 15 s.h. in second language education course work, 9 s.h. in graduate language or linguistics, and 9 s.h. in the cognate area. Students must earn 9 s.h. in courses numbered 200 or above. They also must complete a capstone project in consultation with the advisor.

Students must maintain a g.p.a. of at least 3.00 while enrolled in the program. Candidacy for the master's degree is reevaluated annually.

Suggested courses are as follows.

**Foreign and Second Languages Education**

Total of 15 s.h.

07S:183 Second Language Classroom Learning	3 s.h.
07S:197 Principles of Course Design for Second Language Instruction	3 s.h.
07S:200 Fundamentals of Second Language Assessment	3 s.h.

At least 6 s.h. from these:

07S:180 Issues in Foreign Language Education	3 s.h.
07S:184 Reading in a Second Language	3 s.h.
07S:202 Second Language Program Management	3 s.h.
07S:203 Second Language Planning in Education	3 s.h.
07S:207 Reading in Non-Roman Scripts	3 s.h.
07S:208 Designing Materials for Second Language Instruction	3 s.h.
07S:209 Cultural Curriculum	3 s.h.

**Target Language**

In consultation with the advisor, students select at least 9 s.h. of graduate language courses in their area of interest.

**Cognate Area**

Students complete at least 9 s.h. of course work chosen in consultation with the advisor.

**MASTER'S EXAMINATION**

Students take a written exam during the semester in which they plan to graduate. The exam covers second language education and the two study areas selected by the student. It is written by the graduate committee, which consists of at least three faculty members, two of whom must be from foreign language education. The candidate and his or her advisor discuss and formalize the exam's content and process eight months before the exam.

**Ph.D. in Foreign Language and ESL Education**

The Doctor of Philosophy program in foreign language and ESL education provides students with the necessary content-area knowledge and research skills for independent research, program administration, and varied leadership positions in foreign language and ESL education. It is designed for individuals who have demonstrated success in foreign language and ESL teaching and who wish to prepare for positions in academia, government, or the private sector where in-depth knowledge of foreign language educational issues is required.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should have at least two years of experience teaching foreign language or ESL and should hold a master's degree or have completed a significant amount of graduate course work in a foreign language or foreign language education. Applicants must have a g.p.a. of at least 3.00 in graduate course work. International applicants whose first language is not English must score at least

600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL) with a speaking score of 26 and a writing score of 25.

Application materials should include a statement of purpose explaining the applicant's professional goals, transcripts of all undergraduate and graduate work, Graduate Record Exam (GRE) General Test scores, a sample of academic writing, and three letters of recommendation.

## REQUIREMENTS

The Ph.D. program in foreign language and ESL education requires a minimum of 80 s.h. of graduate credit, which may include courses taken for the master's degree. Most course work should be taken at the 200 level or above. At least 30 s.h. must be taken in the core area of foreign language education. The student and his or her advisor discuss core area course work and cognate area specializations. The student's progress toward the degree and his or her scholarship development is reviewed by the program's faculty and discussed by the student and his or her advisor each year.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

All Ph.D. students in the foreign language and ESL education must complete both of the following Ph.D. core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

In addition, all doctoral students in the Department of Teaching and Learning must complete an approved cognate area; see "Ph.D. Required Cognates" above.

Additional requirements for the Ph.D. in foreign language and ESL education are as follows.

## Foreign Language Education Core

All students must complete these (21 s.h.):

07S:183 Second Language Classroom Learning	3 s.h.
07S:184 Reading in a Second Language	3 s.h.
07S:197 Principles of Course Design for Second Language Instruction	3 s.h.
07S:200 Fundamentals of Second Language Assessment	3 s.h.
07S:203 Second Language Planning in Education	3 s.h.
07S:209 Cultural Curriculum	3 s.h.
07S:306 Proposal Writing for Second Language Research	3 s.h.

## Core Electives

Students may take the following courses in addition to, but not instead of, the courses listed under "Foreign Language Education Core" above. Students must have their advisor's consent to substitute other courses as electives.

07S:180 Issues in Foreign Language Education	3 s.h.
07S:202 Second Language Program Management	3 s.h.
07S:207 Reading in Non-Roman Scripts	3 s.h.
07S:208 Designing Materials for Second Language Instruction	3 s.h.
164:211 Multimedia and Second Language Acquisition	3 s.h.

## COMPREHENSIVE EXAMINATION

In order to qualify to take the comprehensive examination, students must successfully complete the required course work and an extended research activity. After successful completion of the required course work and the research activity, and upon recommendation of the program's faculty, the student is eligible to sit for the comprehensive examination. Completion of the required course work and research activities does not guarantee advancement to the examination.

After passing the comprehensive examination, students consult with their advisor to choose a Ph.D. dissertation committee of at least five faculty members, who approve the dissertation proposal. The student then conducts

research under the primary guidance of the advisor.

### **Ph.D. in Language, Literacy, and Culture**

The Doctor of Philosophy program in language, literacy, and culture brings together scholarly traditions and contemporary theory in literacy and cultural studies. Course work provides a broad background in relevant theoretic and research literature and opportunities to conduct original studies that explore the nature of literacy practices both in and out of school. Graduates find employment in university and college teaching, research, curriculum development, and administration of literacy programs.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should have at least three years of experience teaching or tutoring language or literacy (reading, writing, English, language arts) and should have earned a master's degree in a literacy-related field. Application materials should include a statement of purpose explaining the applicant's reasons for pursuing graduate study and describing his or her future goals; transcripts of all undergraduate and graduate course work; Graduate Record Exam (GRE) General Test scores; a sample of academic writing; and three letters of recommendation.

Applications for admission and for financial aid are reviewed by December 1 each year.

#### **REQUIREMENTS**

The Ph.D. program in language, literacy, and culture requires a minimum of 88-90 s.h. of graduate credit. Course work includes an introductory seminar in language, literacy, and culture; at least 9 s.h. of additional doctoral seminars in the program; approved cognate areas (see "Ph.D. Required Cognates" above); and 9-12 s.h. of graduate course work outside the Department of Teaching and Learning (6 s.h. of that outside the College of Education). Students also earn 10-12 s.h. of dissertation credit.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

In addition, all language, literacy, and culture students must complete one of the following Department of Teaching and Learning core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

#### **COMPREHENSIVE EXAMINATION AND DISSERTATION**

As students near the completion of their course work, they identify several key strands for review and synthesis. With guidance from their advisors, students prepare for three forms of written and oral exams: they answer take-home questions in two areas of literacy; they submit a substantive issues paper, typically a report of an exploratory study or a review of research literature on a topic of special interest; and they design a syllabus for a literacy course and write a reflective commentary that demonstrates understanding of the relationship between theory and practice.

Following successful completion of all components of the comprehensive exam, students work with a faculty member to develop a proposal for a study that will make an original contribution to the understanding of some aspect of literacy. After the proposal has been approved, students conduct research and report their findings under the primary guidance of a dissertation chair.

For detailed information on the Ph.D. program in language, literacy, and culture, see Program Information on the Department of Teaching and Learning web site.

### **M.A. in Mathematics Education**

The Master of Arts program in mathematics education provides students with advanced specialization in mathematics and education as a better foundation for K-12 teaching.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. Except in unusual cases, they should hold a professional license/certificate to teach school mathematics. A combined score of 1000 on the verbal and quantitative sections of the Graduate Record Examination (GRE) General Test is preferred.

**REQUIREMENTS**

The M.A. program in mathematics education requires a minimum of 32 s.h. of graduate credit. Students take a minimum of 9 s.h. of course work in mathematics approved by the advisor. They also take a minimum of four courses in mathematics education, which must include 07S:235 Current Issues in Mathematics Education and three courses chosen in consultation with the advisor.

Students choose a cognate area, usually enrolling in three or more courses in the area. Suggested areas include educational psychology, educational statistics and measurement, history or philosophy of education, pure or applied mathematics, instructional design and technology, counselor education, curriculum, administration, and special education. Courses are chosen in consultation with a faculty member from the cognate area.

Students also complete a sufficient number of electives in mathematics and education, chosen with the approval of the advisor, to complete 32 s.h. of credit.

**COMPREHENSIVE EXAMINATION**

Students take three 2-hour comprehensive exams: one in mathematics education, the second in mathematics, and the third in the cognate area.

**M.S. in Mathematics with Education Option**

The Master of Science in mathematics with education option prepares licensed/certified teachers with advanced specialization in mathematics and mathematics education. It is administered by the Department of Mathematics (College of Liberal Arts and Sciences). Application should be made to the Department of Mathematics.

**REQUIREMENTS**

The M.S. in mathematics with education option requires a minimum of 32 s.h. of graduate credit. Students must earn a minimum of 24 s.h. in the Department of Mathematics, including the core master's program for either pure mathematics or applied mathematics as described below. They also must complete two courses in mathematics education.

**Pure Mathematics**

One of these sequences:

22M:115-22M:116 Introduction to Analysis I-II	6 s.h.
22M:210-22M:211 Analysis I-II	6 s.h.

One of these sequences:

22M:120-22M:121 Abstract Algebra I-II	6 s.h.
22M:205-22M:206 Introduction to Algebra I-II	6 s.h.

22M:132 General Topology	3 s.h.
--------------------------	--------

**Applied Mathematics**

22M:140 Continuous Mathematical Models	3 s.h.
22M:142 Nonlinear Dynamics with Numerical Methods	3 s.h.
22M:144 Partial Differential Equations with Numerical Methods	3 s.h.
22M:151 Discrete Mathematical Models	3 s.h.
22M:170 Numerical Analysis: Nonlinear Equations and Approximation Theory	3 s.h.
22M:171 Numerical Analysis: Differential Equations and Linear Algebra	3 s.h.
22M:174 Optimization Techniques	3 s.h.

**COMPREHENSIVE EXAMINATION**

Students take a comprehensive examination of six hours over the required courses in either pure mathematics or applied mathematics, and education. The examination assesses the candidate's knowledge of mathematics and of the relevance of specific concepts in teaching secondary school mathematics.

**Ph.D. in Mathematics Education**

The Doctor of Philosophy program in mathematics education prepares supervisors, teacher education personnel,

community college personnel, and researchers in mathematics education. It is administered by the College of Education.

### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate major in mathematics or the equivalent; a current teaching license/certificate and at least two years of teaching experience are strongly preferred. A faculty review committee makes admission decisions.

### **REQUIREMENTS**

The Ph.D. program in mathematics education requires a minimum of 80-90 s.h. of graduate credit. Credit earned more than 10 years before admission to the program must be updated.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

All doctoral students in mathematics education must complete one of the following Ph.D. core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

In addition, all doctoral students in the Department of Teaching and Learning must complete an approved cognate area; see "Additional Requirements" below.

Ph.D. students in mathematics education must complete a minimum of 24 s.h. of graduate work in the Departments of Computer Science, Mathematics, and Statistics and Actuarial Science, as approved by the advisor. Electives are encouraged in the pure mathematics and applied mathematics sequences.

Students who completed their mathematics requirement at another institution must complete at least 6 s.h. of additional course work in mathematics at The University of Iowa, chosen with the advisor's approval.

Students also must complete at least six courses in mathematics education, including 07S:235 Current Issues in Mathematics Education and 07S:335 Seminar: Research in Mathematics Education.

### **ADDITIONAL REQUIREMENTS**

Students concentrate in two additional comprehensive examination areas in either the mathematical sciences or education. A minimum of three courses usually are required for a comprehensive examination area, but candidates should consult with faculty members in the areas selected to determine which courses they should take in order to adequately prepare for the examinations.

Students must complete a total of at least 36 s.h. in College of Education courses; this include the course work listed above. All Ph.D. students must complete an approved cognate area; a partial list of potential cognate areas is available from the M.A. program in mathematics education.

Upon completing the program, the student must have a cumulative g.p.a. of 3.00 or higher on all graduate work in mathematics, all University of Iowa graduate work in mathematics, all graduate work, and all University of Iowa graduate work.

### **COMPREHENSIVE EXAMINATION**

Students take three written comprehensive examinations, one in mathematics education and two in other fields of education or mathematics; an oral examination follows the written examinations.

### **DISSERTATION**

Students must earn 10 s.h. of dissertation credit in 07S:493 Ph.D. Thesis. Each candidate completes a dissertation on a research problem in mathematics education. A prospectus of the proposed research must be presented to the dissertation committee before the candidate undertakes the study. Upon completion of the dissertation, the candidate defends the dissertation in an oral examination.

### **M.A. in Music**

The Master of Arts in music with concentration in music education provides students with deeper insights into music,

the theory and practice of music education, and the role of music in the school curriculum. The degree requires 33 s.h. of graduate credit and is offered with or without thesis.

The program is administered by the School of Music (College of Liberal Arts and Sciences) in cooperation with the College of Education. Application is made to the School of Music.

### **Ph.D. in Music**

The Doctor of Philosophy in music with concentration in music education prepares students for teaching, research, and administrative posts. Graduates find employment as college teachers of music education classes and activities; as band, chorus, and orchestra directors; and as administrators of music departments and schools of music. Some apply their skills in public schools as music supervisors, research and curriculum consultants, and directors of city or district school music programs.

The program is administered by the School of Music (College of Liberal Arts and Sciences) in cooperation with the College of Education. Application is made to the School of Music.

### **M.A.T. in Science Education**

The Master of Arts in Teaching program in science education is designed primarily for graduates of a bachelor's degree program in science who decide that they would like to become teachers. It features advanced work in science along with the courses required for certification, enabling students to earn a master's degree and teaching certification at the same time.

The program assumes students have completed considerable course work in science (at least 56 s.h.) as undergraduates, but no previous course work in education. Students' science course work should be equivalent to that required by the University of Iowa Science Education Program (College of Liberal Arts and Sciences).

### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree with a major or equivalent in one of the sciences. A g.p.a. of at least 3.00 is required for admission and must be maintained throughout the program. Applicants must meet all TEP application requirements.

### **REQUIREMENTS**

The M.A.T. program in science education requires a minimum of 48 s.h. of graduate credit.

#### **Professional Education Sequence Foundation**

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom (must be taken during student's first semester in the college)	2 s.h.
07P:200 Educational Psychology	3 s.h.
07S:171 Secondary Classroom Management	2 s.h.
07S:190 Orientation to Secondary Education (must be taken during student's first semester in the college)	1 s.h.
07S:195 Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1 s.h.
07U:100 Foundations of Special Education	3 s.h.

Science education courses are taken in the following sequence.

07S:151 Science Teaching and Practice with Early Learners	3 s.h.
07S:152 Methods of Teaching Science	3 s.h.

These two taken concurrently:

07S:153 Instructional Issues in Teaching Science	3 s.h.
07S:179 Secondary School Science Practicum	2 s.h.

These three taken concurrently:

07S:187 Seminar: Curriculum and Student Teaching	3 s.h.
07S:191 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:192 Observation and Laboratory Practice in the Secondary School	6 s.h.



**ELECTIVES**

A minimum of one graduate course in biology, chemistry, earth science, or physics is required. Students who have satisfied portions of the required science course work listed above must take additional science course work to meet the minimum requirement of 48 s.h.

**COMPREHENSIVE EXAMINATION**

Students complete comprehensive examinations before their student teaching semester. Two comprehensive exams, one in science education and one in a science specialization area, are required. They may not duplicate course examinations in these areas. The science education exam, under the guidance and supervision of the examining committee, consists of two parts, written and oral. Detailed requirements for the science education comprehensive examination are available from the Department of Teaching and Learning office.

**Joint B.A. in Science/M.A.T. in Science Education**

College of Liberal Arts and Sciences students who want to teach science and are working toward a Bachelor of Arts in biology, chemistry, or physics may earn their bachelor's degree and a Master of Arts in Teaching in five years through the joint B.A./M.A.T. program. Students in the joint program complete all of the course work required for both degrees, but 18 s.h. of work required for the M.A.T. also is counted toward the B.A. degree.

Students are admitted to the joint program before their fourth year. They may begin taking education courses during their third year, but they may not earn graduate credit for them until their fourth and fifth years, after they have been admitted to the joint program. Students take 30 s.h. of course work during the fifth year and must complete all remaining requirements for both degrees that year.

**Science Specialization (Broad Field Science Block)**

The following courses are required for the undergraduate degree in science education at The University of Iowa. They need not be repeated by M.A.T. candidates who need one or more advanced courses in their major science area, or by students from other interdisciplinary science discipline programs that prepare teachers for grades 6-9.

Both of these:

097:128 Meaning of Science	3 s.h.
097:130 Science in Historical Perspective	3 s.h.

Two of these (unless completed during undergraduate study):

097:102 Societal and Educational Applications of Earth Science and Environmental Science	3 s.h.
097:103 Societal and Educational Applications of Biological Sciences	3 s.h.
097:105 Societal and Educational Applications of Physical Sciences	3 s.h.
097:106 Societal and Educational Applications of Chemical Concepts	3 s.h.

Education courses required for the joint program are listed under "M.A.T. in Science Education" above. Requirements for the B.A. degree are listed under Biology, Chemistry, and Physics and Astronomy (College of Liberal Arts and Sciences) in the Catalog.

**M.S. in Science Education**

The Master of Science program in science education is designed for teachers and supervisors (K-college) and professionals in related fields, such as medical education, college teaching, museum program management, and outreach programs. The program is intended to provide experience in understanding teaching and learning, and the research processes required to advance the field.

**ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should hold an undergraduate major in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis. The department recommends that applicants have teaching licensure/certification unless they are preparing for careers in allied health, museums, or community colleges.

**REQUIREMENTS**

The M.S. program in science education requires a minimum of 38 s.h. of graduate credit in four areas: science education, education, research, and science. Students' individual programs of study are approved by the science

education faculty.

The following courses are required.

07S:255 Practices of Inquiry in Science Learning Environments (no substitute for this course)	3 s.h.
07S:257 Learning in the Science Classroom (no substitute for this course)	3 s.h.
07S:259 Advanced Pedagogy (no substitute for this course)	3 s.h.
07S:355 Research in Science Education (taken twice)	6 s.h.
Two science content courses chosen with the advisor	6 s.h.

A minimum of 13 s.h. chosen from these:

07E:304 Schooling in the United States	3 s.h.
or	
07S:333 Seminar on Teacher Education	3 s.h.
07C:338 Essentials of Qualitative Inquiry	3 s.h.
07E:300 Design and Organization of Curriculum	3 s.h.
07P:143 Introduction to Statistical Methods	3 s.h.
07P:200 Educational Psychology	3 s.h.
07P:202 Understanding Educational Research	3 s.h.
07P:220 Quantitative Educational Research Methodologies	3 s.h.
07P:275 Constructivism and Design of Instruction	3 s.h.
07S:256 Science Education: The Nature of Science	3 s.h.
07S:258 Writing in the Science Classroom	3 s.h.
160:250 Introduction to Rhetoric of Science	3 s.h.

One additional qualitative or quantitative research methods course chosen in consultation with the advisor

## MASTER OF SCIENCE EXAMINATION

Students must complete a thesis (07S:393 Master's Thesis), for which they earn 2-4 s.h. of credit. A final oral examination is administered on campus in which the candidate defends his or her thesis. This examination includes a critical inquiry into the purposes, methods, and results of the thesis research investigation.

The final examination is conducted by a committee of no fewer than three members of the graduate faculty. In some cases, the committee must include a member from outside science education; consult the department.

## Ph.D. in Science Education

The Doctor of Philosophy program in science education is designed for individuals who aspire to positions as college and university science educators; major supervisors in national, state, and local systems; teachers in small liberal arts colleges; instructors of general education science courses at major universities; research directors in science education; and professionals in medical and/or allied health education.

## ADMISSION

Applicants must meet the admission requirements of the Graduate College. They should have completed a bachelor's degree in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis; have a cumulative g.p.a. of at least 3.00 on undergraduate and graduate work; and have a combined score of at least 1000 on the verbal and quantitative portions of the Graduate Record Exam (GRE) General Test. Applicants must submit three letters of recommendation; a statement of purpose describing their reasons for pursuing graduate work and their goals for graduate study; and an example of their academic writing.

## REQUIREMENTS

The Ph.D. program in science education requires a minimum of 85 s.h. of graduate study, as follows.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site). Course selections must be consistent with the following research methods requirements.

All doctoral students in science education must complete one or both of the following Ph.D. core courses. Students may not substitute other courses for these.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

In addition, all doctoral students in the Department of Teaching and Learning must complete an approved cognate area; see "Ph.D. Required Cognates" above.

Additional requirements for the Ph.D. in science education are as follows.

#### **Science Education**

All of these (15 s.h.):

07S:250 Assessment in Teaching and Research (no substitute for this course)	3 s.h.
07S:257 Learning in the Science Classroom	2-3 s.h.
07S:259 Advanced Pedagogy	3 s.h.
Graduate-level science education courses chosen in consultation with advisor	6 s.h.

#### **Education**

All of these (12 s.h.):

07E:300 Design and Organization of Curriculum	3 s.h.
07P:200 Educational Psychology	3 s.h.
07P:275 Constructivism and Design of Instruction	3 s.h.
07X:150 Introduction to Educational Research	3 s.h.

#### **Research in Science Education**

Both of these (21 s.h.):

07S:350 Seminar: Science Education (taken three times for 1 s.h. each)	3 s.h.
07S:355 Research in Science Education (taken six times for 3 s.h. each)	18 s.h.

#### **Science Area**

A family of courses in a major science area	12 s.h.
---	---------

#### **DISSERTATION**

Ph.D. students earn 10 s.h. of thesis credit in 07S:493 Ph.D. Thesis.

#### **M.A. in Social Studies Education**

The Master of Arts program in social studies education provides an opportunity for interdisciplinary work in education, history, social science, or related areas for classroom teachers, high school department chairs, supervisors, and others interested in advancing their competence in history and the social sciences and greater proficiency in teaching and supervision.

Students choose one of two programs. Program A provides interdisciplinary study in education, history, social science, or related areas for classroom teachers or others interested in advancing their competence in instruction and their subject area. Program B is for individuals who have a bachelor's degree in history or social sciences and who wish to obtain a teaching license/certificate while earning the M.A. degree. Program B students must apply to both the Graduate College and the College of Education.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; a combined verbal and quantitative score of at least 1000 on the Graduate Record Examination (GRE) General Test; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required. Typically, applicants to Program A are expected to hold a secondary teaching license/certificate.

After declaring a social studies education major, M.A. students must maintain a g.p.a. of at least 3.00.

#### **PROGRAM A REQUIREMENTS**

Program A of the M.A. program in social studies education requires a minimum of 38 s.h. of graduate credit distributed among three concentration fields in history and social sciences (or related areas) and education, with at least 10 s.h. in each of three fields.

At least 9 of the total 38 s.h. must be earned in graduate courses numbered 200 or above distributed among the three concentration fields.

Students who choose the thesis option complete a research or investigative problem. If the thesis is research or investigation in history, social science, or a related area, the thesis director is a member of the appropriate department. If the thesis is an investigative problem in social studies education, the thesis director is a College of Education faculty member.

#### **PROGRAM A COMPREHENSIVE EXAMINATION**

The comprehensive examination consists of three 2-hour written exams, one on each of the three concentration fields.

#### **PROGRAM B REQUIREMENTS**

Program B of the M.A. program in social studies education requires a minimum of 38 s.h. of graduate credit. Program B students should have completed considerable work in the social sciences and/or history as undergraduates. Students who have been accepted to the University of Iowa undergraduate or postbaccalaureate Teacher Education Program in secondary social studies education cannot apply credit they earned in required licensure courses as undergraduate or postbaccalaureate students to the required 38 s.h. for the M.A. in social studies education. However, such credit does count toward state teaching licensure.

Program B students who completed 07S:111 Introduction and Practicum: Secondary Social Studies and/or 07S:170 Methods: Secondary Social Studies as undergraduate or postbaccalaureate students at The University of Iowa are required to retake these courses during the M.A. program and immediately before student teaching. Required teaching licensure course work completed at other colleges or universities is reviewed on a case-by-case basis.

Program B students who were accepted to the undergraduate Teacher Education Program before they received a baccalaureate must complete a college-level math course.

For licensure, students admitted to the M.A. in social studies education must complete 30 s.h. in a history or social science area; the 30 s.h. may include previous undergraduate and/or graduate-level course work. Required professional education course work not completed as part of the baccalaureate degree must be completed for licensure.

Students also must complete 15 s.h. in an additional history or social science licensure area; previous undergraduate course work may apply.

Students must complete all of the following courses, unless they completed some of them as part of their bachelor's degree. In such cases, the semester-hour requirement for Program B is reduced accordingly, but it never falls below 38 s.h. All students must take the course work required for meeting all Iowa Department of Education requirements for teacher licensure/certification.

Professional education courses:

07B:180 Human Relations for the Classroom Teacher	3 s.h.
07E:100 Foundations of Education	3 s.h.
07E:102 Technology in the Classroom (must be taken during student's first semester in the college)	2 s.h.
07P:200 Educational Psychology	3 s.h.
07S:111 Introduction and Practicum: Secondary Social Studies	3 s.h.
07S:170 Methods: Secondary Social Studies	3 s.h.
07S:171 Secondary Classroom Management (for students admitted March 2008 and after)	2 s.h.
07S:187 Seminar: Curriculum and Student Teaching	3 s.h.
07S:190 Orientation to Secondary Education (must be taken during student's first semester in the college)	1 s.h.
07S:191 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:192 Observation and Laboratory Practice in the Secondary School	6 s.h.
07S:195 Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1 s.h.
07S:233 History and Foundations of Social Studies Education	3 s.h.

07S:277 Seminar: Social Studies Education	3 s.h.
07S:341 Infusing a Global Perspective into the Curriculum	3 s.h.
07U:100 Foundations of Special Education	3 s.h.

Subject area specialization courses: a minimum of 9 s.h. of course work in history or a social science is required; students should take at least one course taught by the instructor who will serve on the examining committee.

#### **PROGRAM B COMPREHENSIVE EXAMINATION**

The comprehensive examination consists of three 2-hour exams: one on the subject area specialization, one on general professional education, and one on social studies education.

#### **Ph.D. in Social Studies Education**

The Doctor of Philosophy program in social studies education prepares secondary department chairs, supervisors, curriculum directors, teacher education personnel, and college instructors in the social sciences and in social studies education.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree in history, the social sciences, or education; a master's degree in history, the social sciences, or education; a cumulative g.p.a. of at least 3.00; and a combined verbal and quantitative score of at least 1200 on the Graduate Record Examination (GRE) General Test. At least two years of teaching experience is strongly preferred. Applicants who did not write a thesis as part of their M.A. must submit seminar papers or field research as equivalents.

#### **REQUIREMENTS**

The Ph.D. program in social studies education requires a minimum of 90 s.h. of graduate credit, including course work and 10 s.h. of dissertation credit.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

In addition, all Ph.D. students in the Department of Teaching and Learning must complete one or both of the following Ph.D. core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

The remaining course work must be distributed among approved cognate areas (see "Ph.D. Required Cognates" above), history, social sciences or related areas, and professional education, depending on the student's background and goals.

Seminars and courses numbered 200 or above are required in each of the study areas that constitute the major. Students must take 9 s.h. of required courses in social studies education, including 07S:233 History and Foundations of Social Studies Education, 07S:277 Seminar: Social Studies Education, and 07S:341 Infusing a Global Perspective into the Curriculum.

#### **COMPREHENSIVE EXAMINATION**

Students take three 3-hour examinations, one in each of the study areas. Depending on the distribution of course work, the nine hours of written examinations may be rearranged. The Ph.D. examining committee consists of five members, who are selected according to the nature of the student's Ph.D. program and distribution of course work. An oral examination is conducted by the committee following the written exam.

#### **DISSERTATION**

Ph.D. candidates must complete a dissertation on a research problem in social studies education. The candidate must present a prospectus of the proposed research to the dissertation committee before undertaking the study. Upon completion, the candidate defends the dissertation in an oral exam.

#### **Special Education**

Special education programs are offered in K-6 and 7-12 Instructional Strategist I: Mild/Moderate, and K-12 Instructional Strategist II: BD/LD. These programs are designed to prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All teacher licensure/certification programs are approved by the Iowa Department of Education.

A program leading to special education licensure/certification in Instructional Strategist I: Mild/Moderate (K-6) is available to undergraduates (see "Teacher Education Program and Licensure/Certification" at the beginning of this section). Undergraduates who wish to pursue careers in special education should contact the Department of Teaching and Learning.

### **M.A. in Special Education**

The Master of Arts program in special education prepares individuals to deliver appropriate levels of service to students with disabilities at the elementary and secondary levels, in either public or private settings. Applicants with a master's degree and special education certification may request admission for the purpose of obtaining an additional area of special education licensure/certification (i.e., professional improvement). Students admitted to the M.A. program typically receive licensure/certification in at least one area upon completing the program.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00 (and/or at least 3.00 on a minimum of 12 s.h. of graduate course work). A combined verbal and quantitative score of at least 1000 on the Graduate Record Exam (GRE) General Test is preferred. Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Application materials must include a completed Graduate College application form; copies of official transcripts for all college course work; an official report of Graduate Record Examination test scores; three current letters of recommendation; and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

#### **REQUIREMENTS**

The M.A. program in special education requires a minimum of 32 s.h. of graduate credit. Contact the Department of Teaching and Learning for specific program requirements.

### **Special Education Consultant Authorization**

The Special Education Consultant authorization program prepares consultants to serve in special education programs.

#### **ADMISSION**

Admission to the M.A. program or to a certification program in special education is required. Applicants must hold or meet the requirements for the special education teaching endorsement congruent with their desired consultant authorization. Teaching endorsements must be documented by copies of teaching credentials.

Applicants also must have completed four years of successful teaching experience, two of which must be congruent with their desired consultant authorization. They must provide evidence of successful teaching (e.g., written statements from school personnel documenting years of teaching, type of students served, and success as a classroom teacher).

Documentation of certifications and teaching experience should be submitted with the application for admission to the Graduate College.

#### **REQUIREMENTS**

The Special Education Consultant authorization program requires at least 38 s.h., including credit required for the M.A. and the teaching endorsement program.

Students who already hold an M.A. in special education and an endorsement congruent with their desired consultant authorization must complete the following three courses.

07E:300 Design and Organization of Curriculum	3 s.h.
07P:263 Consultation Theory and Practice	3 s.h.
07P:347 Home/School/Community: System Interventions	3 s.h.

Students without an M.A. in special education must complete an M.A. and teaching endorsement program in special education congruent with their desired consultant authorization, plus the three courses listed above (07E:300 Design and Organization of Curriculum, 07P:263 Consultation Theory and Practice, 07P:347 Home/School/Community: System Interventions), for a total of at least 38 s.h.

### **Ph.D. in Special Education**

The Doctor of Philosophy program in special education prepares students for teaching and research positions in higher education, and for curriculum, supervisory, and research positions in state and local education agencies. The program permits students to study and practice extensively in their special education interest area and in an interest area outside of special education.

#### **ADMISSION**

Applicants must meet the admission requirements of the Graduate College. They must have master's degree or equivalent in special education; those without an M.A. thesis must have completed an equivalent project. Applicants should have a graduate g.p.a. of at least 3.50 and a combined verbal and quantitative score of at least 1000 on the Graduate Record Exam (GRE) General Test. Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants should have at least one year of full-time teaching experience with exceptional children; several years are preferred.

Application materials must include a completed Graduate College application form; copies of official transcripts for all college course work; an official report of Graduate Record Examination test scores; three current letters of recommendation; and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

#### **REQUIREMENTS**

The Ph.D. program in special education requires a minimum of 90 s.h. of graduate credit. The study plan includes an emphasis on research skills, all facets of special education, an approved cognate area (see "Ph.D. Required Cognates" above), and at least one specialization area.

All College of Education Ph.D. students must complete 07X:150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Courses to meet this requirement must be chosen from Required Ph.D. Research Courses (see Course Information in the A-Z directory on the college's web site).

In addition, all doctoral students in special education must complete one of the following Ph.D. core courses.

07E:304 Schooling in the United States	3 s.h.
07S:333 Seminar on Teacher Education	3 s.h.

All Ph.D. students in special education must complete the following courses.

07B:236 Administration of Students with Special Needs	3 s.h.
07U:343 Proseminar: Issues, Trends, and Research in Special Education	2-3 s.h.
07U:344 Proseminar: Issues, Trends, and Research in Special Education II	2-3 s.h.

Students must complete an interdisciplinary minor in a discipline outside of special education (minimum of 12 s.h.).

Students also are required to write the comprehensive examination and complete a doctoral dissertation, earning a minimum of 10 s.h. in 07S:493 Ph.D. Thesis.

## **Financial Support**

### **Elementary Education**

A number of teaching assistantships are available for graduate students in early childhood and elementary education. Assignments vary. Some involve supervising undergraduate majors enrolled in practicums; others involve teaching sections of undergraduate methods courses and supervising student teachers. Most assistantships are classified as one-half-time, which permits students to register for a maximum of 12 s.h. of credit per semester. Graduate assistants must register for at least 6 s.h. per semester.

All assistantships are awarded on a competitive basis. Applicants must have been admitted to regular status in the Graduate College and to an advanced program in the College of Education. For information about assistantships,

contact the chair of the Department of Teaching and Learning.

### **Secondary and Special Education**

A limited number of assistantships are available for graduate students in secondary and special education. Assignments vary. Some involve teaching undergraduate courses or supervising practicum experiences; others consist primarily of research activities. Graduate assistants may register for a maximum of 12 s.h. and a minimum of 6 s.h. per semester.

Graduate students in secondary education also may be eligible for assistantships in some College of Liberal Arts and Sciences departments. Students with appropriate credentials should apply directly to the specific department or consult the College of Education advisor in the appropriate field.

Traineeships in selected licensure/certification and master's degree programs are available to full-time special education students.

## **Teaching and Learning Courses**

### **Elementary Education**

#### **07E:021 Oral Interpretation**

3 s.h.

Communication studies majors may apply this course to the following area requirement. AREA: Practice. Requirements: (for 036:021) g.p.a. of at least 2.60 and 30 s.h. of credit. Same as 036:021.

#### **07E:050 Opportunities in Education**

2 s.h.

Introduction for underrepresented students to the teaching profession and its widely varied opportunities; faculty, students, recipients of awards in education; tours of Iowa City schools; reflection on and personal integration of class learning experiences, consideration of future plans.

#### **07E:090 Orientation to Elementary Education**

1-2 s.h.

Overview of elementary education expectations, including options for student teaching; classroom observation, lesson planning, performance indicators, INTASC standards, classroom management, information about mandatory child abuse reporting, blood-borne pathogens, professional ethics. Eight-week course.

#### **07E:100 Foundations of Education**

3 s.h.

Overview of American education, preschool through secondary; aims, history, philosophy of education; professional ethics, legal responsibilities; school curriculum, organization, finance, school law, political and social issues.

Requirements: admission to TEP.

#### **07E:102 Technology in the Classroom**

2-3 s.h.

#### **07E:104 Remedial Methods in Speech and Hearing**

2 s.h.

Emphasis on elementary grades; usually taken in conjunction with 07E:192, which provides approximately 70 hours of supervised clinical practice in elementary schools. Recommendations: primarily for communication sciences and disorders majors.

#### **07E:114 Parent-Child Relationships**

3 s.h.

Roles and relationships within and between families, culture, society; identify (family) resources and concerns based on children's development, abilities.

#### **07E:120 Methods and Materials: Music for the Classroom Teacher**

2 s.h.

Development of music skills, techniques, knowledge of methods and materials for teaching music to young children; for elementary education majors. Requirements: admission to TEP.

#### **07E:122 Methods and Materials: Art for the Classroom Teacher**

2 s.h.

Projects, techniques, processes in art for elementary majors; combination lecture and studio; painting, drawing, printmaking, sculpture, and crafts with materials and tools commonly available in the elementary schools.

Requirements: admission to TEP. Same as 01E:195.

#### **07E:123 Reading and Responding to Children's Literature**

2-3 s.h.



Reading and teaching children's literature in elementary classrooms for aesthetic, personal, social, and critical purposes; readings from a wide range of genres; approaches to teaching children's literature; recent trends and issues. Requirements: admission to elementary TEP.

**07E:124 Differentiating Projects with Technology** 1 s.h.

Use of digital tools to enrich student presentations; PowerPoint slide shows, presentations uploaded to World Wide Web, interactive multimedia presentations via HyperStudio.

**07E:126 Reading for High-Ability Students** 1 s.h.

Purposes and methods of reading instruction, with focus on developmentally appropriate needs of high-ability readers; genres of literature, enriched and accelerated reading curricula, role of reading in social and emotional development of gifted students.

**07E:127 Physical Education and Health for Elementary Teachers** 2-3 s.h.

Methods, curriculum. Requirements: admission to TEP.

**07E:128 Differentiating through Advanced Technology** 1 s.h.

Multimedia and web-based tools and utilities that enrich classroom learning and facilitate presentations made by technologically advanced students; production and editing of digital video, computer graphics, advanced web-publishing and communication techniques; skill development.

**07E:129 Developing Leadership Skills for Gifted and Talented Students, K-12** 1 s.h.

**07E:130 Adaptive Physical Education for the Elementary Classroom Teacher** 2 s.h.

Create and deliver quality, inclusive physical education for students with mental, physical, or emotional disabilities; identify and evaluate the needs of disabled students, plan units and lessons with appropriate modifications for all learners, write an IEP, comply with IDEA in a physical education setting.

**07E:143 Composing Art Workshops** 3-4 s.h.

Application of studio methods to teaching children in Saturday Children's Art Class Program. Prerequisites: 01E:196. Same as 01E:143.

**07E:145 Methods and Materials: General Music** 3 s.h.

Methods for teaching general music in elementary and secondary schools. Prerequisites: 07E:102 or 07S:102, 07S:190, and 07S:096.

**07E:160 Methods: Elementary School Language Arts** 3 s.h.

Theoretical foundations and practical skills for designing and implementing effective language arts instruction and assessment, grades K-6. Corequisites: 07E:164. Requirements: admission to elementary TEP.

**07E:161 Methods: Elementary School Social Studies** 2-3 s.h.

Objectives and content for grades K-6; integrated approaches, community-based learning. Requirements: admission to elementary TEP.

**07E:162 Methods: Elementary School Science** 2-3 s.h.

Principles and concepts of science instruction in elementary school for preservice instruction of elementary education majors; emphasis on techniques that characterize new approaches to science. Requirements: admission to elementary TEP.

**07E:163 Methods: Elementary School Mathematics** 2-3 s.h.

Content; techniques of teaching and means of assessment for K-6 mathematics. Requirements: admission to TEP.

**07E:164 Methods: Elementary School Reading** 3 s.h.

Theoretical foundations and practical skills for designing and implementing effective reading instruction and assessment, grades K-6. Requirements: admission to elementary TEP. Corequisites: 07E:160.

**07E:165 Social Studies for High-Ability Learners** 1-2 s.h.

Intersection of unique challenges presented by talented students and the challenges of designing, implementing, and assessing quality inquiry-based social studies instruction; background in social studies or social studies education not required.

**07E:166 Curriculum Concepts in Gifted Education** 3 s.h.

Analyzing and refining understanding of curriculum in context of: the needs of gifted and talented students, rationale for and implementation of curriculum differentiation, and curriculum principles for and applications to the gifted and talented; designed for pre-service and in-service educators, as well as those interested in curriculum development, design, and delivery.

**07E:170 Elementary Classroom Management** 1-3 s.h.

Activities, techniques, strategies, theories related to effective classroom management. Repeatable. Corequisites: 07E:172 or 07E:174.

**07E:171 Reading and Writing: Processes and Instruction** 3 s.h.

Factors that contribute to individuals' ease or difficulty in learning to read and write; issues, techniques in classroom literacy instruction and assessment. Requirements: 07E:160 and 07E:164 for elementary education majors.

**07E:172 Reading Instruction: Teaching Practicum** 3-4 s.h.

Experience in conducting reading instruction for children; four schoolroom sessions and one on-campus meeting weekly. Prerequisites: 07E:123, 07E:160, and 07E:164. Corequisites: 07E:170 and 07E:171.

**07E:174 Elementary Education: Practicum** arr.

Experience conducting instruction for children; four schoolroom sessions and one on-campus meeting weekly. Corequisites: 07E:170. Requirements: completion of appropriate area of specialization methods block.

**07E:176 Teaching Elementary School Science** 3 s.h.

Advanced science methods for elementary education majors seeking a science specialization. Prerequisites: 07E:162.

**07E:180 Drama in the Classroom** 3 s.h.

Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as 049:101.

**07E:181 ePortfolio Production** 1-2 s.h.

Experience producing an ePortfolio and uploading it to the Internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser and access to the Internet and to a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as 07C:181, 07P:181, 07X:181.

**07E:190 Supervised Teaching in the Elementary School: Interactive Phase** arr.

Student teaching at the elementary level (K-9). Corequisites: 07E:191. Requirements: application to the Office of Teacher Education and Student Services.

**07E:191 Supervised Teaching in the Elementary School: Pre- and Post-Active Phase** arr.

Corequisites: 07E:190. Requirements: application to the Office of Teacher Education and Student Services.

**07E:192 Special Area Student Teaching** arr.

Supervised teaching and observation in specific areas of elementary curriculum (see ISIS for areas offered).

**07E:193 Independent Study** arr.

Requirements: senior standing.

**07E:196 Topics in Teaching and Learning** arr.

Repeatable.

**07E:197 Supervised Teaching Early Childhood Center: Interactive Phase** arr.

Student teaching in prekindergarten early childhood centers. Corequisites: 07E:198. Requirements: application to the Office of Teacher Education and Student Services.

**07E:198 Supervised Teaching Pre- and Post-Active Phase**

arr.

Corequisites: 07E:197. Requirements: application to the Office of Teacher Education and Student Services.

**07E:204 Literature for Children II**

3 s.h.

Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as 08P:204.

**07E:234 Foundations of Mathematics Education**

2-3 s.h.

History of U.S. mathematics education; learning theory applied to teaching, learning mathematics; curriculum design; curriculum/standards and achievement patterns in the United States and other countries; equity; research literature.

**07E:264 Early Literacy Development and Instruction**

2-3 s.h.

Understanding of early reading and writing experiences; relationship of reading to other communication areas; knowledge of instructional approaches, techniques, materials, assessment procedures; interrelationship of home and school experiences; identification of current issues and relevant research.

**07E:265 Reading and Writing Across Intermediate Grades**

3 s.h.

Issues in teaching, learning, and assessment of students grades 4-9; fostering positive literate identities, literacy engagement, strategies for reading, writing, and critically responding to texts in a range of genres and formats and across content areas.

**07E:267 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms**

3 s.h.

Theoretical and practical organization of developmentally appropriate curricula and teaching methods to promote learning.

**07E:271 Advanced Reading Clinic Techniques**

2-3 s.h.

Instructional procedures for children and early adolescents with severe learning problems in reading; causes of reading disorders; educational prognosis for severely disabled readers. Corequisites: 07E:272.

**07E:272 Advanced Reading Clinic Practicum**

2-3 s.h.

Practice in selecting and using instructional procedures that address the needs and interests of struggling literacy learners, with emphasis on teaching to students' strengths; how to fit clinical teaching techniques into an overall literacy instructional program. Corequisite: 07E:271.

**07E:273 Reading Recovery I**

2-3 s.h.

**07E:274 Reading Recovery II**

2-3 s.h.

Training for teachers; tutoring of first-grade children; effective moment-by-moment instructional decision making.

**07E:275 Reading Recovery Assessment Training**

2-3 s.h.

How to administer and analyze Marie Clay's Observation Survey; includes administration of the assessment to at least two first-grade children.

**07E:293 Individual Instruction**

arr.

**07E:300 Design and Organization of Curriculum**

3 s.h.

Major issues, modern selection, sequential arrangement, organization of content; relationship of time allotments to implementation; utilization of instructional equipment; appraisal procedures; staff participation in curriculum development.

**07E:304 Schooling in the United States**

3 s.h.

Governance, finance, and policy structures that have influenced teaching and learning in public schools.

**07E:308 Seminar: Research and Current Issues**

arr.

For a specific curricular area: review of the literature, critical analysis of reported research, study of current issues and problems (see ISIS for specific areas offered); topics vary. Repeatable.

**07E:340 Advanced Topics in Teaching and Learning**

arr.

Topics vary.

**07E:365 Reading Clinic: Supervision**

arr.

Supervised experience in guiding and improving teacher performance in clinical practicums.

**07E:391 Research Project**

arr.

Individual research projects in a specific curricular area; for advanced students. Repeatable.

**07E:392 Field Service Project**

arr.

Individual field service project in a specific curricular area; for advanced students. Repeatable.

**Secondary Education****07S:090 Introduction and Practicum: Art**

2-3 s.h.

Practice of learning from an experienced art teacher in an art classroom and setting; observations in an art classroom side-by-side with experience and insight gained through participating and teaching in the Saturday Art Workshop Program. Corequisites: 01E:196. Requirements: admission to TEP.

**07S:095 Introduction and Practicum: Mathematics**

3 s.h.

Experience designing and teaching lessons that have varying instructional intent and that use multiple instructional strategies; study and practice methods of managing the classroom learning environment; approximately 70 hours in cooperating schools, on-campus meetings. Requirements: admission to TEP.

**07S:096 Introduction and Practicum: Music**

2 s.h.

Experience observing and assisting music teachers and students in elementary or secondary schools; six hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

**07S:105 Methods of Art Education in Secondary Schools**

4 s.h.

Art education theory and methods at secondary levels; art curriculum, unit, and lesson planning; evaluation, motivation, instructional materials; observational techniques.

**07S:106 Foreign Language Education Practicum I**

3 s.h.

Skill development for teaching languages in the early grades; curriculum design, test creation, microteaching with inservice teachers. Prerequisites: 07S:110. Corequisites: 07S:116.

**07S:107 Foreign Language Education Practicum II**

3 s.h.

Practice in lesson design, classroom management techniques, evaluation skills during work with inservice foreign language teachers. Prerequisites: 07S:110. Corequisites: 07S:117.

**07S:110 Teaching K-12 Second Language Learners**

3 s.h.

Second language learning and teaching in the multicultural classroom; influence of school setting, societal context. Requirements: admission to TEP.

**07S:111 Introduction and Practicum: Secondary Social Studies**

2-3 s.h.

Experience observing and assisting social studies teachers and students in secondary schools; nine hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

**07S:112 Introduction to Museology**

3 s.h.

Overview of museum history, function, philosophy, collection and curatorial practices, governance and funding issues, exhibition evaluation, audience studies; American cultural institutions. GE: Humanities. Same as 024:102, 097:115, 113:103.

**07S:113 Methods: Secondary School Journalism**

3 s.h.

Methods and materials for teaching high school journalism; publication policies, staff organization, production schedules, technology, the Internet, and techniques for advising student publications; experience in simulated teaching situations. Offered fall semesters. Same as 019:101.

**07S:114 Introduction and Practicum: Secondary English**

3 s.h.

Experience observing and assisting English or speech teachers and students in secondary schools; 12 hours per week in the school plus on-campus class meetings.

**07S:115 Methods: Secondary English** 3 s.h.  
Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: 07S:114. Same as 08P:190.

**07S:116 Learning to Teach Second Languages I** 3 s.h.  
Approaches, methods, and techniques of teaching the modalities of listening, speaking, reading, and writing in a second language. Corequisites: 07S:106 or 07S:118.

**07S:117 Learning to Teach Second Languages II** 3 s.h.  
Curriculum design, classroom management, student evaluation, technology, using context to teach culture in second languages. Prerequisites: 07S:110. Corequisites: 07S:107 or 07S:119.

**07S:118 ESL Practicum I** 3 s.h.  
Skill development for teaching English as a second language; curriculum design, test creation, microteaching with inservice teachers. Prerequisites: 07S:110. Corequisites: 07S:116.

**07S:119 ESL Practicum II** 3 s.h.  
Practice in lesson design, classroom management techniques, evaluation skills during work with inservice English as a second language teachers. Prerequisites: 07S:110. Corequisites: 07S:117.

**07S:121 Environmental Science for High Ability Students** 1 s.h.  
Environmental health research; principles of toxicology, process of environmental health risk assessment; experience collecting, organizing, and analyzing information.

**07S:122 Math Programming for High Ability Students** 1 s.h.  
Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as 07P:122.

**07S:125 Differentiated Instruction for the Gifted** 1 s.h.  
Program options for K-12 gifted students; student abilities and needs linked with various curriculums; case studies, school materials.

**07S:130 Workshop for Secondary School Journalism/Communication Teachers** 1-3 s.h.  
Workshops on journalism/mass media curriculum, audio/video production, photojournalism, publication design, journalistic writing techniques, advising student publications. Same as 019:102.

**07S:132 Middle School Curriculum and Methods** 3 s.h.  
Junior high and middle school development compared; characteristics of exemplary programs, disciplinary and interdisciplinary trends; variety of teaching methods (group and individual); hands-on activities. Requirements: admission to TEP.

**07S:134 Methods: Middle School Mathematics** 3 s.h.  
Subject matter content, teaching and assessment techniques for grades 5-9 math; how students learn mathematics; mathematics curricular planning for all students.

**07S:135 Methods: High School Mathematics** 3 s.h.  
Subject matter content, teaching and assessment techniques for grades 9-12 math; how students learn mathematics; mathematics curricular planning for all students. Prerequisites: 07S:095.

**07S:140 Band Methods and Materials** 3 s.h.  
High school and elementary school music methods required for teaching certificate; for instrumental music education majors. Same as 025:164.

**07S:143 Instrumental Techniques** 2 s.h.  
Repeatable. Same as 025:105.

- 07S:144 Psychology of Music** 2 s.h.  
Cognition of music, affective response, aesthetic response, musical ability.
- 07S:145 Instrumental Conducting** 3 s.h.  
Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: 025:107. Same as 025:108.
- 07S:147 Choral Methods** 3 s.h.  
Organization, implementation of effective choral music programs for all ages. Same as 025:109.
- 07S:148 Choral Conducting and Literature** 3 s.h.  
Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under 07S:148. Prerequisites: 07S:147 and 025:107. Same as 025:110.
- 07S:149 Introduction to Music Research** 2-3 s.h.  
Preparation for conducting research on music behavior.
- 07S:150 String Methods and Materials** 3 s.h.  
Methods for teaching bands in schools. Offered fall semesters. Same as 025:112.
- 07S:151 Science Teaching and Practice with Early Learners** 3 s.h.  
Introduction to students, schools, the purpose of schooling children in science, learning theories, science curricula, contemporary science education issues, effective science teaching.
- 07S:152 Methods of Teaching Science** 3 s.h.  
Developing, writing, and orally defending a robust research-based framework for teaching science that includes student goals, student actions, content, materials, activities, teaching behaviors and strategies, contemporary learning theories, self-evaluation. Prerequisites: 07S:151.
- 07S:153 Instructional Issues in Teaching Science** 3 s.h.  
Articulating, experiencing, practicing a research-based framework for teaching science in the real world of students, schools, teaching. Prerequisites: 07S:152. Corequisites: 07S:179.
- 07S:155 Approaches to Teaching Writing** 3 s.h.  
Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. PERIOD: 20th- and/or 21st-Century Literature. Same as 08N:141.
- 07S:160 Pre-Intern Fall** 4 s.h.  
First course in the Regents collaborative Iowa Teacher Intern License Pathway program. Requirements: admission to the ITILP program.
- 07S:161 Pre-Intern Spring** 4 s.h.  
Second course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: 07S:160.
- 07S:162 Pre-Intern Summer I** 4 s.h.  
Third course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: 07S:160 and 07S:161.
- 07S:163 Pre-Intern Summer II** 6 s.h.  
Fourth course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: 07S:160, 07S:161, and 07S:162.
- 07S:164 Intern Year** 3 s.h.  
Fifth course in the Regents collaborative Iowa Teacher Intern License Pathway program. Prerequisites: 07S:160, 07S:161, 07S:162, and 07S:163.
- 07S:170 Methods: Secondary Social Studies** 3 s.h.

Analysis of the teaching-learning process; organization of social studies content for teaching purposes; evaluation of learning procedures and new strategies; practicum work includes microteaching, computer-assisted modules, lesson plan development, writing test items.

**07S:171 Secondary Classroom Management** 2-3 s.h.

Characteristics of the classroom environment and their implications for organization and management; concepts and principles teachers can use when thinking about managerial tasks in the classroom; for prospective middle and secondary school teachers. Prerequisites: 07S:190. Requirements: admission to TEP.

**07S:172 Thinking Skills** 1 s.h.

Factors involved in teaching thinking skills as a total concept; the relationship of critical and creative thinking; review of published programs.

**07S:173 Programming/Curriculum for High Ability Students** 1 s.h.

Programming and curriculum for K-12 students identified as gifted or highly able; in-class differentiations, special projects for pull-out programs, facilitating research projects, mentoring in advanced programming.

**07S:174 Differentiation at the Secondary Level** 1 s.h.

Importance of differentiation for gifted learners in middle school and high school; differentiation through advanced placement programs as well as broader perspectives on differentiation; essentials for differentiation understood and applied to a lesson that will be implemented with students.

**07S:177 Summer Institute for Teachers and Lifelong Learners** 3 s.h.

Interdisciplinary global issues; intensive course for teachers and students. Same as 187:177.

**07S:178 Workshop in Teaching Communication and Forensics** arr.

Methods, materials, progression, evaluation in teaching and supervising students in courses and class activities; opportunities for observation, demonstration, practice in teaching theater, discussion and debate, individual speech, dramatic and forensic events. Prerequisites: 036:001, 036:005, 036:012 or 036:070, 036:017 or 036:030, and 036:074. Requirements: g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 036:105.

**07S:179 Secondary School Science Practicum** arr.

Supervised teaching experience in a single subject; secondary school setting.

**07S:180 Issues in Foreign Language Education** 3 s.h.

Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as 164:170.

**07S:182 Language and Learning** 2-3 s.h.

How language reflects and constructs learners' identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as 08P:182.

**07S:183 Second Language Classroom Learning** 3 s.h.

Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as 039:177, 164:171.

**07S:184 Reading in a Second Language** 3 s.h.

Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as 164:172.

**07S:186 Curriculum Foundations** 2-3 s.h.

Elementary and secondary background developments in curriculum; definitions, historical perspective, philosophies, theories of knowledge, models, learning theories, directions of development and shaping forces; emphasis on development of a curriculum project. Same as 164:173.

**07S:187 Seminar: Curriculum and Student Teaching** 1-3 s.h.

Discussions, role-playing, group and individual reports, analysis of critical incidents, classroom management, videotapes of student classroom performance pertinent to participants' student teaching experiences. Requirements: student teaching.

**07S:189 Elementary School Special Subject Area Student Teaching** arr.  
Supervised teaching experience in a single subject in grades 1-6.

**07S:190 Orientation to Secondary Education** 0-1 s.h.  
Overview, including options for student teaching, classroom observation, lesson planning, classroom management, performance indicators, INTASC standards, blood borne pathogens, professional ethics.

**07S:191 Observation and Laboratory Practice in the Secondary School** arr.  
Student teaching experience in performing the duties of regular classroom teachers under supervision of experienced personnel in secondary schools.

**07S:192 Observation and Laboratory Practice in the Secondary School** arr.  
Continuation of 07S:191.

**07S:193 Reading and Teaching Adolescent Literature** 3 s.h.  
Reading and evaluation of literature suitable for junior and senior high school students. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as 08P:198.

**07S:194 Methods: Secondary Reading** 2-3 s.h.  
Methods and materials used in teaching developmental reading in all junior and senior high school content areas. Prerequisites: 07S:114.

**07S:195 Teaching Reading in Secondary Content Areas** 1 s.h.  
Integration of reading strategies into secondary content areas for teacher candidates in secondary education.

**07S:197 Principles of Course Design for Second Language Instruction** 3 s.h.  
Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as 164:174.

**07S:198 Language Structure for Teaching English Language Learners** 3 s.h.  
Exploration of theory, rules, and examples to gain practical understanding of the system of language structure; focus on working with English language learners from a variety of first language backgrounds in educational settings; principles of discourse, phonology, morphology, syntax, pragmatics, and semantics that build a framework for discussion of applications and analysis of student and teacher language; address English language learners' development in P-12 settings; strategies to evaluate learner language; increase awareness of language challenges for English language learners that can occur in spoken and written educational instruction and materials. Requirements: admission to TEP.

**07S:200 Fundamentals of Second Language Assessment** 3 s.h.  
How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as 164:270.

**07S:201 Seminar: Current Topics in Music Education** 2-3 s.h.  
Major areas of professional and research interest. Repeatable.

**07S:202 Second Language Program Management** 3 s.h.  
Preparation for supervising, administering foreign language programs at all levels; for precollegiate language teachers and graduate students. Same as 164:271.

**07S:203 Second Language Planning in Education** 3 s.h.  
Sociology and politics of national policies involving language, internationally; development of a research-based policy perspective on language issues in the country in which the student intends to teach.

**07S:206 Foundations of Music Education Curricula** 3 s.h.



Curriculum development, instructional materials, analysis of current teaching methods and techniques in school music programs; historical foundations of music education.

**07S:207 Reading in Non-Roman Scripts** 3 s.h.

Theory and practice of reading in languages that use non-Roman alphabets, syllabary, logographic systems; reading in first and second language contexts; instructional and literacy development issues. Prerequisites: 07E:171 or 07P:270 or 07S:184. Same as 164:226.

**07S:208 Designing Materials for Second Language Instruction** 3 s.h.

Critical perspective on creating and using media for second language learning and teaching; research on materials design, development of media. Prerequisites: 07S:183. Same as 164:272.

**07S:209 Cultural Curriculum** 3 s.h.

Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as 164:229.

**07S:210 International Programs Summer Institute for Teachers** 3 s.h.

What Iowans need to know about the rest of the world; professional development workshop for teachers. One week. Same as 187:210.

**07S:230 Workshop in School Mathematics** 1-3 s.h.

Recent developments in school mathematics teaching methods and curriculum relevant to a selected issue; one to three weeks of intensive examination, experience.

**07S:231 Technology in School Mathematics** 2-3 s.h.

Methods, materials, issues, pedagogy, assessment; use, evaluation of technology for mathematics teaching and learning; implications for organization, development of course content.

**07S:233 History and Foundations of Social Studies Education** 3 s.h.

Historical, philosophical, social foundations of social studies education; recent debates over content and instructional processes; student research proposals.

**07S:235 Current Issues in Mathematics Education** 1-3 s.h.

Recent curriculum developments, experimental programs, research relevant to classroom instruction, trends in education that may have a significant impact on mathematics programs. Same as 22M:195.

**07S:236 Teaching of Geometry** 2-3 s.h.

Current developments in teaching middle school/junior high and high school geometry; selection, organization of content; research on teaching and learning.

**07S:239 Teaching of Algebra** 2-3 s.h.

Current developments in curriculum and instructional methods in secondary school algebra; classroom use of the history of algebra, use of technologies, implications of current research for the algebra classroom.

**07S:241 Music Education Workshop** 1 s.h.

For inservice music teachers; topics vary. Same as 025:220.

**07S:244 Individual Projects in Music Education** 1-2 s.h.

Projects of special concern to individual music teachers in the public schools.

**07S:250 Assessment in Teaching and Research** 3 s.h.

Formative assessment as a tool for teaching and learning; principles and practices; evaluation of tools for assessing learning/achievement.

**07S:252 Designing Strategies for Science Instruction** 1-4 s.h.

Strategies and instructional models characterizing science instruction at the elementary, secondary, college levels. Offered spring semesters and summer sessions.

**07S:255 Practices of Inquiry in Science Learning Environments** 3 s.h.

Contemporary perspectives on inquiry-based science teaching and learning, implications for theory and research; readings, discussions, presentations, and writing to examine and build upon policy-level science education reform discourse, sociological and organizational theory, empirical research in science education.

- 07S:256 Science Education: The Nature of Science** 3 s.h.  
Relationship between scientists' work and current theoretical and practical portrayals of the nature of science in K-16 education.
- 07S:257 Learning in the Science Classroom** 2-3 s.h.  
Assumptions about learning and about learning theories and their impact on pedagogical actions; how some concepts are planned and implemented.
- 07S:258 Writing in the Science Classroom** 3 s.h.  
Literacy in the science classroom; theoretical and pedagogical perspectives; practical classroom activities that lead to effective writing and increased learning.
- 07S:259 Advanced Pedagogy** 3 s.h.  
Theoretical and practical perspectives on pedagogy; how to assess practice, provide feedback, and build learning pathways for teachers.
- 07S:260 Restructuring Science Courses** 2-3 s.h.  
Constructivist learning model applied to existing science courses; emphasis on student-centeredness. Repeatable.
- 07S:277 Seminar: Social Studies Education** arr.  
Periodical literature, trends, curricular developments, research in various aspects of social studies education; for master's and doctoral candidates in social studies education.
- 07S:279 Advanced Research in Music Education** 3 s.h.  
Design, performance, analysis, and reporting of music research.
- 07S:280 Workshop: Teacher Training for Advanced Placement Courses** 1-2 s.h.  
Focus on a particular academic content area.
- 07S:306 Proposal Writing for Second Language Research** 3 s.h.  
Procedures and techniques for writing research proposals at the doctoral level; written research proposal dealing with a question in second language teaching and learning.
- 07S:310 Mixed Methods Research** 3 s.h.  
Introduction to mixed methods research in education; knowledge and skills necessary to conduct mixed methods study; history and language of mixed methods research; identify and process arguments for and against mixed methods research; extend understanding of research in education; develop an understanding of how to assess the strengths and weaknesses of published mixed methods studies; investigate one or more mixed methods research designs in depth; application of mixed methods research design to a research proposal. Prerequisites: 07X:150. Requirements: formal introduction to both quantitative and qualitative research methods, and familiarity with basic steps of the research process. Recommendations: direct experience conducting research studies is not required.
- 07S:315 M.A. Seminar: English Education** arr.  
Significant developments in English education; primary and collateral readings. Same as 08P:405.
- 07S:333 Seminar on Teacher Education** 3 s.h.  
History, structure, and politics of teacher education; current practice and agendas for reform; new developments in teacher assessment.
- 07S:335 Seminar: Research in Mathematics Education** arr.  
Analysis of current research, research methodology, curriculum developments in mathematics education; topics vary. Repeatable. Requirements: Ph.D. standing.
- 07S:341 Infusing a Global Perspective into the Curriculum** 3 s.h.

Rationales, conceptualizations, and themes in global perspectives in education, implications for curriculum change; elements of perspective consciousness, cultural universals, cultural diversity, cross-cultural awareness, global systems, global history, global issues; application and evaluation of ideas within fields of study and varied teaching situations.

- 07S:350 Seminar: Science Education** 0-2 s.h.  
Discussion of completed faculty and doctoral candidates' research, national issues, program features.
- 07S:355 Research in Science Education** 2-3 s.h.
- 07S:367 Seminar: Current Issues in Art Education** 3-4 s.h.  
Analysis of literature in art education and related disciplines. Repeatable. Same as 01E:367.
- 07S:370 Introduction to Qualitative Methods in Literacy Research** 3 s.h.  
Conceptual and practical exploration of qualitative research design methods, including data collection, analysis, and reporting; understanding proposal writing. Same as 08P:300.
- 07S:371 Critical Discourse Analysis in Educational Research** 3 s.h.  
Critical discourse analysis (CDA) as theory and method; social and power relations, identities, and knowledge through written, visual, and spoken texts in social settings, such as schools, families, communities; theoretical and methodological traditions of CDA in educational research; critical approaches to analyzing spoken, written, and visual texts. Prerequisites: 07B:373 or 07C:338 or 07P:331 or 07S:370.
- 07S:372 Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting** 3 s.h.  
Advanced course in traditional and contemporary qualitative data analysis methods and varied forms of reporting to understand, critique, and conduct research about literacy learning and teaching. Prerequisites: 07B:373 or 07C:338 or 07P:331 or 07S:370.
- 07S:373 Ethnographic Methods, Theories, and Texts** 3 s.h.  
Practical and theoretical background for conducting ethnographic field studies in literacy, schooling, language, or a field of student's choice; methods, methodologies, and perspectives from anthropology, sociology, folklore, journalism, literary criticism, cultural, critical, and composition theory; read historical and contemporary ethnography, consider ethnographic forms of expression (films, graphics, fiction, poems); roles, responsibilities, and ethics of writer, reader, viewer, and informant; tools, methods, and writer's techniques to develop an ethnographic portfolio. Prerequisites: 07B:373 or 07C:338 or 07P:331 or 07S:370.
- 07S:384 Teaching and Learning in Higher Education** 3 s.h.  
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as 07B:385, 07C:385, 07P:385, 650:385.
- 07S:385 Practicum in College Teaching** arr.
- 07S:393 Master's Thesis** arr.
- 07S:406 Research in the Arts and Humanities** arr.  
Individual research under supervision; applicable to thesis preparation, doctoral prospectus development. Repeatable. Same as 01E:406.
- 07S:407 Research: Science Education** arr.  
Planning of individual research projects by M.S. and Ph.D. students.
- 07S:415 Ph.D. Seminar in Language, Literacy, and Culture** arr.  
Historical, recent research and theory in literacy education; topics vary. Same as 08P:425.
- 07S:451 Advanced Qualitative Data Analysis** 3 s.h.  
Varied approaches to qualitative data analysis and philosophical foundations; analysis and interpretation of qualitative data; writing qualitative research findings. Prerequisites: 07B:373 or 07C:338 or 07P:331 or 07S:370.
- 07S:493 Ph.D. Thesis** arr.

## Special Education

Courses at the 100 level are open to students in education and related disciplines.

### **07U:100 Foundations of Special Education** 3 s.h.

Students with disabilities, gifted and talented; strategies for effective treatment, collaboration between regular and special education teachers; remediation of academic, behavioral, social problems. Requirements: admission to TEP.

### **07U:101 Methods: Child/Adolescents with LD and BD** 3 s.h.

Strategies for effectively teaching elementary and secondary students with learning disabilities and behavioral disorders; emphasis is on practical, empirically verified techniques. Requirements: admission to TEP.

### **07U:110 Teaching Deaf and Hard of Hearing Students** 3-4 s.h.

Issues in deaf education--management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in American Sign Language. Corequisites: 158:014, if not taken as a prerequisite. Same as 158:110.

### **07U:115 Introduction: Strategist I (Elementary)** 1-2 s.h.

Teaching students with mild disabilities in elementary resource placements; current trends and issues, basic and theoretical approaches, implications of federal and state statutes, multidisciplinary team approaches to providing appropriate educational programming; students complete a practicum with an elementary special education teacher. Corequisites: 07U:116. Requirements: admission to TEP.

### **07U:116 Methods: Strategist I (Elementary)** 3 s.h.

Methods and materials for students with mild to moderate disabilities in elementary resource placements; effective school collaboration; empirically validated strategies. Corequisites: 07U:115. Requirements: admission to TEP.

### **07U:121 Transition and Related Issues** 3 s.h.

Curriculums, programs, and delivery systems that help persons with disabilities move from preschool to elementary, elementary to middle school, middle school to high school, and to postsecondary life; emphasis on ecological and task analysis, transition planning strategies, interagency collaboration, self-determination, access to resources and support services.

### **07U:122 Supervised Teaching: Elementary Strategist I** 7 s.h.

Student teaching at the elementary level in a program for students with mild to moderate disabilities. Requirements: elementary education major.

### **07U:133 The Culturally Different in Diverse Settings** 3 s.h.

Diversity in society; laws--past and present, experiences, incidents, how they affect society.

### **07U:134 Parent-Teacher Communication** 1-3 s.h.

Realities of working with parents; interpersonal skills; options for parent support services. Same as 07P:134.

### **07U:136 Home/School/Community Partnerships** 3 s.h.

Issues related to collaboration among families, educators, community members in implementing school programs. Same as 07P:136.

### **07U:137 Introduction to Educating Gifted Students** 3 s.h.

Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as 07C:137.

### **07U:138 Assessment of Learning Problems** 3 s.h.

Effective use of varied formal and informal assessment techniques for students with learning and behavior problems; techniques that inform teaching decisions. Requirements: admission to TEP and Elementary Strategist I program.

### **07U:140 Characteristics of Disabilities** 3 s.h.

Etiologies of mild/moderate disabilities; current educational trends; educational alternatives; importance of multidisciplinary team; psychological and social-emotional characteristics of individuals.

- 07U:150 Behavioral and Social Interventions** 3 s.h.  
Individual behavioral management, behavioral change strategies, and social interaction strategies, methods, and techniques for individuals with exceptional learning needs.
- 07U:182 Instructional Decision Making in Education** 3 s.h.  
Overview of and practical application with curriculum-based procedures for assessment and evaluation; classroom-based measures to make educational decisions for instruction of students, particularly those experiencing academic difficulty.
- 07U:183 Academic and Behavioral Strategies for Students with Learning Disabilities and Behavioral Disorders** 3 s.h.  
Merge theory and practices for assessing, planning interventions, delivering instruction, and monitoring progress for individuals who have learning disabilities and emotional/behavioral disorders.
- 07U:184 Academic Skills for Students with Special Needs** 3 s.h.  
Introduction to appropriate methodology for teaching academic skills to students with significant learning difficulties; how to teach students effectively regardless of the label that might be applied to them or the setting to which they might be assigned; effective application of classroom-based measurement, curriculum development, and instructional strategies for teaching academic skills to education students with special needs.
- 07U:187 Introduction to Assistive Technology** 3 s.h.  
How assistive technology can be used for attainment of goals in education or work. Same as 07C:187.
- 07U:188 Practicum in Teaching and Curriculum Development in Gifted Education** 1-6 s.h.  
Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as 07C:188.
- 07U:190 Interdisciplinary Issues in Disabilities** 1-3 s.h.  
Critical issues related to interdisciplinary delivery of services to persons with developmental disabilities; observation and participation in staffing and consultation; opportunity for related community experiences.
- 07U:201 Strategist II Methods--Elementary** 3-4 s.h.  
Methods and materials; strategies for assessing behavior, academic achievement, social skills; instructional resources; consultation with parents and peers; collaboration strategies; empirically validated strategies. Prerequisites: 07U:138 or 07U:238.
- 07U:203 Strategist II Methods--Secondary** 3-4 s.h.  
Methods, materials, accommodations; practical skills for working in school/community settings; academic, affective, behavioral assessment; communication skills, management strategies, innovative program models, transition and career education planning; empirically validated strategies. Prerequisites: 07U:138 or 07U:238.
- 07U:206 Practicum with Exceptional Persons** arr.  
Practicum experience with students with disabilities; experiences differ depending upon student's program of study.
- 07U:209 Seminar: Graduate Supervised Teaching** 1 s.h.  
For students enrolled in graduate student teaching practicum. Requirements: special education major.
- 07U:231 Strategist I Methods** 4 s.h.  
Methods and strategies K-12 that include models for providing curricular and instructional methodologies used in educating mildly and moderately disabled, collaboration and consultation models; empirically validated strategies.
- 07U:236 Administration of Students with Special Needs** 3 s.h.  
Foundation for and skill practice in tasks performed by directors of special education and others administering to needs of special education students, and economically and socially deprived students; for prospective school administrative personnel. Same as 07B:236.
- 07U:250 Strategist I Student Teaching: Elementary** arr.  
Student teaching in an elementary mild and moderate special education program.

**07U:251 Strategist I Student Teaching: Secondary**

arr.

Student teaching in a secondary mild and moderate special education program.

**07U:252 Seminar: Behavioral Assessment and Evaluation**

3 s.h.

Broadens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as 07P:352.

**07U:253 Strategist II Student Teaching: Elementary**

arr.

Student teaching in K-8 learning disabilities or behavior disorders.

**07U:254 Strategist II Student Teaching: Secondary**

arr.

Student teaching in secondary learning disabilities or behavior disorders.

**07U:275 Explicit Instruction**

3 s.h.

Empirically supported methods for teaching reading and mathematics K-12 to students with mild-moderate disabilities; assessment and curricular adaptations to individual needs.

**07U:343 Proseminar: Issues, Trends, and Research in Special Education**

2-3 s.h.

Conceptual and practical development of research across special education and related disciplines; empirical review of the literature; focus on professional writing skills.

**07U:344 Proseminar: Issues, Trends, and Research in Special Education II**

2-3 s.h.

Recent research from a variety of special education areas reviewed by students; simulated comprehensive examinations. Prerequisites: 07U:343.

**07U:345 Current Issues and Trends in Learning Disabilities**

3 s.h.

Readings and discussions of current issues and trends in learning disabilities (e.g., definition, prevalence, interventions, subtyping, assessment).

**07U:348 Contemporary Research in Behavioral Disorders**

3 s.h.

In-depth analysis of current research in behavioral disorders; emphasis on evaluating its methodology and contribution to the field.

**07U:353 Seminar: Single Subject Design Research**

3 s.h.

Reviews of single subject research, development of student proposals; focus on special education, applied research.

**07U:355 Seminar: Transition**

3 s.h.

History, legal mandates, and practice of assisting persons with disabilities through the varied transitions of life.

**07U:392 Field Service Project in Special Education Internship**

arr.

Part-time or full-time experience as an intern in school districts or area education agencies; develops skills in supervision and administration of special education.

# College of Engineering

**Dean:** P. Barry Butler

**Associate dean, research and graduate studies:** Gregory R. Carmichael

**Associate dean, academic programs:** Alec B. Scranton

**Director, Center for Bioinformatics and Computational Biology:** Tom Casavant

**Director, Center for Computer-Aided Design:** Karim Abdel-Malek

**Co-director, Iowa Institute for Biomedical Imaging:** Milan Sonka

**Director, IIHR—Hydrosciences & Engineering:** Larry Weber

**Degrees:** B.S.E., M.S., Ph.D.

**Web site:** <http://www.engineering.uiowa.edu>

Engineering is defined by the Accreditation Board for Engineering and Technology as that profession in which knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to use, economically, the materials and forces of nature for the benefit of mankind.

In short, engineering is the application of science and mathematics to solve problems for society.

The major aim of engineering is the creation of a new process, product, material, or system. This activity demands a high degree of creativity and problem solving ability coupled with a full understanding of engineering fundamentals, good judgment, and a practical sense of economics.

The College of Engineering prepares men and women for one or more of the many career opportunities in the engineering profession. Such opportunities include positions in design, production, development, research, management, and consulting. Engineers are employed in industrial organizations, governmental agencies, and private practice.

The College of Engineering's mission is to develop, disseminate, transfer, and preserve technical knowledge that improves people's lives. The college endeavors to:

- provide a well-rounded and superior engineering education that draws upon resources of a comprehensive research university to attract outstanding undergraduate and graduate students in selected engineering fields;
- conduct high-quality research in selected areas, enabling faculty members and students to keep pace with new developments and ensuring that the newest concepts are taught in its courses; and
- serve the needs of the University, industry, government, and the general populace by making its facilities and faculty expertise accessible.

## College Organization

The College of Engineering has five departments and four research units. The Department of Biomedical Engineering, Department of Chemical and Biochemical Engineering, Department of Civil and Environmental Engineering, Department of Electrical and Computer Engineering, and Department of Mechanical and Industrial Engineering offer a total of six undergraduate programs and many graduate programs.

The research units are the Center for Bioinformatics and Computational Biology, the Center for Computer-Aided Design, the Iowa Institute for Biomedical Imaging, and IIHR—Hydroscience & Engineering.

## Inclusion at the College of Engineering

The College of Engineering works to be a national leader in including women and men from all races and ethnic groups in its student body and in providing a model for other institutions that are interested in strengthening inclusion of all peoples in engineering. To these ends, it has developed a program that supports inclusion efforts such as outreach to K–12 students in the Midwest, mentoring of undergraduate and graduate students, and recruitment of faculty members. The program enjoys the support of several international engineering and manufacturing firms. Learn more at the Ethnic Inclusion Effort for Iowa Engineering web site.

## Undergraduate Programs

The College of Engineering offers the Bachelor of Science in Engineering (B.S.E.) in six major fields: biomedical engineering, chemical engineering, civil engineering, electrical engineering, industrial engineering, and mechanical engineering. The undergraduate programs are designed to attract the best and brightest students and prepare them to be engineers who will succeed in a workplace filled with diverse people, attitudes, and ideas; to compete in the global marketplace; to work effectively in multidisciplinary teams; and to confidently understand, use, and develop modern technology.

All six B.S.E. programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. Each has its own set of articulated educational objectives, and all are designed to ensure that graduates possess the following general attributes:

- ability to apply knowledge of mathematics, science, and engineering;

- ability to design and conduct experiments as well as to analyze and interpret data;
- ability to design a system, component, or process to meet desired needs;
- ability to function on multidisciplinary teams;
- ability to identify, formulate, and solve engineering problems;
- understanding of professional and ethical responsibility;
- ability to communicate effectively in oral, written, and graphical forms;
- broad education necessary to understand the impact of engineering solutions in a global and societal context;
- recognition of the need to engage in lifelong learning and the ability to do so;
- knowledge of contemporary issues; and
- ability to use the techniques, skills, and modern engineering tools necessary for successful engineering practice.

The University of Iowa B.S.E. programs distinguish the College of Engineering from other engineering colleges in the region. They draw on the University's recognized strengths to offer unique opportunities for students who wish to pursue a wide range of career options and an education that goes beyond technology.

Each program emphasizes a broad understanding of fundamental principles common to all engineering disciplines and provides students with the opportunity to specialize in a selected engineering discipline. All build on the University's research strengths. Program flexibility is provided by a curriculum in which each student develops engineering competency within a particular academic program and complements it with a tailored thematic option in support of chosen career objectives (e.g., engineering practice, project management, research and development).

### **Joint Degrees, Minors, Certificates**

All of the college's B.S.E. programs may be combined with a second B.S.E., a Bachelor of Business Administration (B.B.A.) in the Tippie College of Business, or a bachelor's degree in the College of Liberal Arts and Sciences; see "Joint and Dual Degrees" later in this section, and contact the Student Development Center for details.

The College of Engineering and the University of Northern Iowa offer a dual degree program in which students earn a B.S. in applied physics from UNI and a B.S.E. from The University of Iowa. The college also offers a joint bachelor's/master's degree with the University's Urban and Regional Planning Program. See "Joint and Dual Degrees" later in this section.

B.S.E. students in each College of Engineering program may be eligible to enroll in a joint Bachelor of Science in Engineering/Master of Science program, which allows them to begin working on the master's degree while they are completing the B.S.E.; see "Joint B.S.E./M.S." in each College of Engineering department section of the Catalog.

Engineering students may earn a minor in the Tippie College of Business or in the College of Liberal Arts and Sciences; see "Minors" later in this section. Students also may pursue certificates in international business, sustainability, and technological entrepreneurship; see "Certificates" later in this section.

### **Bachelor of Science in Engineering**

The Bachelor of Science in Engineering (B.S.E.) requires a minimum of 128 s.h. Students must be enrolled in the College of Engineering for at least the last 30 s.h. of work toward the degree, or 45 of the last 60 s.h., or a total of 90 s.h. They must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as on all work undertaken at The University of Iowa. All students must complete 22M:031 Engineering Mathematics I: Single Variable Calculus and 22M:032 Engineering Mathematics II: Multivariable Calculus, or their equivalents, with a grade of C-minus or higher in each course.

The faculty of each engineering program has established a curriculum--a set of required and elective courses that must be completed satisfactorily as part of the requirements for a B.S.E. in that program. The purpose of each program's curriculum is to prepare students for the practice of engineering in that program. General guidelines for establishing course requirements in each program are provided by the national accrediting body, the Accreditation Board for Engineering and Technology (ABET).

Each B.S.E. student also must satisfy the requirements of his or her specific program, as described in the Catalog's College of Engineering department sections: Biomedical Engineering, Chemical and Biochemical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical and Industrial Engineering.

### **Curriculum Stems**

The curriculum for each program is divided into four major curriculum stems: mathematics and basic sciences; engineering topics; elective focus area; and general education (humanities and social sciences). In addition to the four major stems, there are a few general background courses that fall outside of the stems. Students take these courses during the first year. They include 059:005 Engineering Problem Solving I and 059:006 Engineering Problem Solving II and 010:003 Rhetoric, which is a first-year course in writing, speaking, and critical reading. Engineering Problem Solving I-II covers a breadth of topics from engineering as a profession to team design projects to engineering computations and computer programming.



All of the courses in the curriculum stems are integrated and sequenced to help students understand the interrelationships and importance of each stem.

### **MATHEMATICS AND BASIC SCIENCES**

The mathematics and basic sciences stem provides the foundation upon which the engineering courses in each engineering program are based. This stem includes a minimum of five courses in mathematics and statistics and one each in chemistry and physics. The faculty of each engineering program has specified at least one additional chemistry or physics course and other additional mathematics or science courses beyond these minimum requirements to provide a base appropriate for the program's major.

### **ENGINEERING TOPICS**

The second curriculum stem, engineering topics (science and design), builds upon the math and science stem, providing a bridge from fundamental principles to applications and creative practice.

The engineering science courses use the underlying principles learned in the mathematics and basic science courses to understand and predict the behavior of idealized models of real components or systems encountered in engineering. These courses include fundamentals of statics, thermodynamics, and electrical circuits, as well as other engineering courses relevant to each major.

Engineering design is the process of devising a system, component, or process to meet desired needs. It is a decision-making process, often iterative, in which the basic sciences, mathematics, and engineering sciences are applied optimally to convert resources to meet a stated objective. The design process includes the establishment of objectives and criteria, synthesis, analysis, construction, testing, and evaluation. Essential to the design process is the inclusion of realistic constraints such as economic factors, safety, reliability, aesthetics, ethics, and social and environmental impact.

### **ELECTIVE FOCUS AREA**

In each undergraduate program, a pool of semester hours is set aside to enable students to build strength in a technical focus area, pursue a formal minor, earn a multidisciplinary certificate, or pursue a tailored program of study. Each program has its own set of guidelines and constraints for the elective focus area. See "Elective Focus Area" below.

### **GENERAL EDUCATION COMPONENT**

The fourth stem involves general education course work in the humanities and social sciences. This stem promotes understanding of and appreciation for society and culture. See "General Education Component" below.

### **First and Second Years**

Approximately one-third of the course requirements in each engineering program are common to all engineering majors. These common course requirements constitute a core program. Students take most of the courses in the core program during the first and second years, along with a few program-specific courses. Hence, most students may postpone making a decision about which engineering major to pursue or may change their engineering major during their first three semesters with little or no loss of time or credit. The remaining curriculum for each engineering program is listed in the Catalog's College of Engineering department sections.

The first- and second-year courses common to all majors are listed below. Not all students complete all of these courses in the first three semesters. Students who do not follow this three-semester plan may encounter a delay in graduation because of scheduling problems for courses that require sequencing or that are offered only once a year.

#### **First Semester**

004:011 Principles of Chemistry I (all majors)	4 s.h.
010:003 Rhetoric (all majors)	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus (all majors)	4 s.h.
059:005 Engineering Problem Solving I (all majors)	3 s.h.
059:090 Engineering Success Seminar for First-Year Students (all majors)	1 s.h.

#### **Second Semester**

004:012 Principles of Chemistry II (biomedical, chemical, and environmental majors)	4 s.h.
or	
General education component I (civil, electrical, industrial, and mechanical majors)	3 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus (all majors)	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra (all majors)	2 s.h.
029:081 Introductory Physics I (all majors)	4 s.h.
059:006 Engineering Problem Solving II (all majors)	3 s.h.

### Third Semester

22M:034 Engineering Mathematics IV: Differential Equations (all majors)	3 s.h.
029:082 Introductory Physics II (biomedical, civil, electrical, industrial, and mechanical majors)	3-4 s.h.
or	
General education component I (optional, chemical and environmental majors)	3 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.
059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.

Students are required to complete 010:003 Rhetoric to satisfy the rhetoric requirement.

Credit earned for courses below the level of the beginning courses specified in each engineering curriculum appears on a student's grade report and permanent record but is not used to satisfy any course requirements (including electives) for an engineering degree. Examples of courses in this category include 22M:009 Elementary Functions and 004:009 Supplemental Chemistry Lab.

### General Education Component

Students choose 15 s.h. of general education (humanities and social science) courses from approved department and college areas; at least 3 s.h. must be from the pool of courses that the College of Engineering has designated as humanities courses, and at least 3 s.h. must be from the pool of courses that the college has designated as social science courses. To ensure depth, at least 6 s.h. of general education credit should be earned in intermediate (100-level) courses. At least one of the 100-level courses should be taken in the same department as a lower-level course already completed. Humanities and social science subject areas are defined by the College of Engineering; they may not correspond to the same general education area definitions used by the College of Liberal Arts and Sciences. Individual engineering programs may require further depth in one area and may include one or more of the general education requirements as part of a student's elective focus area.

Courses that are primarily mathematical or scientific in nature and those designed specifically to develop art, music, or physical education skills are not accepted as social science or humanities electives.

Credit may be earned by examination; see "Undergraduate Academic Rules and Procedures"/"Academic Standards"/"Credit by Examination" later in this section.

Humanities and social science course work transferred to The University of Iowa by students with A.A. degrees who enter the College of Engineering directly from two-year schools is evaluated on the same basis as similar course work transferred by other students entering the college without a B.A. or B.S.

Students who enter the College of Engineering with a B.A. or B.S. are considered to have satisfied the general education (humanities and social science) requirement.

Students who enroll in a combined degree program in the College of Engineering and the College of Liberal Arts and Sciences or the Tippie College of Business are considered to have satisfied the College of Engineering's general education requirement once they have completed all requirements for the liberal arts and sciences or business degree.

For details, see General Education Component (GEC) on the college's web site.

### Elective Focus Area

Students choose elective focus area courses in two broad categories: traditional career goals and nontraditional career goals. Students choice of degree plan and courses may affect the number and type of employment opportunities available to them after graduation. Program advisors help students develop coherent, well-focused plans that fit their goals.

Students who pursue a well-defined plan may replace up to 21 s.h. of traditional technical electives with course work toward a minor or certificate. Or with an advisor's guidance, they may pursue a rigorous, well-focused, nontraditional program outside existing minor or certificate programs. Each College of Engineering undergraduate program is responsible for approving proposed plans of study, ensuring that the program's ABET accreditation criteria are met and that students' choices are consistent with their career aspirations and with the college's educational mission.

To pursue one of these alternatives, a student must define and justify his or her career goal, obtain the program's approval for the detailed plan of study before taking the courses, and then complete the plan as it has been defined.

Guidelines for elective focus areas vary by program. For details, see Engineering Curriculum Guides and EFAs on the college's web site.

## **Four-Year Graduation Plan**

College of Engineering students who choose to participate in the University's Four-Year Graduation Plan must be admitted on schedule and must complete specified courses during the first year in order to stay on the plan. They must work closely with their advisors to make sure they know what requirements must be met and the appropriate sequences in which to take courses.

The agreement holds both the student and the University responsible for clearly defined actions to ensure graduation within four years. Since changes in a student's interests may lead to changes in goals or majors, there is no penalty for withdrawing from the Four-Year Graduation Plan. For more information, contact the College of Engineering's Student Development Center.

## **Honors Program**

The College of Engineering Honors Program provides special recognition for outstanding undergraduate students who demonstrate exceptional accomplishment through research, directed independent study, teaching internships, or other approved nondegree enrichment activities. Engineering students who wish to graduate with honors must maintain a University of Iowa g.p.a. of at least 3.33, complete an honors project with a faculty member, and participate in a college-wide honors seminar with faculty members and other honors students. Successful completion of the honors program requirements leads to a B.S.E. with honors, which is recorded on the student's University academic record.

First-year and sophomore students with a University of Iowa g.p.a. of at least 3.33 are automatically admitted to the University of Iowa Honors Program, which provides access to all of the services offered through the University's Honors Center. Engineering students are encouraged to participate in honors activities. Engineering students are the second largest collegiate group in the University Honors Program.

For more information, contact the College of Engineering associate dean for academic programs.

## **Minors**

Students graduating from the College of Engineering may earn a minor in the Tippie College of Business or a minor or minors in any degree-granting department or approved program in the College of Liberal Arts and Sciences. A minor in another college may be earned by satisfying requirements established by the college offering the minor. A notation of the minor is entered on the student's permanent record.

College of Engineering programs generally allow use of a non-engineering minor to satisfy their elective focus area requirements. Students who pursue this option must work closely with program advisors to ensure compatibility with their engineering career aspirations.

Students must inform the Office of the Registrar of their fulfillment of minor requirements when they apply for a degree. This assures that the minor designation is included on their transcript. See "Undergraduate Academic Rules and Procedures"/"Application for Degree" later in this section.

### **Minor in Business Administration**

The Tippie College of Business offers a minor that is open to undergraduate students in other colleges, including the College of Engineering. The minor in business administration requires 37 s.h., including at least 12 s.h. taken in the Tippie College of Business. Students must maintain a g.p.a. of at least 2.00 in the minor overall and in all courses in the minor taken at The University of Iowa. Course work in the minor may not be taken pass/nonpass.

Engineering students who wish to earn the minor in business administration must complete the following courses.

06A:001 Introduction to Financial Accounting	3 s.h.
06A:002 Managerial Accounting	3 s.h.
06E:001 Principles of Microeconomics	4 s.h.
06E:002 Principles of Macroeconomics	4 s.h.

06F:100 Introductory Financial Management (engineering students may substitute 056:054)	3 s.h.
06J:047 Introduction to Law	3 s.h.
06J:048 Introduction to Management	3 s.h.
06K:070 Computer Analysis (engineering students may substitute 059:006)	3 s.h.
06M:100 Introduction to Marketing Strategy	3 s.h.
22M:017 Calculus and Matrix Algebra for Business (engineering students may substitute 22M:031)	4 s.h.
22S:008 Statistics for Business (engineering students may substitute 22S:039)	4 s.h.

For a list of approved substitutions and additional details about the minor, see Business Minor on the Tippie College of Business web site.

In order to have the minor listed on their transcripts, students must add the minor to their Application for Degree.

### **Minors in Liberal Arts and Sciences Disciplines**

Engineering students who wish to earn a minor offered by the College of Liberal Arts and Sciences must complete a minimum of 15 s.h. in the minor, including at least 12 s.h. in advanced courses taken at The University of Iowa and approved by the school, department, or program offering the minor. Students should confer with the academic unit offering the minor to identify acceptable courses. Students must have a g.p.a. of at least 2.00 in courses taken for the minor. Courses in the minor may not be taken pass/nonpass. See Majors and Minors on the CLAS web site.

### **Certificates**

University of Iowa undergraduate students may earn certificates in a variety of disciplines, offered by several colleges. The Certificate in International Business and the Certificate in Technological Entrepreneurship are of special interest for engineering students.

#### **Certificate in International Business**

The Tippie College of Business and the College of Liberal Arts and Sciences offer the Certificate in International Business. The program is designed for University of Iowa undergraduates interested in broadening their understanding of the global economy and their awareness of the political, historical, and social environment in which international business operates.

Certificate students study international business and economics, international relations and institutions, a foreign language, and the contemporary art, literature, culture, and/or politics of the related geographical area. The certificate's range of courses permits students to tailor areas of specialization that suit their individual interests and complement their majors.

The certificate requires 29 s.h.; a minimum of 20 s.h. must be completed at The University of Iowa or in approved study abroad programs. Guided Independent Study is accepted toward the certificate. Students must maintain a g.p.a. of at least 2.00 on all certificate course work. Certificate courses may not be taken pass/nonpass, nor may a single course be counted toward more than one certificate requirement.

Interested students must declare their intention to pursue the certificate with the international business certificate advisor in the Tippie College of business; contact the Tippie Undergraduate Program Office for details.

For a detailed description of certificate requirements, see International Business in the Catalog.

#### **Certificate in Sustainability**

The Certificate in Sustainability provides students with the knowledge and skills they will need in order to contribute to sustainable systems and their interactions, especially those related to energy, society, culture, economics, the built environment, health, and public policy.

Certificate students acquire knowledge of the multidisciplinary breadth of the field through the program's four areas of breadth electives: changing environments and human health; energy, climate, and built environments; the power of culture and society; and ethics, economics, and public policy. They also gain experience analyzing real-life problems in and outside of the classroom and working collaboratively to solve such problems.

The certificate requires 24 s.h. of course work with a g.p.a. of at least 2.00. To learn more about the certificate, see Sustainability (University College) in the Catalog.

#### **Certificate in Technological Entrepreneurship**

The College of Engineering and the Tippie College of Business offer a joint program leading to the Certificate in Technological Entrepreneurship. The program entails study of the entrepreneurial process as it relates to technology.

The certificate program is designed not only for students who intend to start and/or operate their own business but for

any student interested in gaining a better understanding of the entrepreneurial process. The program's range of electives permits students to tailor areas of specialization to their individual interests.

Interested students must declare their intention to pursue the certificate with the College of Engineering technological entrepreneurship program faculty representative. To receive the certificate, students must be granted a degree in engineering; maintain a g.p.a. of at least 2.00 on all certificate course work; and take at least 12 s.h. of certificate course work at The University of Iowa or in approved study-abroad courses. Completion of the program results in the notation "Certificate in Technological Entrepreneurship" on the student's transcript.

Learn more on the Certificate in Technological Entrepreneurship web site. For application information, contact the College of Engineering Office of the Dean.

## **Cooperative Education and Internship Program**

The Cooperative Education and Internship Program offers students the opportunity to explore engineering careers and develop engineering skills through periods of professional practice while they are still students. Supervised professional engineering-related experiences in business, industry, education, or government expose students to the challenges and opportunities of the day-to-day life of an engineer. Students with co-op and/or internship experience are sought by employers and usually receive higher starting salaries upon graduation. A portion of registered co-op and/or internship experience before graduation can be credited toward the experience requirements for professional licensure in Iowa and some other states.

Qualified students may choose to alternate periods of on-campus study with full-time work experience, or they may elect to work half-time while taking at least 6 s.h. of classes. The co-op experience can cover one to three semesters, a series of summer placements, or a single summer. Students may apply to the program following their first year. Academic record and class status are considered in acceptance decisions. Interested students and employers or organizations must register with the College of Engineering director of professional development. For details, see Engineering Professional Development.

## **Second B.S.E. Degree**

Current College of Engineering students and recent graduates may earn a second Bachelor of Science in Engineering. The second degree must include all courses required by the second engineering degree program, including the senior-level design course sequence and any specific social science elective requirements. Elective focus area courses selected for the second B.S.E. must be of a variety and level that permit students to meet at least the minimal level of competence usually expected of graduates of that program.

Students must file an academic study plan, which must be approved by the faculty of the second degree program, submitted to the Student Development Center, and placed in the student's permanent file before the student may begin course work in the second B.S.E. The study plan should include a list of the courses to be taken in the second program along with a list of the courses already completed and yet to be completed for the first engineering degree program. Any changes in the plan must be approved by the student's faculty advisor in the second program and by the department chair of that program (the college petition form may be used for this purpose), submitted to the Student Development Center, and placed in the student's permanent file.

## **Joint and Dual Degrees**

### **Joint B.B.A./B.S.E.**

The College of Engineering and the Tippie College of Business offer a joint degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Science in Engineering (B.S.E.) from the College of Engineering.

Students in the joint program must complete all requirements for both degrees, including all General Education requirements. They must enroll in appropriate mathematics and engineering courses early in their course of study in order to complete the program in a timely way. Because courses in natural sciences, mathematics, humanities, and social sciences count toward the B.B.A. and the B.S.E., students may count a single course toward both degrees.

B.B.A./B.S.E. students usually meet the degree requirements of both colleges in about five years; time required depends on the student's choice of major study areas.

The second-grade option is not available to all students in joint degree programs. Students should consult with their advisors before pursuing a second-grade option.

Students are assigned two advisors, one in the Tippie College of Business Undergraduate Program Office and the other in their College of Engineering major department.

To enter the joint degree program, students must have approval from both colleges and must be admitted to both

colleges. Interested students should contact the College of Engineering Student Development Center.

For information about the B.B.A., including requirements for the degree, see Bachelor of Business Administration (Tippie College of Business) in the Catalog.

### **Joint B.S.E./Liberal Arts and Sciences Degree**

Students may earn two University of Iowa baccalaureate degrees in a joint program in the College of Engineering and the College of Liberal Arts and Sciences. Successful candidates are awarded a B.S.E. (Bachelor of Science in Engineering) by the College of Engineering and a B.A. (Bachelor of Arts), B.S. (Bachelor of Science), B.F.A. (Bachelor of Fine Arts), or B.M. (Bachelor of Music) by the College of Liberal Arts and Sciences.

Students in joint degree programs must complete all requirements for both degrees, including the College of Liberal Arts and Sciences General Education Program and the College of Engineering general education curriculum stem.

Students in the joint program usually are able to meet the degree requirements of both colleges in about five academic years. The exact length of time necessary to complete the program is determined by the major areas of study selected in each college. Students who enter the joint degree program are assigned two faculty advisors, one in their major department in the College of Engineering and the other in their major department in the College of Liberal Arts and Sciences.

To enter the joint degree program, students must be admitted to both the College of Engineering and the College of Liberal Arts and Sciences and must have College of Engineering approval to enter the joint degree program. Joint degree program applicants must meet the high school course or unit requirements for admission to each of the two colleges.

It is crucial that students enroll in the proper mathematics and engineering courses early in their course of study to expedite the completion of the program. The specific engineering courses taken by each student vary according to engineering major. Since courses in natural sciences, mathematics, humanities, and social sciences are accepted for credit by both colleges, students may be able to count a particular course toward both degrees.

Contact the Student Development Center for information about specific requirements. To learn about liberal arts and sciences majors, visit College of Liberal Arts and Sciences in the Catalog and select majors from the college index.

### **B.S./B.S.E. Dual Degree with Northern Iowa**

The 3+2 dual degree program leads to a B.S. in applied physics from the University of Northern Iowa (UNI) and a B.S.E. from The University of Iowa. It requires approximately three years of study at UNI followed by approximately two years of study at Iowa. There is no guarantee that students can complete the 3+2 degree in five years.

Students interested in the program are guaranteed admission to the University of Iowa portion of the program if they have a g.p.a. of at least 3.00 (B average) in all course work and in the chemistry, mathematics, and physics courses required by the University of Northern Iowa physics department.

During the first three years of the program, students complete at least 90 s.h. of course work at the University of Northern Iowa. They must successfully complete courses in each of the following areas: chemistry, mathematics through differential equations, physics to satisfy the applied physics major requirements, and courses to satisfy the General Education requirements. Credit for courses passed with a grade of C or higher is transferred to The University of Iowa as credit for equivalent courses there.

At The University of Iowa, students complete the B.S.E. requirements that were current at the time of their admission to the UI College of Engineering. Course work completed at The University of Iowa is transferred to the University of Northern Iowa and applied toward the requirements for that institution's B.S. in applied physics.

When transferring to Iowa from UNI, students must submit applications for admission, housing, and financial aid to The University of Iowa by the University's established deadlines.

### **Joint B.S.E./M.S. or M.A. in Urban and Regional Planning**

The College of Engineering and the Urban and Regional Planning Program offer the joint Bachelor of Science in Engineering/Master of Arts or Master of Science in urban and regional planning. The joint degree requires a minimum of 152 s.h. The program is designed for students who wish to pursue a public or private sector career in planning, a field that encompasses the development of alternatives to improve the quality of life in cities and regions.

Graduates of the combined program are technically oriented professionals who have a clear understanding of policy development and implementation. They fill positions such as public works director, transportation engineer, and public utilities staff member. Their work involves a blend of civil and industrial engineering problems and policy analysis.

The joint program satisfies all requirements of both degrees. Its required 152 s.h. includes at least 45 s.h. of urban and regional planning graduate courses. Completion of the program takes five years--one fewer than would be required for consecutive completion of both programs.

Each student in the joint program has two advisors, one in engineering and one in urban and regional planning. Students enroll in the College of Engineering for their first four years in the program and in the Graduate College for their fifth year. Successful students receive a B.S.E. at the end of the fourth year and an M.A. or M.S. in planning at the end of the fifth year.

To join the combined degree program, students must first be admitted to the College of Engineering. During spring semester of their second year in engineering, they apply for admission to the joint program. Students admitted to the program apply for admission to the Graduate College at the end of their fourth year. Applicants must have completed all requirements for a B.S.E., have an undergraduate g.p.a. of at least 3.00, and earn a score on the Graduate Record Exam (GRE) General Test judged satisfactory by the urban and regional planning admissions committee.

While enrolled in the College of Engineering, students must maintain the overall grade-point average required by their engineering program.

Students also must maintain a g.p.a. of at least 3.00 in planning courses in the joint program. If they do not, they may be placed on academic probation, and if they fail to satisfy the conditions of probation, they are dismissed from the joint program. Dismissal from the joint program does not affect a student's standing in the College of Engineering.

Students in the joint program must maintain a cumulative g.p.a. of at least 3.00 in order to graduate with an M.A. or M.S. in planning.

### **CURRICULUM**

Students in the joint program follow the standard B.S.E. curriculum for their College of Engineering program during the first and second year. Urban and regional planning courses (prefix 102) are added in the third and fourth years. Students earn 15 s.h. of their required B.S.E. elective focus area credit in courses that also meet the requirements of the M.A. or M.S. in planning.

During the summer after the fourth year, most students in the joint program complete an approved internship.

The fifth year usually includes the remaining urban and regional planning core courses and electives. Students take the M.S. or M.A. comprehensive examination during spring of the fifth year.

A typical study plan calls for completion of the following planning courses during the third and fourth years (15 s.h. of credit is applied to requirements of both the B.S.E. elective focus area and the planning courses).

Third year, fall semester:

102:202 Land Use Planning: Law and Practice	4 s.h.
102:205 Economics for Policy Analysis	3 s.h.

Third year, spring semester:

102:201 Analytic Methods in Planning II	2 s.h.
---	--------

Fourth year, fall semester:

102:203 History and Theories of Planning	3 s.h.
--	--------

Fourth year, spring semester:

Electives	3 s.h.
-----------	--------

During the fifth year and the preceding summer session, students take the remaining 30 s.h. of planning courses, as follows. This completes the 45 s.h. of planning course work required for the M.S. or M.A.

Summer before fifth year:

102:335 Internship	2 s.h.
--------------------	--------

Fifth year, fall semester:

102:208 Program Seminar in Planning Practice	1 s.h.
102:209 Field Problems in Planning I	3 s.h.
Electives	12 s.h.

Fifth year, spring semester:

102:210 Field Problems in Planning II  
Electives

3 s.h.  
11 s.h.

See Urban and Regional Planning (Graduate College) in the Catalog for course descriptions and information about the University's Urban and Regional Planning Program.

### **Admission to the B.S.E.**

Applicants for admission to the College of Engineering as first-year students for academic year 2011-12 must have successfully completed at least four years of English/language arts; four years of mathematics, which must include at least two years of algebra, one year of geometry, and one year of higher mathematics (trigonometry, analysis, calculus); two years of a single foreign language; three years of natural science, which must include at least one year of chemistry and at least one year of physics; and at least two years of social studies. A high school computer programming course is recommended but not required.

Applicants are guaranteed admission to the College of Engineering if they have no high school unit deficiencies, a ACT composite score of 25 or higher, an ACT math score of 25 or higher, and a Regent Admission Index score of at least 265. Students who do not meet these requirements, or who attend a high school that does not rank its students, are encouraged to send recommendations from math and science teachers and a personal statement, which will be considered in an individual review by the College of Engineering.

Students who are admitted through the individual review process may be required to make up deficiencies by taking a lower-level course in their area of deficiency before enrolling in the first required course in that area. For example, students who have high math grades and standardized test scores, but who are deficient by one unit in mathematics, may be required to complete a course such as 22M:009 Elementary Functions before enrolling in the first engineering calculus course.

Incoming first-year and transfer students who do not meet the foreign language requirement may be admitted on conditional status for a maximum of four semesters in order to complete two semesters of an introductory college-level foreign language.

Students who are unsure whether to pursue a degree in engineering or a degree in liberal arts and sciences are strongly encouraged to begin in engineering if they meet the admission requirements.

Information about undergraduate engineering admission requirements is available on the Office of Admissions web site.

### **Transfer Applicants**

Transfer applicants must have completed the same high school unit requirements as entering first-year students and must submit an official high school transcript as well as a transcript of college work undertaken at other institutions. To transfer to the College of Engineering, students must have demonstrated success in math, science, and engineering courses, ideally earning all As and Bs with no grade lower than a C in these foundation subjects. Transfer students must have completed calculus I and the equivalent of either 004:011 Principles of Chemistry I or 029:081 Introductory Physics I (the first semester of chemistry designed for majors, or the first semester of calculus-based physics). Overall grade-point average also is considered in transfer applications.

Information about engineering admission requirements for transfer students is available on the Office of Admissions web site.

## **Academic Rules and Procedures**

### **Academic Advising**

Undeclared engineering students are advised by the staff members in the Student Development Center. Engineering students who have declared an academic program are advised by faculty advisors assigned to that program. Students may request a change of advisor when it is deemed appropriate. All students are required to have a conference with their advisors before registering for classes each semester.

### **Application for Degree**

Students who wish to be considered for graduation must file an Application for Degree with the Office of the Registrar before the deadline date during the session in which the degree is to be conferred.

Students who do not graduate on the date indicated in the Application for Degree must file another application for the



next applicable session. Students do not need to be registered to apply for a degree.

See Apply for Degree on the Office of the Registrar web site.

## **Academic Recognition**

### **GRADUATION WITH HONORS**

Graduation with honors recognizes high academic achievement based on both grades and exceptional accomplishment. To be eligible for graduation with honors, students must be recommended by their major department and approved by a selected honors committee and the director of the honors program, and they must complete honors requirements. See "Honors Program" under Bachelor of Science in Engineering.

### **GRADUATION WITH DISTINCTION**

Graduation with distinction recognizes high academic achievement based on grades. The college awards degrees "with highest distinction" to students in the highest 2 percent of their graduating class, "with high distinction" to students in the next-highest 3 percent, and "with distinction" to students in the next-highest 5 percent. Ranking is based on students' grade-point average for all college-level study taken up to their final registration.

To be eligible to be considered for graduation with distinction, students must complete their final 60 s.h. of study in residence at the college and must have completed at least 45 s.h. in the college before their final registration. Students in the combined engineering/liberal arts and sciences program are eligible to graduate with distinction regardless of the college in which they complete their residency requirement.

### **DEAN'S LIST**

Students in the undergraduate Tippie College of Business, Colleges of Engineering, Liberal Arts and Sciences, and Nursing, and undergraduate programs in the Carver College of Medicine who achieve a grade-point average of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work (including Guided Independent Study courses) during a semester (or summer session) and who have no hours of I (incomplete) or O (no grade reported) for that enrollment are recognized by inclusion on the Dean's List for that semester (or session).

### **PRESIDENT'S LIST**

University of Iowa undergraduate students who achieve a grade-point average of 4.00 on 12 s.h. or more of University of Iowa graded course work (including Guided Independent Study Courses) and who have no hours of I (incomplete) or O (no grade reported) for two consecutive semesters (including summer session) are recognized by inclusion on the President's List.

## **Academic Standards**

### **MAXIMUM SCHEDULE**

Course schedules of more than 18 s.h. for a semester, 9 s.h. for a summer session, or 3 s.h. for a winter session require approval of the advising staff in the college's Student Development Center. Permission to Register for Additional Hours forms are available on the center's web site.

### **CLASSIFICATION OF STUDENTS**

Students in the College of Engineering are classified by the number of semester hours of credit they have earned toward the Bachelor of Science in Engineering.

First-year: 0-29 s.h. earned toward the B.S.E.

Sophomore: 30-59 s.h. earned toward the B.S.E.

Junior: 60-89 s.h. earned toward the B.S.E.

Senior: 90 s.h. or more earned toward the B.S.E.

### **GRADING SYSTEM**

The college uses a letter grading system. A denotes superior performance, B denotes above average, C denotes average, D denotes below average, and F denotes failure of the course. Plus and minus designate gradations of performance between letter grades. Letter grades and their numerical equivalents are as follows.

A-plus: 4.33

A (superior): 4.00

A-minus: 3.67

B-plus: 3.33

B (above average): 3.00

B-minus: 2.67

C-plus: 2.33

C (average): 2.00

C-minus: 1.67

D-plus: 1.33

D (below average): 1.00

D-minus: 0.67

F (failing): 0

This grading system is used for all students in both undergraduate and graduate engineering courses. Grades of D-minus are passing grades; that is, courses completed with grades of D-minus or higher count toward collegiate requirements, with the exception of 22M:031 Engineering Mathematics I: Single Variable Calculus and 22M:032 Engineering Mathematics II: Multivariable Calculus, which have a minimum grade requirement of C-minus or higher. Grades of A-plus have a value of 4.33 in calculating grade-point averages, but averages displayed in University records are truncated so that they do not exceed 4.00.

#### **ACADEMIC PROBATION AND DISMISSAL**

Students who do not achieve or surpass University of Iowa cumulative and semester minimum grade-point averages of 2.00 are placed on academic probation.

Students on academic probation are restored to good standing when they successfully complete an additional 9 s.h. toward an engineering degree, either in one semester or cumulatively, and their University of Iowa cumulative and semester grade-point averages equal or exceed 2.00.

The college reviews academic records for all students at the end of the fall and spring semesters. There is no review at the end of the summer session. Students are placed on probation, dismissed for unsatisfactory progress (with or without previous probationary status), or restored to good standing only at the end of the fall and spring semesters. Students on academic probation are not permitted to continue their enrollment without written expectations for their future performance.

Students who do not make satisfactory progress may be dismissed from the college without an intervening probationary period. Students who are dismissed from the college for unsatisfactory academic progress due to circumstances beyond their control, such as a death in their immediate family or extended personal illness, may appeal for a revocation of the dismissal. A student dismissed in January must submit a written appeal by the second day of spring semester classes. A student dismissed in May must submit the written appeal by June 15.

Students dismissed from the college for poor scholarship may appeal to re-enroll after an interval of at least one calendar year. A written appeal for reinstatement must be submitted to the Appeals Committee at the Student Development Center. Appeals must be submitted before June 15 for reinstatement in a fall semester or before December 1 for reinstatement in a spring semester.

For details, see Academic Standards and Appeal Procedures under Current Students on the college's web site.

#### **DROPPING AND ADDING COURSES**

Courses may be added with permission of the advisor and the instructor during the first two weeks of the semester or first one-and-one-half weeks of the summer session.

Courses may be dropped with permission of the advisor and the instructor at any time during the first 10 weeks of the semester. Only under compelling circumstances may courses be dropped after the 10th week, in which case special approval must be granted by the advisor, the course instructor, and the dean's office. Under no circumstance are students permitted to drop after the beginning of the scheduled final examination period.

#### **LIMITS ON WITHDRAWING FROM COURSES**

Undergraduates receive the mark of W for any course dropped after the second week of the semester or the first one-and-one-half weeks of the summer session. Students may not drop the same course with a mark of W more than twice. Special courses that may be repeated are exempt from this rule.

Students admitted to degree programs in the College of Engineering are limited to a total of five Ws while enrolled in the College of Engineering. First-year students entering the University directly from high school with no prior full-time college experience are permitted to exclude Ws received during their first two sessions of enrollment.

Students who have a legitimate reason for dropping a course (e.g., disabling illness, death of an immediate family member) and can document that reason are permitted to exclude that drop from the maximum, but the W is not removed from the record. Requests for such exclusions are made in the Student Development Center.

#### **WITHDRAWAL OF REGISTRATION**

Students who withdraw their entire registration must consult the staff at the Student Development Center. A student on scholastic probation who withdraws registration at any time without good cause may not be permitted to enroll for the following semester without specific approval from the Student Development Center staff. Withdrawal cards for students enrolled in the college are signed by the associate dean for academic programs.

#### **PASS/NONPASS OPTION**

A maximum of two courses taken pass/nonpass (P/N) may be applied toward satisfaction of the general education (humanities and social sciences) requirement. P/N registration must be approved by the student's advisor and the instructor of the course and must be completed during the first 10 days of a semester or the first two weeks of a summer session. P/N registration may not be changed after the deadline for adding courses. The pass/nonpass option may not be used for courses taken to satisfy the rhetoric requirement. Guided Independent Study courses taken for humanities or social science credit may not be taken P/N.

Students enrolled in courses taught in the College of Engineering may choose to be graded pass/nonpass under the following conditions:

- the signatures of the advisor and instructor must be obtained on the proper form, and the completed form must be submitted to the registration center by the student within the time period established by University policy;

- the mark of P (pass) is awarded where the final course grade earned was C-minus or higher; the mark of N (nonpass) is given for grades of D-plus or below; marks of P and N are not used in computing the grade-point average, and the mark of N does not count as earned credit.

No course work taken in the College of Engineering on the pass/nonpass option may be used to satisfy requirements for an engineering degree.

#### **SECOND-GRADE-ONLY OPTION**

A student may elect to repeat a course with only the new grade being counted in his or her grade-point average. The option may be applied to no more than three courses, and it may be applied only once to a particular course. Transfer students may apply the option on a prorated basis.

A course may not be repeated under the second-grade-only option once it has been used as a prerequisite for a more advanced course that the student has completed successfully.

To exercise the second-grade-only option, students register as usual for the course that is to be repeated, then complete a Second Grade Option form at the Student Development Center; Second Grade Option forms are available on the college's web site. The form must be completed during the session in which the course is repeated, within the first 12 weeks of the fall or spring semester or the first six weeks of the summer session. Students must follow this procedure or both grades will be counted in the University of Iowa grade-point average.

Under the second-grade-only option, the registrar marks the permanent record to show that a particular course has been repeated. Both grades remain on the permanent record, but only the second is used in calculating the grade-point average and semester hours earned. The course must be taken the second time under the same circumstances and with the same grade option as it was taken the first time.

The second-grade-only option cannot be used to remove a grade of incomplete, which must be removed in the usual manner. A student who holds a degree from The University of Iowa may not apply the second-grade-only option to a course taken before the degree was conferred.

#### **SATISFACTORY/FAIL COURSES**

The noncredit professional seminar courses required in each of the professional programs are offered only

satisfactory/fail (S/F). No other engineering courses are offered on this basis. An F (fail) grade earned for such a class does not satisfy any portion of the professional seminar requirement.

#### **INCOMPLETE AND NO REPORT GRADES**

A mark of I (incomplete) that is not replaced by a final grade will automatically be converted to an F at the end of the next fall or spring semester (summer and winter sessions excluded), even if the student does not enroll after the session the incomplete was posted.

A mark of O (no grade reported) will remain on a student's permanent record until a valid grade is submitted.

#### **CREDIT BY EXAMINATION**

Students who have acquired knowledge in subject areas from sources other than formal course registrations may be granted credit toward graduation by examination, under the following conditions and limitations.

No more than 32 s.h. of credit by examination may be applied toward B.S.E. degree requirements.

College-Level Examination Program (CLEP) credit may be counted toward the lower-level general education (humanities and social science) requirements. CLEP credit earned in natural science areas does not count toward the engineering degree. Credit also may be earned through Advanced Placement Exams. For details about CLEP and Advanced Placement Exam credit, visit the Office of Admissions web site (<http://www.uiowa.edu/admissions/undergrad/majors/credit-by-exam.htm>).

Engineering students may earn credit for equivalent experience or former course work in any of the required common core courses through successful completion of examinations prepared and graded by the core course committees. Students who fail a core course are not permitted to earn credit by examination for the failed course. Students who wish to earn credit for core courses by examination must obtain approval from the associate dean for academic programs.

With approval of the departmental faculty, credit in three or fewer courses (totaling no more than 6 s.h.) may be awarded upon successful completion of final examinations in program elective courses.

#### **FOREIGN LANGUAGE INCENTIVE PROGRAM**

The University's Foreign Language Incentive Program (FLIP) gives entering engineering students two options for earning college credit.

Option 1: Entering students who place into a fifth-semester language course and complete the course with a grade of B-minus or higher receive 4 s.h. of exam credit for the fourth-semester course. The credit is ungraded but may be counted toward the hours required for graduation. Incentive credit is not granted for college course work for which credit has been received.

Students are eligible for incentive credit only during their first and second registrations at The University of Iowa.

Option 2: Students may receive 2 s.h. of exam credit for earning a grade of B-minus or higher in a first-semester-level course in a foreign language different from the language used to satisfy the foreign language requirement. They may earn another 2 s.h. for completing the second-semester-level course in that language for a grade of B-minus or higher.

Visit the college's web site for more information about FLIP for engineering students. For more information on eligibility and restrictions, consult the Student Development Center.

#### **CREDIT FROM OTHER COLLEGES**

Course requirements in engineering may be satisfied with credit earned in courses taken in other University of Iowa colleges or at other accredited colleges or universities. When students apply for admission to the College of Engineering, they must submit official transcripts from each college attended along with their application for admission. After the credit has been certified by the Office of Admissions as college-level work from an accredited institution and after admission has been granted, the credit is evaluated by the Student Development Center either before or during the student's first semester of enrollment in the college.

Satisfaction of engineering course requirements by transfer course work may be approved by the Student Development Center if, course-by-course, there is a match in the content and level of the transfer courses, and if the grades earned for such courses are C-minus or higher. Students who want to satisfy the engineering General Education Component (GEC) (social sciences and humanities) requirements or The University of Iowa rhetoric requirements by transfer work must follow the College of Engineering General Transfer Credit Guidelines.

Students planning to attend a two- or four-year institution before transferring to the College of Engineering should discuss the planned transfer with officials at both schools before embarking on a transfer program. The College of

Engineering has recommended transfer course lists for most Iowa community colleges and some four-year colleges. Once students are enrolled in the College of Engineering, they must have prior approval for course work taken at other institutions.

See transfer credit for engineering students for additional details, including recommended transfer course lists and course work at other institutions.

By policy of the Board of Regents, State of Iowa, a student may apply a maximum of 64 s.h. of transfer credit earned at a two-year college toward the 128 s.h. required for the B.S.E. However, transfer credit from a two-year school in excess of 64 s.h. is used in computing grade-point average and may be used to satisfy course requirements, even though the semester hours cannot be counted toward the total required for graduation. A grade of C-minus or higher is required in order for transfer credit to be applied toward a degree requirement.

#### **COURSE SUBSTITUTIONS**

For students in the College of Engineering, the substitution of an alternate course for a required course requires the approval of a petition. Petition for Course Substitution forms are available on the college's web site or at the Student Development Center. The form must be completed by the student and must be approved by the student's advisor and by the chair of the engineering program in which the student is majoring.

If the petition involves a required engineering core course or a General Education Component (social sciences or humanities) course, then it also must be approved by the Student Development Center. Substitutions for required engineering core courses should be made infrequently and only under compelling circumstances. Substitutions of courses that are required by the student's program are governed by the faculty of that program; approval of these course substitutions is needed only from the faculty advisor and the department chair. All petitions must be forwarded to the Student Development Center for inclusion in the student's permanent file.

#### **AUDITING COURSES**

Students in the College of Engineering may register for a course for zero credit (audit) with the permission of the course instructor and the advisor. The mark of R is assigned to students registered for zero credit if attendance and performance in the course are satisfactory; if unsatisfactory, the mark of W is assigned. Courses completed with a mark of R do not meet any requirements nor do they carry any credit toward graduation. Auditing may not be used as a second-grade-only option.

To register for a course on an audit basis, students must obtain the instructor's authorizing signature and their advisor's signature and must register for 0 s.h. To change registration from audit to credit or from credit to audit, a drop-add form is used. These changes must be made during the first three weeks of a semester or the first one-and-one-half weeks of a summer session.

#### **Misconduct, Complaints**

##### **STUDENT ACADEMIC MISCONDUCT**

Policies regarding cases of cheating or plagiarism are outlined on the College of Engineering web site (see Regulations Dealing with Academic Misconduct) and are included in Policies and Regulations Affecting Students, on the University's Division of Student Services web site). In cases of cheating on an exam or quiz, the policy recommends that the instructor reduce the student's grade, including the assignment of F for the course. When a course grade has been reduced to an F, the student may not drop the course or use the second-grade-only option to eliminate the failing grade.

At the beginning of each semester, course instructors individually announce and explain their policies on acceptable levels of collaboration between students on graded work, which includes homework assignments, and lab or design projects. When a policy is violated, a zero is assigned for the total portion of the course grade allocated to the requirement in which the violation occurs. The instructor sends a written report of any disciplinary action to the office of the dean and the report is placed in the student's file. Students are notified by the office of the dean of any disciplinary action reported and are informed of appeal procedures.

##### **STUDENT COMPLAINTS CONCERNING FACULTY ACTIONS**

In cases where complaints do not involve alleged student academic misconduct, students with complaints against engineering faculty members first should attempt to resolve the issue with the faculty member; see Informal Procedure for Student Complaints Concerning Faculty Actions on the college's web site. Lacking a satisfactory outcome, the student should discuss the matter with the chair of the faculty member's department.

Students who are uncomfortable dealing directly with a faculty member or a department chair may seek assistance from the engineering faculty ombudsperson when attempting to resolve a complaint related to an engineering course.

Students taking non-engineering courses should seek assistance from the University ombudsperson. However, grievances generally can be satisfactorily resolved most expeditiously at the faculty or chair level. If students are not satisfied with the outcome of this procedure, they should discuss their complaints with the dean of engineering.

## Graduate Programs

The College of Engineering offers the Master of Science and Doctor of Philosophy in biomedical engineering, chemical and biochemical engineering, civil and environmental engineering, electrical and computer engineering, industrial engineering, and mechanical engineering. For information about principal research and study areas, degree requirements, admission, and financial support for individual graduate programs, see the Catalog's College of Engineering department sections: Biomedical Engineering, Chemical and Biochemical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical and Industrial Engineering.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Professional Licensure

Licensure as a professional engineer is governed by the laws of each state. Most states' minimum requirements include graduation from an accredited engineering curriculum of at least four years, followed by at least four years of practical experience and successful completion of two major examinations.

The agency that controls and monitors the licensing procedure in Iowa is the Iowa Engineering and Land Surveying Examining Board. The first step in the procedure for students enrolled in an accredited program is to pass an examination on engineering fundamentals given near the time of graduation. Following graduation and the successful completion of the engineering fundamentals exam, graduates receive an Engineer-in-Training (EIT) certificate. The final step in the procedure is to pass the principles and practice exam in a specialty area following a minimum of four years of approved professional experience. At this point, the graduate engineer becomes a licensed Professional Engineer.

## Student Organizations

The College of Engineering student body is represented by the Engineering Student Council. The council plans and carries out activities involving the entire college, such as the student and faculty picnic and E-Week. The organization also acts on collegewide matters of general student interest.

Engineering students publish their own student journal, Hawkeye Engineer. The journal is staffed by students, with faculty members serving only in an advisory capacity.

The following engineering professional societies are represented by University of Iowa student chapters: American Institute of Chemical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Biomedical Engineering Student Society, Institute of Electrical and Electronics Engineers, Institute of Industrial Engineers, and National Society of Professional Engineers.

The following student organizations are multidisciplinary and may have members from any department: American Institute of Aeronautics and Astronautics is a professional organization affiliated with the field of Aerospace Engineering; Engineers for a Sustainable World and Engineers Without Borders are organizations working to reduce poverty and improve global sustainability; The Human Factors and Ergonomics Society is a student organization which strives to raise awareness of human factors issues throughout the academic and outside communities; The Society of Automotive Engineers is a professional and technical organization open to all engineering majors; A local chapter of Theta Tau, a national professional engineering fraternity, is active in service to the college and draws its membership from students throughout the college.

The University chapter of Tau Beta Pi, a national honorary society for students in all engineering fields, gives special recognition to superior students in their junior and senior years. The work of students who are outstanding in specific engineering disciplines is recognized by Alpha Eta Mu Beta (biomedical engineering), Omega Chi Epsilon (chemical engineering), Chi Epsilon (civil engineering), Eta Kappa Nu (electrical engineering), Alpha Pi Mu (industrial engineering), and Pi Tau Sigma (mechanical engineering).

Student organizations that support the enrollment of women and members of minority populations in the college include the Multi-Ethnic Engineering Student Association, the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, the National Society of Black Engineers, the Society of Hispanic Professional Engineers, and the Society of Women Engineers.

The University of Iowa Engineering Sales Club helps engineering students develop the professional skills required for careers in sales.

For more information about engineering student organizations, see the college's web site.

## Research Centers

The College of Engineering has four major research centers. College of Engineering researchers also collaborate with researchers from outside the college in several interdisciplinary research units.

### College of Engineering Research Centers

#### CENTER FOR BIOINFORMATICS AND COMPUTATIONAL BIOLOGY

The Center for Bioinformatics and Computational Biology (CBCB) is a multidisciplinary research center dedicated to applying high-performance networking and computing to basic life science and applied biomedical research. The center is sponsored jointly by the College of Engineering and the University's Carver College of Medicine.

#### CENTER FOR COMPUTER-AIDED DESIGN

The Center for Computer-Aided Design (CCAD) conducts basic and applied research in six units: the Operator Performance Laboratory (research in human performance); the Virtual Soldier Research program (research in human modeling and simulation); the Cognitive Systems Laboratory (research in human factors in transportation and human computer interaction); the Reliability and Sensory Prognostic Systems program; the National Advanced Driving Simulator (research in clinical, human factors, and simulation for ground transportation); and the Musculoskeletal Imaging, Modeling, and Experimentation Program (computational modeling of anatomic structures).

#### IOWA INSTITUTE FOR BIOMEDICAL IMAGING

The Iowa Institute for Biomedical Imaging (IIBI) conducts research in the following areas: medical image analysis and computer-aided diagnosis; cardiovascular image analysis (angiography-intravascular ultrasound data fusion, MR image analysis of congenital heart disease, coronary CT image analysis, early detection of cardiovascular disease); pulmonary image analysis (CT and MR image analysis of the lung); Cell image analysis (cell tracking, shape analysis); and virtual surgery planning (augmented reality for liver resection surgery). The institute is sponsored jointly by the College of Engineering and the University's Carver College of Medicine.

#### IIHR—HYDROSCIENCE & ENGINEERING

IIHR—Hydroscience & Engineering, formerly the Iowa Institute of Hydraulic Research, is one of the nation's premier and oldest fluids research and engineering laboratories. Its activities include fluid dynamics (turbulent flows, vortex dynamics, ship hydrodynamics, biological fluid flow, atmospheric boundary layer, experimental and computational fluid dynamics); environmental hydraulics (hydraulics structures, river mechanics, hydraulic structures, ice mechanics, cold regions engineering, fishiers engineering, sediment management, heat disposal in water bodies and power productions, bioremediation of groundwater, computational hydraulics, water quality monitoring); and water and air resources (air pollution, hydroclimatology, hydrogeology, hydrology, hydrometeorology, remote sensing, water resources and basin-scale processes).

### Interdisciplinary Research Units

#### CENTER FOR BIOCATALYSIS AND BIOPROCESSING

The Center for Biocatalysis and Bioprocessing (CBB) concentrates on biocatalysis and bioprocessing education, research, and technology transfer. Its research includes fermentation; bioprocessing of small molecules, peptides, proteins and biocatalysis; pilot-scale technology transfer; structural biology of biocatalysts; biocatalyst screening and discovery; bioremediation; cloning of genes and optimization of protein expression in microorganisms; and GMP operations for producing clinical-grade biotherapeutics.

#### CENTER FOR GLOBAL AND REGIONAL ENVIRONMENTAL RESEARCH

The Center for Global and Regional Environmental Research (CGRER) is devoted to studying and bettering the environment. Its focus includes multiple aspects of global environmental change, including regional effects on nature ecosystems, environments, and resources and on human health, culture, and social systems. The center helps Iowa's agencies, industries, and people prepare for accelerated environmental change.

#### CENTER FOR HEALTH EFFECTS OF ENVIRONMENTAL CONTAMINATION

The Center for Health Effects of Environmental Contamination (CHEEC) is a multidisciplinary environmental health

research center dedicated to supporting and conducting research to identify, measure, and prevent adverse health outcomes related to exposure to environmental toxins, particularly water contaminants. The center also conducts educational programs on environmental health and works with environmental database design, development, and systems support for environmental health research.

#### **CENTER FOR INTERNATIONAL RURAL AND ENVIRONMENTAL HEALTH**

The Center for International Rural and Environmental Health (CIREH) promotes understanding and awareness of the causes, consequences, and prevention of communicable, chronic, environmental, and occupational diseases in all regions of the world. The center focuses its education, training, and research on nations with substantial agrarian economies.

#### **ENVIRONMENTAL HEALTH SCIENCES RESEARCH CENTER**

The Environmental Health Sciences Research Center (EHSRC) researches the adverse health effects of environmental contaminants among rural and agricultural populations. The center is at the forefront of research on rural environmental health problems such as pesticide-induced cancers and birth defects, community and occupational exposures to airborne hazards from concentrated livestock operations, asthma among rural children, and remediation of rural hazardous waste sites. It also trains scientists to characterize mechanisms that underlie environmental disease and approaches to their prevention.

#### **INJURY PREVENTION RESEARCH CENTER**

The Injury Prevention Research Center (IPRC) is a multidisciplinary unit whose focus includes injury prevention, acute care, biomechanics, and surveillance activities. The center's current work involves examining different types of residential smoke detectors, using simulation technology to study driving safety among persons with sleep apnea and persons on antiseizure medication, using bicycling simulation to study risk taking in children, and studying the effect of interpersonal violence on women's health.

#### **OPTICAL SCIENCE AND TECHNOLOGY CENTER**

The Optical Science and Technology Center (OSTC) involves researchers from the College of Engineering and the College of Liberal Arts and Sciences. The center's objective is to catalyze research in the optical sciences by establishing an environment that promotes collaborative science and the development of innovative technology. Broad areas of interest include development of novel semiconductor materials with unique electronic and optical properties; design, fabrication, and characterization of nanostructures and nanomaterials; photopolymerization processes; exploration of environmental science; and application of novel optical devices in the biosciences.

#### **ORTHOPAEDIC BIOMECHANICS LABORATORY**

The Orthopaedic Biomechanics Laboratory researches the application of advanced innovative computational formulations and novel experimental approaches to clinically-oriented problems across the spectrum of musculoskeletal biomechanical research, including total joint replacement (hip, spine, knee, ankle) posttraumatic arthritis, osteonecrosis of the hip, high-energy limb trauma, carpal tunnel syndrome, and articular contact stresses as they relate to joint degeneration.

#### **PHOTOPOLYMERIZATIONS CENTER**

The Photopolymerizations Center (IUCRC) center works to advance the fundamental understanding of the kinetics and mechanisms of photopolymerizations; to establish a venue for active discussions and collaborations among industrial and academic researchers; to explore high-risk, cutting-edge research on photopolymerization processes that could lead to technological innovations; and to promote and/or develop novel applications that exploit the unique set of advantages offered by photopolymerizations.

#### **PUBLIC POLICY CENTER**

The Public Policy Center (PPC) facilitates interdisciplinary academic research on policy related to health, human factors and vehicle safety, crime and justice, housing, the environment, and transportation. It works to provide policy makers with information they can use to help communities and individuals thrive in sustainable ways.

## **Facilities and Resources**

### **Seamans Center for the Engineering Arts and Sciences**



The Seamans Center for the Engineering Arts and Sciences is home to the College of Engineering. Dedicated in 2001, the Seamans Center combines new construction with extensive renovation of the former Engineering Building to provide space for learning, teaching, research and collaboration that anticipates the needs of 21st-century engineering.

The center's Student Commons and John Deere Plaza Lobby provide welcoming space for students to work individually or together on homework and projects, with wireless computer connections. Additional work rooms and conference areas join the center's expanded classrooms and flexible research space in an environment designed to serve the needs of the college's students, faculty, and staff.

All five of the college's departments have headquarters in the building, and most faculty offices are located there.

### **Student Development Center**

The professional staff of the Student Development Center administers student services for the College of Engineering, including admission, advising, tutoring, and student records and scholarship. It also provides professional development services such as co-ops/internships, study abroad, and résumé and interviewing skills.

### **Engineering Professional Development**

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. EPD programs and services include the Co-op and Internship Program, Study Abroad Programs, job shadowing, spring break programs, the fall Engineering Career Fair, and the spring Engineering Job and Internship Fair. EPD offers individual advising and class presentations on résumé preparation and interviewing skills as well as instruction on finding professional engineering positions and using electronic, print, and other resources in job searches. EPD also recruits employers and organizations interested in hiring engineering students and, in partnership with the Pomerantz Center, facilitates on-campus interviewing.

### **Lichtenberger Engineering Library**

The Lichtenberger Engineering Library is a center of college activity. It maintains a collection of more than 100,000 volumes and provides access to more than 1,000 current journal titles. The library offers internet access to a wide array of indexes and abstracts and houses a significant collection of standards. Study space is provided for library users.

### **Hanson Center for Technical Communication**

The Hanson Center for Technical Communication (CTC) helps undergraduate engineering students develop and polish their written communication skills. The center's coordinator and assistant coordinator supervise a staff of professional writing consultants and peer consultants.

CTC writing consultants are professional instructors who work in teams to help engineering faculty members present and evaluate writing-intensive assignments. They also provide individual feedback and assessment of students' work throughout the writing process.

CTC peer consultants are engineering students who have strong writing skills. Peer consultants conduct one-on-one tutoring sessions at the center, helping their fellow students develop skills relating to organization, audience analysis, precise technical descriptions, and persuasive and logical narratives.

### **Computer Systems Support**

Engineering Computer Systems Support (CSS) provides for curricular computing at the College of Engineering. A large network of high performance Hewlett Packard color graphics Linux workstations and Windows workstations, along with extensive commercial and public domain software, support the full range of engineering college classes. The college provides the same type of computer hardware and software that students will use when they graduate and begin working as engineers. CSS updates hardware and software regularly to maintain the best educational environment.

Engineering students and other students who take engineering courses are provided with an engineering computing account, which they keep during their tenure at the college. This account provides students with access to their e-mail and the rest of the Internet. The college's computer labs provide students with more than 300 networked computers. Students have round-the-clock access to the Seamans Center and to the engineering computer labs.

### **Engineering Electronics Shop**

The Engineering Electronics Shop is a full-service electronics support facility for the College of Engineering. The shop provides design, construction, repair, calibration, and preventive maintenance services for both teaching and research laboratories. There also is an extensive electronics parts supply store and PC board facility for engineering students and researchers.

## **Course Numbering System**

## Current Numbering System

University of Iowa course numbers consist of a three-digit prefix and a three-digit suffix separated by a colon. For the College of Engineering, the second digit of the prefix is 5; the third digit of the prefix corresponds with the academic program in the college that offers the course, as follows.

051: biomedical engineering

052: chemical and biochemical engineering

053: civil and environmental engineering

055: electrical and computer engineering

056: industrial engineering

057: engineering core (old curriculum)

058: mechanical engineering

059: core engineering (new curriculum)

Each course's three-digit suffix identifies the level and type of the course. Generally, suffix numbers below 100 designate courses primarily for undergraduates, numbers 100 to 199 designate courses for undergraduate and graduate students, and numbers 200 and above designate courses primarily for graduate students.

Each College of Engineering course is listed in the department that offers it. Engineering core and core engineering courses are listed in the College of Engineering section; see "Core Program Courses."

A brief description is included for each course. Prerequisite and corequisite courses listed in course descriptions are University of Iowa courses. Students who have not taken the University of Iowa prerequisite but who have earned credit in equivalent course work from another institution should consult the course instructor if they have questions concerning their preparation for the course. They must obtain the instructor's consent before registering for the course.

Engineering students may enroll in any course in the College of Engineering if they meet the course prerequisite and corequisite requirements. Undergraduates from other colleges may enroll in engineering courses only with consent of the College of Engineering director of admissions and outreach; contact the Student Development Center. Consent for enrollment in an engineering course is based on space available as well as on whether the students have the mathematics, science, and engineering background considered necessary to undertake the course work.

## New Numbering System

The University is in the process of revising its course numbering system. Under the new system, course numbers will consist of an alphabetical prefix (up to four letters) and a four-digit numerical suffix separated by a colon. For the College of Engineering, each course's prefix will correspond to the academic program in the college that offers the course, as follows.

BME: biomedical engineering (051 under the old system)

CBE: chemical and biochemical engineering (052 under the old system)

CEE: civil and environmental engineering (053 under the old system)

ECE: electrical and computer engineering (055 under the old system)

IE: industrial engineering (056 under the old system)

ME: mechanical engineering (058 under the old system)

ENGR: core (057 and 059 under the old system)

The four-digit numerical suffix will identify the course's level and type, according to the following guidelines.

0000–0999: noncredit courses and courses offered to nonmatriculated students.

1000–1999: introductory, elementary, and general education courses appropriate for first-year students and for other students with no special background; they require few or no prerequisites.

2000–2999: lower-level undergraduate courses usually taken by second-year and sometimes by third-year students; they may build on materials from 1000–1999 prefix courses and may require prerequisites.

3000–3999: upper-level undergraduate courses such as courses for majors and courses that require prerequisites; although these courses are for undergraduates, graduate students earn graduate credit for courses at this level.

4000–4999: advanced upper-level undergraduate courses such as senior seminars, advanced independent study

courses, or honors thesis work; although these courses are for undergraduates, graduate students earn graduate credit for courses at this level.

5000–5999: introductory or first-year graduate courses; although these are graduate courses, undergraduates may register for these courses without special permission, on the advice of their advisors.

6000–6999: lower-level and intermediate graduate courses; undergraduates must have special permission to register for these courses.

7000–7999: advanced graduate courses; undergraduates must have special permission to register for these courses.

8000–9999: courses for professional degree programs offered by the professional colleges.

## Core Program Courses

The college's individual undergraduate programs and course requirements for each engineering major are described in the Catalog's College of Engineering department sections.

Each undergraduate program builds upon a core program (see "Undergraduate Curriculum" earlier in this section). The following core program courses are offered by the college. Not all core courses are required for each engineering major.

Undergraduates from other colleges cannot register for core program courses without special permission from the college's director of admissions and outreach; contact the Student Development Center.

### Engineering Core (Old Curriculum)

**057:000 Cooperative Education Training Assignment: Engineering** 0 s.h.  
For engineering majors participating in the Cooperative Education and Internship Program.

**057:001 Engineering Honors Seminar** 1 s.h.  
Repeatable. Requirements: engineering honors and junior or higher standing.

**057:002 Half-time Cooperative Education Training Assignment: Engineering** 0 s.h.  
Registration for work assignment periods; for students participating in the Cooperative Education Program.

**057:010 Dynamics** 3 s.h.  
Vector calculus, Newton's laws, 3-D motion of particles and multiparticle systems, 2-D motion of rigid bodies applications. Prerequisites: 22M:031 and 059:007.

**057:013 Introduction to Sustainability** arr.  
Issue of sustainability; interdisciplinary teaching techniques utilizing collaboratively designed curriculum; four major components--integration of experiences, social integration, integration of knowledge, and integration as a curriculum design.

**057:015 Materials Science** 3 s.h.  
Concepts and examples of selection and applications of materials used by engineers; mechanical, electrical, and thermal properties that govern a material's suitability for particular applications; lectures supplemented by laboratory experiments. Prerequisites: 004:011. Corequisites: 22M:031.

**057:017 Computers in Engineering** 3 s.h.  
Introduction to digital systems and engineering applications of microprocessor-based computers; C programming language; serial and parallel I/O; analog-to-digital and digital-to-analog conversion; system control using polling and interrupts; lab arranged. Prerequisites: 059:006. Requirements: sophomore standing.

**057:018 Principles of Electronic Instrumentation** 4 s.h.  
Principles of analog signal amplification, signal conditioning, filtering; operational amplifier circuit analysis and design; principles of operation of diodes, bipolar transistors, field effect transistors; discrete transistor amplifier analysis and design; laboratory included. Prerequisites: 029:082 and 059:008.

**057:019 Mechanics of Deformable Bodies** 3 s.h.  
Elementary theory of deformable bodies, stress, strain; axial, transverse, bending, torsion, combined and buckling loads; deflection of beam. Prerequisites: 059:007. Corequisites: 22M:034.

**057:020 Fluid Mechanics**

4 s.h.

Fluid properties; hydrostatics; transfer of mass, momentum, and energy in control-volume and differential forms; dimensional analysis and similitude; laminar and turbulent flow in conduits; flow past bluff bodies and airfoils; engineering applications; experimental laboratories, computer simulation projects. Prerequisites: 22M:034 and 057:010. Corequisites: 059:009.

**057:029 First-Year Seminar**

arr.

Introduction to engineering fields of study; work closely with a faculty member or senior administrator; participation that eases the transition to college-level learning; cutting-edge research taking place in the College of Engineering.

**057:030 Introduction to Engineering Design**

3 s.h.

Problem-solving skills taught through a design-development process; use of solid-modeling computer design software to create, analyze, and communicate models of product solutions.

**057:031 Principles of Engineering**

3 s.h.

Introduction to engineering and engineering technology; exploration of varied technology systems and manufacturing processes to show how engineers and technicians use math, science, and technology to solve engineering problems and help people; concerns about social and political consequences of technological change.

**057:032 Digital Electronics**

3 s.h.

Applied logic, with focus on application of electronic circuits and devices; use of computer simulation software to design and test digital circuitry before circuits and devices are built.

**057:033 Computer Integrated Manufacturing**

3 s.h.

Builds on computer solid modeling skills developed in 057:030; application of robotics and automation principles; robotics in automated manufacturing, design analysis; students use CNC equipment to produce models of their 3-D designs.

**057:034 Civil Engineering and Architecture**

3 s.h.

Overview of civil engineering and architecture; interrelationship and dependence of each field on the other; roles of civil engineers and architects, project planning, site planning, building design, project documentation and presentation; students use state-of-the-art software to solve real-world problems and provide solutions for projects and activities.

**057:035 Aerospace Engineering**

3 s.h.

Experience applying scientific and engineering concepts to design materials and processes for aeronautics and flight; aerospace information systems, star sailing or astronautics rocketry, propulsion, physics of space science, space life sciences; habitat and crew systems with life support, biology of space science, principles of aeronautics, structures and materials, systems engineering.

**057:036 Biotechnical Engineering**

3 s.h.

Experiences from the fields of biotechnology, bioengineering, biomedical engineering, and biomolecular engineering; biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocess engineering, forensics, bioethics.

**057:039 Engineering Design and Development**

3 s.h.

Experience working in student teams to research, design, and construct a solution to an open-ended engineering problem, under a community mentor's guidance; application of design and engineering concepts.

**057:131 Concepts of Physical Science and Principles of Engineering**

5 s.h.

Understanding the field of engineering and engineering technology; technology systems and manufacturing processes explored to learn how engineers and technicians use math, science, and technology to solve engineering problems and benefit people; concerns about social and political consequences of technological change.

**057:134 Concepts of Physical Science with Civil Engineering Applications**

5 s.h.

Civil engineering and architecture field experience; proper paradigm for relating concepts to secondary-level students, history of civil engineering, architectural design, surveying, cost and efficiency analysis, sustainable design, soil testing, site evaluation and layout.

**057:136 Concepts of Physical Science with Biotechnical Engineering Applications**

5 s.h.

Experiences from biotechnology, bioengineering, biomedical engineering, and biomolecular engineering, and how to relate them to secondary students; biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocess engineering, forensics, bioethics.

**057:186 Experiential Design I** arr.

**057:187 Experiential Design II** 3 s.h.  
Prerequisites: 057:186.

### **Core Engineering (New Curriculum)**

**059:005 Engineering Problem Solving I** 3 s.h.  
Development and demonstration of specific problem solving skills; directed project or case study involving actual engineering problems and their solutions.

**059:006 Engineering Problem Solving II** 3 s.h.  
Engineering problem solving using computers; introduction to digital computations, problem formulation using a procedural high-level language; structured, top-down program design methodology; debugging and testing; introduction to use of software libraries; examples from numerical analysis and contemporary applications in engineering. Corequisites: 22M:031.

**059:007 Engineering Fundamentals I: Statics** 2 s.h.  
Vector algebra, forces, couples, moments, resultants of force couple systems; friction, equilibrium analysis of particles and finite bodies, centroids; applications. Prerequisites: 22M:031. Corequisites: 22M:032 and 029:081.

**059:008 Engineering Fundamentals II: Electrical Circuits** 3 s.h.  
Kirchhoff's laws and network theorems; analysis of DC circuits; first order transient response; sinusoidal steady-state analysis; elementary principles of circuit design; laboratory experience with DC, AC, and transient circuits. Corequisites: 22M:034.

**059:009 Engineering Fundamentals III: Thermodynamics** 3 s.h.  
Basic elements of classical thermodynamics, including first and second laws, properties of pure materials, ideal gas law, reversibility and irreversibility, and Carnot cycle; control volume analysis of closed simple systems and open systems at steady state; engineering applications, including cycles; psychrometrics. Prerequisites: 004:011 and 029:081. Corequisites: 22M:032.

**059:090 Engineering Success Seminar for First-Year Students** 1 s.h.  
Introduction to engineering student life; electronic resources; keys to and skills for success; coping with adversity; selecting a major; advising; curriculum choices and career objectives; ethics; communication; internships and co-ops; job search skills. Requirements: first-semester standing.

## Biomedical Engineering

**Chair:** Joseph M. Reinhardt

**Professors:** Karim Abdel-Malek, Brian D. Adams, Thomas D. Brown, John J. Callaghan, Thomas L. Casavant, Krishnan B. Chandran, Charles R. Clark, Patrick Hitchon, Eric Hoffman, Stephen K. Hunter, John C. Keller, Satish C. Khera, Tae-Hong Lim, Geoffrey McLennan, Joon B. Park, Joseph M. Reinhardt, Kwan Rim, Clark Stanford, Ingo R. Titze, Edwin Van Beek

**Adjunct professor:** Richard McLay

**Associate professors:** Michael Abramoff, Terry A. Braun, Edwin L. Dove, Nicole Grosland, Michael A. Mackey, Vincent Magnotta, James Martin, Jun Ni, Madhavan L. Raghavan, Todd Scheetz, Robert Tucker, David Wilder, Jinhu Xiong

**Adjunct associate professors:** Donald Anderson, Douglas R. Pedersen, Joel Pickar, Merryn Tawhai, R.T. Marler

**Adjunct visiting associate professor:** Jose G. Assouline

**Assistant professors:** Fiorenza Ianzini, Hans Johnson, William R. Lynch, Salem Rahamatalla, Aliasger Salem, Steven Stasheff, Kai Tan, Sarah Vigmostad, Yi Xing, Denice Zingman

**Adjunct assistant professors:** James W. Devocht, Jessica Goetz, Ram R. Gudavalli, Anneliese D. Heiner, Prem Ramakrishnan, Jessica Sieren

**Adjunct instructors:** Thakir Almomani, Tom Bair, Hyunggun Kim

**Adjunct lecturer:** Lisa Scranton

**Undergraduate degree:** B.S.E. in Biomedical Engineering

**Graduate degrees:** M.S., Ph.D. in Biomedical Engineering

**Web site:** <http://bme.engineering.uiowa.edu/>

The past four decades have seen a tremendous growth of technological activity in biology and medicine. As engineers increasingly have become involved with projects in the life and health sciences, there has been greater need for them to become more familiar with the fields of biology and medicine. Recognition of this need has led to the emergence of a new interdisciplinary engineering activity designed to bridge the gap between the life sciences and engineering--the biomedical engineering profession.

The Department of Biomedical Engineering fosters interdisciplinary activities across departments and colleges and maintains strong ties with the Carver College of Medicine. The department strives to provide a well-rounded and superior engineering education that attracts outstanding students at both the undergraduate and graduate levels; conduct high-quality research that enables faculty members and students to keep pace with and initiate new developments; and serve government, industry, and institutions worldwide by making the department's facilities and faculty expertise accessible.

Several engineering faculty members have joint appointments in the Carver College of Medicine. Both biomedical engineering undergraduates and graduate students participate actively with college faculty members and their colleagues in the life and health sciences on projects of mutual interest.

## Undergraduate Program

The department offers the Bachelor of Science in Engineering in biomedical engineering. The program provides a contemporary education in a multidisciplinary area. Its objective is to produce graduates who:

- have the ability to identify, formulate, and solve open-ended problems with medical relevance, including the design of devices, systems, and processes to improve human health;
- are able to pursue a wide range of career options, including those in industry, academia, and medicine; and
- are able to advance to leadership positions in their chosen field.

Students who complete the program may pursue career opportunities in biomedical industries, such as design and development of biomedical instrumentation, diagnostic aids, life-support systems, prosthetic and orthotic devices, and man-machine systems; or they may pursue traditional career opportunities in industry, such as those rooted in mechanical or electrical engineering disciplines. Other career options are available in government (Food and Drug Administration, Environmental Protection Agency, National Institutes of Health, Veterans Affairs). Some biomedical engineering graduates elect to continue formal education in engineering, medicine, or law.

## Bachelor of Science in Engineering

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The biomedical engineering major builds on the foundation provided by the College of Engineering core curriculum, preparing students for the challenges and opportunities associated with careers in the profession.

The program has been designed carefully to enable students to satisfy the entrance requirements of the Graduate College. Students whose choice of electives includes a three-course sequence in organic chemistry, an additional biology course, and a biochemistry course may satisfy entrance requirements of the Carver College of Medicine, the College of Dentistry, or the allied health sciences.

The B.S.E. curriculum covers four major stems: mathematics and basic sciences, engineering topics, elective focus area, and general education (15 s.h. of humanities and social science courses). All students take 059:005 Engineering Problem Solving I, 059:006 Engineering Problem Solving II, and 010:003 Rhetoric. General education component courses must be selected to satisfy the requirements of the College of Engineering. For information on B.S.E. curriculum stems and common course requirements, see Bachelor of Science in Engineering in the College of Engineering section of the Catalog.

Students must select elective focus area courses according to guidelines established by the Department of Biomedical Engineering. See "Elective Focus Area" after the following curriculum list.

Biomedical engineering students also must choose a track and complete its requirements. They may choose from seven preapproved tracks: bioinformatics, bioimaging, biomaterials, cardiovascular biomechanics, cellular engineering, musculoskeletal biomechanics, or pre-medicine. Or they may propose a track that they have tailored to their own individual biomedical engineering interests. Each approved track has a group of four required courses and a list of suggested electives. For details about tracks and their requirements, visit BME Tracks on the department's web site.

Some courses in the curriculum are prerequisites to others. Students who take courses in the order below satisfy the prerequisite requirements automatically. Students who do not follow this sequence still must satisfy all course prerequisites.

## FIRST YEAR

### First Semester

004:011 Principles of Chemistry I	4 s.h.
010:003 Rhetoric (or 010:001-010:002)	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
059:005 Engineering Problem Solving I	3 s.h.
059:090 Engineering Success Seminar for First-Year Students	1 s.h.

### Second Semester

004:012 Principles of Chemistry II	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
051:090 First-Year Forum	1 s.h.
059:006 Engineering Problem Solving II	3 s.h.

## SECOND YEAR

### First Semester

002:010 Principles of Biology I	4 s.h.
22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
051:091 Professional Seminar: Biomedical Engineering	1 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.
059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.

### Second Semester

027:130 Human Physiology	3 s.h.
051:091 Professional Seminar: Biomedical Engineering	1 s.h.
Courses required for the biomedical engineering major and the student's track	15 s.h.

## THIRD YEAR

### First Semester

051:030 Cell Biology for Engineers	3 s.h.
051:091 Professional Seminar: Biomedical Engineering	1 s.h.
Courses required for the biomedical engineering major and the student's track	13 s.h.

**Second Semester**

051:091 Professional Seminar: Biomedical Engineering	1 s.h.
Courses required for the biomedical engineering major and the student's track	15 s.h.

**FOURTH YEAR****First Semester**

051:085 Biomedical Engineering Senior Design I	4 s.h.
051:092 Leadership and Resourcefulness	1 s.h.
Courses required for the biomedical engineering major and the student's track	12 s.h.

**Second Semester**

051:086 Biomedical Engineering Senior Design II	4 s.h.
Courses required for the biomedical engineering major and the student's track	12 s.h.

**ADDITIONAL COURSES REQUIRED FOR ALL TRACKS**

In addition to the specific courses listed above, all students must complete the following required courses for the biomedical engineering major, regardless of which track they choose.

029:082 Introductory Physics II	3-4 s.h.
051:050 Biomaterials and Biomechanics	4 s.h.
051:060 Systems, Instrumentation, and Data Acquisition	4 s.h.
051:080 Bioimaging and Bioinformatics	4 s.h.
171:161 Introduction to Biostatistics	3 s.h.

**Elective Focus Area**

The biomedical engineering program offers a variety of elective focus area options, including standard focus areas developed and maintained by the program and flexible focus areas tailored to individual student interests. For more detailed information about elective focus areas, see "Bachelor of Science in Engineering"/"Elective Focus Area" in the College of Engineering section of the Catalog. For a list of standard biomedical engineering elective focus area options and guidelines for tailored elective focus areas, contact the Department of Biomedical Engineering or visit its web site.

**Joint B.S.E./M.S.**

The College of Engineering offers a joint (fast-track) Bachelor of Science in Engineering/Master of Science for biomedical engineering undergraduates who intend to earn an M.S. in biomedical engineering. B.S.E./M.S. students may take some graduate-level course work, attend the departmental graduate seminar, and work on a master's thesis or research project while still undergraduates. They may count a limited amount of course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the joint degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.50, and must submit a letter of application to the chair of the Department of Biomedical Engineering stating the intended area of specialization and the name of the M.S. advisor.

**Graduate Programs**

The department offers a Master of Science, with and without thesis, and a Doctor of Philosophy in biomedical engineering. The aim of graduate study at both levels is to educate students more deeply and broadly than is possible at the undergraduate level. The goal is to enable students to use contemporary methods at an advanced level during a professional career in engineering design, development, and research.

Each student's course of study is based on individual background and career objectives, and sound academic practice. Department faculty members have teaching and research expertise in areas related to cardiovascular and fluid biomechanics, musculoskeletal biomechanics, biomaterials and tissue engineering, bioinstrumentation, biosystems, biomedical imaging, biological signal analysis, bioinformatics and computational biology, and other allied fields.



An individual program for each student may be developed from courses offered by the biomedical engineering department and other departments, especially mechanical engineering, electrical engineering, physiology, mathematics, and biological sciences. M.S. students who want a more general program may combine emphases, while those who want some specialization in a particular field can achieve their goals through the combination of departmental courses and appropriate electives from other departments of the College of Engineering and the University.

Ph.D. programs may center on any one of the previously described areas through the choice of appropriate course work and research topic.

## **Master of Science**

The Master of Science in biomedical engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. Students who choose the nonthesis program must earn at least 6 s.h. of 200-level courses. Those who choose the thesis program may count no more than 6 s.h. of thesis research and writing credit toward the degree. The M.S. is designed to be a terminal degree or a step toward the Ph.D.

A tentative plan of study for each student is determined through consultation with an advisor. An M.S. committee of at least three graduate faculty members, including at least two on the biomedical engineering faculty, is appointed by the dean of the Graduate College. The student's plan of study is reviewed by the committee before the student has completed 18 s.h. of course work. The plan of study then is submitted for review to the department chair.

M.S. students must maintain a g.p.a. of at least 3.00 on a minimum of 30 s.h. of graduate work and must successfully complete the final examination administered by their committee.

Candidates for the M.S. (thesis or nonthesis) must complete the following courses or their equivalents with a grade of B or higher.

Advanced mathematics  
Human Physiology (027:130)  
Introduction to Biostatistics (171:161)

Individual study plans should include as much advanced work as individual aptitude and previous preparation permit.

## **Doctor of Philosophy**

The Doctor of Philosophy in biomedical engineering requires a minimum of 72 s.h. of graduate work, including acceptable transfer credit. At least 42 s.h. must be earned in formal course work taken after the B.S. is awarded, and at least 12 s.h. must be earned for research and thesis. For students entering with an M.S., at least 18 s.h. of formal course work must be completed beyond the M.S., and at least 12 s.h. must be earned for research and thesis. Based on research progress, examination results, or other measures, the student's graduate committee may require additional formal course work to strengthen perceived areas of weakness.

Admission to the Ph.D. program is conditional until students successfully complete a qualifying examination. The biomedical engineering faculty administers the exam and decides whether the student's performance on it is adequate for admission to the Ph.D. program.

Admission to Ph.D. candidacy requires a g.p.a. of at least 3.25 on all graduate work done at The University of Iowa. Upon completion of the course work specified in the plan of study and with the required grade-point average and the advisor's recommendation, students are admitted to the comprehensive examination by their committee.

Having satisfactorily completed these examinations, students usually have only to complete and defend their dissertation at the final examination. Requirements for the Ph.D. generally can be completed in about three years beyond the master's degree.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants who have earned a baccalaureate or postbaccalaureate degree in engineering or in the mathematical or physical sciences, with a g.p.a. of at least 3.00, and who have a combined verbal and quantitative score of 1250 on the Graduate Record Examination (GRE) General Test are eligible to be considered for admission to the Master of Science program in biomedical engineering. Students with a lower grade-point average or GRE General Test scores may be considered for conditional admission. They must achieve regular standing within 8 s.h. of initial registration by attaining a g.p.a. of at least 3.00 at The University of Iowa and regular acceptance by the department faculty. Students who do not meet these requirements are subject to dismissal.

Reference letters, research interests, previous graduate grade-point average, and other factors may be considered in making admission decisions.

Admission to the Doctor of Philosophy in biomedical engineering is conditional until students successfully complete a qualifying examination.

## **Financial Support**

Students are encouraged to apply for fellowships and assistantships. Contact the chair of the Department of Biomedical Engineering.

## **Facilities and Laboratories**

### **Required Undergraduate Laboratories**

Four dedicated undergraduate teaching laboratories are associated with the required and elective courses in biomedical engineering: Biomaterials Laboratory, Biomeasurements and Systems Laboratory, Biomechanics Laboratory, and Cell Biology for Engineers Laboratory.

#### **BIOMATERIALS**

The Biomaterials Laboratory is equipped to test varied properties of biomaterials, including hard and soft tissues and prostheses. The laboratory is used for biomaterials and senior design projects.

#### **BIOMEASUREMENTS AND BIOSYSTEMS**

The Biomeasurements and Biosystems Laboratory is equipped to measure biomedical variables of clinical and physiological interest, design and build electronic instrumentation, and conduct modeling experiments in physiology. It is used for 051:080 Bioimaging and Bioinformatics, elective courses in biomeasurements and biological systems analysis, senior design projects, and demonstrations in 051:030 Cell Biology for Engineers.

#### **BIOMECHANICS**

The Biomechanics Laboratory is equipped to perform experiments in biological flow analysis and in human musculoskeletal systems. The laboratory houses a pulse duplicator for simulating physiological pulsatile flow, a flow visualization set-up to analyze flow past stenosis and aneurysms, blood pressure and flow measurement devices, digital still and video cameras for kinematic analysis, a ski binding tester, a drop tower for impact testing, a two-channel EMG amplifier system, and a table-top material testing machine. The laboratory is used for 051:050 Biomaterials and Biomechanics, elective courses in cardiovascular and skeletal biomechanics, other elective courses, and senior design projects.

#### **CELL BIOLOGY FOR ENGINEERS**

The Cell Biology for Engineers Laboratory trains students in cell culture and biochemical analysis techniques as a foundation for future studies in quantitative cell-based studies. Students learn basic cell culture techniques, protein and nucleic acid analysis, adenovirus-mediated gene transfer techniques, microarray and analysis, and polymerase chain reaction (PCR) analysis of nucleic acids. They also are introduced to bioinformatics techniques used in cell biology. Major equipment in the lab includes laminar flow hoods, cell culture incubators, centrifuges, an ultracold freezer, protein and nucleic acid electrophoresis equipment, thermal cyclers, microscopes, an automated microplate reader, and varied support apparatuses used in cell-based studies. The lab is used for 051:177 Cell Material Interactions.

## **Research Facilities and Laboratories**

### **BIOINFORMATICS AND COMPUTATIONAL BIOLOGY LABORATORY**

The Bioinformatics and Computational Biology Laboratory is wired for high-speed networking (10- and 100-megabit and gigabit ethernet, hardwired and wireless, and ATM). It includes five dedicated Linux clusters, 126 computing systems, 178 CPUs, more than 100 gigabytes of RAM, and 2.5 terabytes of disk space. Computer resources include a dedicated compute server cluster of 18 Linux systems (36 CPUs) connected with a dedicated, switched, copper Gigabit Ethernet intranet--18 Dual AMD MP-2400 (2.2 GHz, 2 GB memory, 40 GB disk each); second dedicated compute server cluster of 16 Linux systems (32 CPUs) connected with a dedicated, switched, fiber-optic Gigabit Ethernet intranet--12 Dual Pentium III (500 MHz, 1 GB memory, 9 GB disk each), and four Dual Pentium III (500 MHz, 2 GB memory, 9 GB disk each); and third dedicated compute cluster of nine Linux systems (18 CPUs) connected with a dedicated 2.4 GB multistage intranet--eight Dual Pentium III (866 MHz, .5 GB memory, 45 GB disk each), and one Dual Pentium III (866 MHz, 1 GB memory, 45 GB disk each). There are two additional clusters: an 8-node cluster of

Pentium II class machines, and a 12-system heterogeneous cluster of various SUNs, HPs, and SGIs; four dedicated, dual fiber channel, redundant disk storage systems (RAID) 412 GB usable each. An additional 78 computers are used as compute servers, web servers, database servers, file servers, workstations, laptops, and for other developmental and experimental needs.

#### **BIOMATERIALS LABORATORY**

The Biomaterials Laboratory is equipped to characterize implant materials and biological tissues for their mechanical and thermal properties. Hard tissue histological slide preparations, for both microradiograph and optical, can be made for the study of interactions between bone and implant interactions. Metallographic sample preparations can be made and analyzed under optical microscopes.

The laboratory contains MTS (model 812) materials testing machine with recorder and controller; automatic data acquisition and process computer dedicated to the MTS machine; differential scanning calorimeter (Perkin-Elmer DSC-4 model); Omega x-ray generator with microradiographic attachment; Bronwill thin sectioning saw; Buehler Isomet thin sectioning saw; Buehler metallographic and petrographic grinding and polishing wheels; IR, polarizing, reflection research type microscopes; temperature-controlled bath; Lindberg tube furnace; strain gage attachment and measurement devices; videotape and play equipment; and conventional and vacuum oven with a diffusion pump.

#### **CARDIOVASCULAR BIOMECHANICS LABORATORY**

The Cardiovascular Biomechanics Laboratory houses an EMS Whitest uniaxial tension/compression testing system, a pulse-duplicating apparatus with flow loop, a spectrophotometer, silicone prototype fabrication utilities, high-speed/high-resolution cameras, a Sun Solaris workstation, and personal computers. The lab is equipped for soft tissue tensile/compression testing and viscoelastic creep/relaxation testing; simulation of flow through fabricated, anatomically realistic, patient-specific models of vasculature and heart valves; quantification of protein content in soft tissues; fabrication of realistic, compliant prototypes of human organs; and computational modeling of hemodynamics and tissue mechanics of normal and pathological cardiovascular organs.

#### **IOWA SPINE RESEARCH CENTER BIOMECHANICS LABORATORY**

The Iowa Spine Research Center Biomechanics Laboratory is fully equipped to perform studies of tissue and/or specimen response to mechanical loads. An MTS Bionix machine (with extended columns) servohydraulic testing machine permits application of uniaxial tension or compression in concert with axial torsion under displacement (rotation) or load control. In addition, the laboratory has a large base plate with T-slots, grips, an environmental chamber, and an independent controller with specialized test control and data acquisition and analysis routines.

An MTS Model 810 servohydraulic testing machine permits uniaxial tension or compression under displacement, load, or strain control. A bank of fatigue testing machines is planned.

An apparatus for testing spinal motion segments for their balance point and buckling behaviors also is available.

#### **JOLT/VIBRATION/SEATING LABORATORY**

The Jolt/Vibration/Seating Laboratory is equipped for investigation of the biomechanics of the spine, particularly problems related to low back pain due to the interaction between people and equipment in jolt (impact) and vibration environments. Three shakers are available to simulate impact and vibration environments.

Human responses are measured using equipment including load cells, electromyography, accelerometry, position sensors, and pressure pads. Portable sensors and data recorders are used to evaluate impact and vibration environments in the field and compare them to domestic and international guidelines and standards.

#### **LARGE-SCALE DIGITAL CELL ANALYSIS LABORATORY**

The Large-Scale Digital Cell Analysis Laboratory is involved in development of the large-scale digital cell analysis system (LSDCAS) and model-based approaches to problems of general biological interest. The facilities include the Real-Time Cell Analysis Laboratory, in the Seamans Center, with 10 Linux workstations, a Power Mac, printers, and scanners; and Real-Time Cell Analysis Data Center, also in the Seamans Center, with two Itanium servers (36 GB RAM/144 GB RAID storage), a fiber channel RAID storage system (2 terabytes), two dual-Pentium servers (2 MB RAM/36 GB disk storage), dual 30 amp/240 volt uninterruptible power supplies, 30-slot DLT tape library, fiber channel switch, fiber channel/SCSI bridge, rack-mount monitor/keyboard, and KVM switch.

The Quantitative Real-Time Cell Analysis Research Facility, located in the Medical Education and Research Facility, has a LSDCAS system consisting of three automated microscope systems capable of performing real-time single-cell analysis experiments, located in a dedicated darkroom to regulate illumination conditions. Each microscope system is controlled by a microcomputer interfaced to a digital camera and a microscope controller. This facility also includes a

small tissue culture support laboratory containing a cell incubator, and access to tissue culture hoods, freezers, refrigerators, and other equipment. The Biomedical Research Laboratory, in the Medical Education Building, has a tissue culture hood, dual-chamber incubator, Coulter cell counter, protein and nucleic acid gel electrophoresis and blotting apparatus, refrigerators, freezers, and a variety of tools used for biochemistry, cell biology, and molecular biology.

#### **ORTHOPAEDIC BIOMECHANICS LABORATORY**

The Orthopaedic Biomechanics Laboratory occupies 20 rooms on the ground floor of Westlawn. It is configured primarily for macroscopic-level physical testing of musculoskeletal constructs (e.g., bones, articular joints, orthopaedic implants) and for corresponding computational modeling. The physical testing area includes a multipurpose wet lab, a multipurpose dry lab, a surgical preparation room, a mechanical testing room, a machine shop, and a specimen storage area. The computational modeling area is arranged around eight separate workstation seats in two adjoining partially partitioned areas. Adjacent to these core operational areas are offices for faculty, research staff, students, and fellows; a secretarial/reception area; a conference room; and a library.

#### **SPINE BIOMECHANICS AND ERGONOMICS LABORATORY**

Located at University of Iowa Hospitals and Clinics, the Spine Biomechanics and Ergonomics Laboratory is equipped for investigation of the biomechanics of the spine, particularly problems related to production and treatment of low back pain. For example, electromyography equipment, accelerometry, a motion capture system, and a force plate are used to study response to sudden loads. A stadiometer is used to evaluate how varied activities affect shrinkage (creep) in the spine. A pressure pad is used to study interface pressures between people and chairs or beds.

#### **SPINE RESEARCH LABORATORY**

The Spine Research Laboratory is equipped for interdisciplinary research. The laboratory's MTS Bionix (with extended columns) servohydraulic testing equipment permits application of uniaxial tension or compression together with axial torsion under displacement or load control. The laboratory also has a fully automated 3-D motion measuring system. These devices are used to test mechanical properties of biomechanical joints and tissues, and for biomechanical evaluation of the performance of surgical treatment modalities. Other equipment includes digital cameras, surgical tools, and sensors (i.e., LVDTs, six-degrees-of-freedom load cell, pressure transducers, digital inclinometers).

A biaxial biomechanical culture system is available for application of controlled compression and/or shear forces onto the intervertebral disc during culture, in order to investigate the disc's biological responses to mechanical loads. This culture system is used in conjunction with an incubator in which cells and tissues can be cultured. Basic equipment for histology and immunohistochemical analyses includes a microtome, ovens, a microscope, and glassware for chemical processes.

#### **TISSUE ENGINEERING LABORATORY**

The Tissue Engineering Laboratory is outfitted with a fume hood, sink, laboratory counters, tables, and major tissue culture equipment, including a Baker SG3 laminar flow hood, a NuAir water jacked incubator, an autoclave, a vacuum pump, a Zeiss Axiovert S-100 phase contrast and bright field microscope with a computer interface, computer-controlled peristaltic pumps, a computer-controlled water bath, and a refrigerator and freezer.

The inverted microscope has an image capture system interfaced to a computer workstation with image processing software. A variety of sensors for performing temperature, pressure, and flow measurements also are available. The laboratory's computers are equipped with software for graphical, numerical, image analysis, word processing, and symbolic computation. Liquid nitrogen dewars, and CO<sub>2</sub> and N<sub>2</sub> tanks have been installed. An Ussing chamber with electrodes and a high impedance Keithley electrometer also are available.

#### **UPPER EXTREMITY BIOMECHANICS LABORATORY**

The Upper Extremity Biomechanics Laboratory is configured for image analysis, upper extremity physical testing, and radiographic archives. A two-sensor Optotrak system, coupled with The MotionMonitor software package, is used to collect upper-extremity kinematic data.

## **Biomedical Engineering Courses**

### **Special Topics**

Biomedical engineering students participating in the Cooperative Education Program register for this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

**051:002 Half-time Cooperative Education Training Assignment: Biomedical Engineering** 0 s.h.  
Registration for work assignment periods; for students participating in the Cooperative Education Program.

**051:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**051:030 Cell Biology for Engineers** 3 s.h.  
Introduction to fundamental concepts in quantitative cell biology from an engineering perspective. Repeatable. Prerequisites: 002:010. Corequisites: 027:130, if not taken as a prerequisite.

**051:050 Biomaterials and Biomechanics** 4 s.h.  
Introduction to mechanics and materials in biological systems; principles of mechanics (stress, strain, motion, fluid flow) presented and used to characterize behavior of biological entities (tendon/ligament, bone and cartilage, blood, blood vessels, heart); principles of material science; role of biomaterials (metals, polymers, ceramics) in medical devices. Prerequisites: 059:007. Corequisites: 027:130.

**051:060 Systems, Instrumentation, and Data Acquisition** 4 s.h.  
Introduction to linear system theory and application, including convolution, Laplace Transform, transient analysis, sinusoidal steady-state analysis, and Fourier analysis; patient safety; acquisition and analysis of data collected from living systems, including concepts of analog circuit design with emphasis on operational amplifiers, active filters, clinical circuits, Nyquist concepts and digital conversion, and interface to computers; physics, acquisition, and analysis of medical images, especially those collected from X-ray, CT, MR, and ultrasound systems. Prerequisites: 059:006 and 059:008. Corequisites: 027:130 and 051:080.

**051:062 Design for Manufacturing** 3 s.h.  
Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes, including casting, welding, machining, forming; laboratory exercises and projects. Corequisites: 057:015. Same as 056:032, 058:032.

**051:080 Bioimaging and Bioinformatics** 4 s.h.  
Introduction to bioinformatics and biomedical imaging, including computer algorithms, machine learning, databases and SQL, the web and web servers, ethics, computer security, genome technology, public warehouses of biological data; medical imaging hardware and software for the acquisition and analysis of medical images, especially those collected from X-ray, CT, MR, and ultrasound systems; medical imaging system physics, including the interaction of energy with tissue, concepts of image spatial and temporal resolution; applications of filtering, enhancement, and image processing for the analysis of medical images. Prerequisites: 059:006. Corequisites: 027:130 and 051:060.

**051:085 Biomedical Engineering Senior Design I** 4 s.h.  
Individual or group work on a creative design project involving current problems in biomedical engineering; interdisciplinary projects involving biomedical engineering and health sciences faculty members; first semester of a year-long senior capstone design project. Prerequisites: 051:030, 051:050, 051:060, and 051:080. Requirements: senior standing.

**051:086 Biomedical Engineering Senior Design II** 4 s.h.  
Second semester of a year-long senior capstone design project begun in 051:085. Prerequisites: 051:085. Requirements: senior standing.

**051:090 First-Year Forum** 1 s.h.  
Presentations by faculty, graduate students, collaborators from the Carver College of Medicine, and Colleges of Dentistry and Law; may include visits to laboratories and industries.

**051:091 Professional Seminar: Biomedical Engineering** 1 s.h.  
Professional aspects of biomedical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Repeatable. Requirements: sophomore or higher standing.

**051:092 Leadership and Resourcefulness**

1 s.h.

Development of leadership skills and resourcefulness for real-world professional work and life. Repeatable.

Requirements: completion of six semesters of 051:090 and 051:091 combined.

**051:098 Individual Investigations: Biomedical Engineering**

arr.

Individual projects for biomedical engineering undergraduate students, such as laboratory study, engineering design projects, analysis and simulation of an engineering system, computer software development, research.

**051:121 Introduction to Bioinformatics**

4 s.h.

Basics of genetics and molecular biology; overview of bioinformatics and genome science, including genome projects, functional genomics, phylogenetics, proteomics, microarrays, DNA polymorphisms, data-mining algorithms; experimental methods, analytical approaches. Requirements: 002:128 or 099:120 or graduate standing. Same as 002:169, 055:121.

**051:122 Computational Genomics**

3 s.h.

Same as 002:174, 055:122, 127:173.

**051:123 Bioinformatics Techniques**

3 s.h.

Informatics tools and techniques applied to modern problems in biomedicine and basic life sciences; common tools, experience applying tools in contemporary problem settings; genomics and genetics, how to sequence a genome, transcription and expression, SNPs, Perl, BioPerl, Perl modules, Ensembl API, BLAST/BLAT, NCBI, UCSC, Ensembl Genome browsers, linkage, association, disease gene identification. Requirements: 002:081 and 059:009, or graduate standing.

**051:125 Contemporary Topics in Network Biology**

3 s.h.

Fundamentals of biological network analysis; focus on protein-protein interaction, regulatory, genetic interaction networks; principles of systems biology and biological networks, experimental methods and analytical approaches for specific networks side-by-side in detail; current emerging research areas in the field of systems biology; suitable for upper-level undergraduates and graduate students with background in biology, computer science, applied mathematics, statistics, physics, or engineering. Prerequisites: 051:121 or 127:170 or 002:170, and 051:122. Recommendations: knowledge in molecular cell biology and a programming language (i.e., Perl, Matlab, R, C).

**051:126 Introduction to Systems Biology**

3 s.h.

How higher-level properties of complex biological systems arise from the interactions among their parts; fundamentals of biological network analysis with focus on protein-protein interaction, regulatory, and genetic interaction networks; principles of systems biology and biological networks; experimental methods and analytical approaches for specific networks; current emerging research areas in the field of systems biology; didactic lectures and case-study projects. Prerequisites: 051:121 or 127:170 or 002:170, and 051:122. Recommendations: senior standing; or upper-level undergraduate or graduate standing with background in biology, computer science, applied mathematics, statistics, physics, or engineering.

**051:132 Regenerative Bioengineering**

arr.

Embryonic, fetal, and adult sources, human and non-human "stemness" of cells; references to biomaterials (i.e., those designed to direct organization, growth, and differentiation of cells in the process of forming functional tissue by providing physical and chemical cues); biomarkers and nano-medicine; promises of bioinformatics in support tissue engineering, gene and protein sequencing, gene expression analysis, protein expression, and interaction analysis. Prerequisites: 002:010. Corequisites: 027:130. Recommendations: 051:030.

**051:133 Advanced Cell Biology for Engineers**

3 s.h.

Introduction to techniques and quantitative analysis used in cell biology, taught from cell engineering perspective; focus on isolation, intracellular localization, and determination of mRNA levels of specific cellular proteins; analyze resulting data and interpret reliability of results; primarily a laboratory course. Prerequisites: 002:010, 027:130, and 051:030. Corequisites: 171:161.

**051:162 Digital Human Modeling and Simulation**

3 s.h.

Fundamentals of using computational methods in modeling, simulating, and animating articulated kinematic chains such as robots and humans; underlying mathematics, introductory concepts in kinematics and dynamics, serial chain kinematics and multibody dynamics; methods from kinematics and dynamics, coupled with biomechanical concepts, provide an integrated approach to predicting and analyzing serial link motion (e.g., human and robotic manipulator motion). Prerequisites: 057:010. Same as 058:136.

**051:178 Fast-Track Biomedical Engineering Design 1-A** 3 s.h.

Part A of first semester of year-long senior capstone design project; individual or group design project involving biomedical engineering problems. Prerequisites: 051:050, 051:075, and 051:080. Corequisites: 051:180. Requirements: senior standing.

**051:179 Fast-Track Biomedical Engineering Design 2-A** 3 s.h.

Part A of second semester of year-long senior capstone design project started in 051:178 and 051:180. Prerequisites: 051:178 and 051:180. Corequisites: 051:183. Requirements: senior standing.

**051:180 Fast-Track Biomedical Engineering Design 1-B** 1 s.h.

Part B of first semester of year-long senior capstone design project; individual or group project involving biomedical engineering problems. Corequisites: 051:178.

**051:183 Fast-Track Biomedical Engineering Design 2-B** 1 s.h.

Part B of second semester of year-long senior capstone design project started in 051:178 and 051:180. Prerequisites: 051:178 and 051:180. Corequisites: 051:179. Requirements: senior standing.

**051:225 Contemporary Topics in Bioinformatics** 3 s.h.

Next-generation sequencing technology and design, next-generation sequencing analysis and algorithms, contemporary topics in bioinformatics, genetics of disease (visual system as a model) and genetic engineering; grant writing. Recommendations: 051:123 or advanced programming skills and understanding of DNA.

**Biomaterials****051:168 Polymer Fundamentals** 1 s.h.

Basic knowledge of polymers required as a foundation for other UI courses on polymers: basic polymer terminology, polymer groups, polymerization mechanisms, molecular weight determination. Five weeks. Same as 052:140.

**051:169 Polymers as Biomaterials** 2 s.h.

Structure-property relationships and in vivo and in vitro performances of polymers used to manufacture implants and other devices. Prerequisites: 051:070.

**051:170 Biomaterials and Implant Design** 3 s.h.

Introduction to material and mechanical considerations underlying a broad range of medical implants with emphasis on understanding the factors involved in orthopaedic device design; major classes of biomaterials; considerations that underly implant design, use, and failure; and contemporary areas of biomaterials and implant development. Prerequisites: 057:019 and 051:150.

**051:173 Metals as Biomaterials** 3 s.h.

Property-structure relationship of metals used to fabricate implant materials; their interactions in vivo. Prerequisites: 051:070.

**051:175 Tissue Engineering** 3 s.h.

Introduction to tissue engineering; scaffolds, fundamentals, principles. Same as 046:290, 052:227.

**051:176 Biomaterials Laboratory** 3 s.h.

Practical experience in design, fabrication, and testing of biomaterials and devices; mechanical testing, tissue response, design to optimize response. Prerequisites: 051:070. Requirements: basic understanding of materials.

**051:177 Cell Material Interactions** 3 s.h.

Current thought and techniques in the engineering and assessment of biomaterials. Prerequisites: 027:130, 051:030, and 051:050.

**051:215 Interfacial Engineering for Biological Systems** 3 s.h.

Survey of current literature on interfacial engineering for biomedical engineering; student presentation and discussion of articles. Requirements: organic or polymer chemistry.

**Biomechanics/Biofluids****051:150 Musculoskeletal Biomechanics**

3 s.h.

Principles of solid mechanics applied to analytical, experimental investigation of biological systems; emphasis on applications in kinesiology of human musculoskeletal system. Prerequisites: 057:019. Requirements: graduate standing.

**051:151 Intermediate Mechanics of Deformable Bodies**

3 s.h.

Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: 057:019. Same as 053:140, 058:150.

**051:152 Ergonomics of Occupational Injuries**

3 s.h.

Epidemiology, surveillance systems, ergonomics, biomechanics, physiology, psychology, legal aspects, and cost control. Prerequisites: 051:050 or 051:150.

**051:154 Cardiac and Vascular Mechanics**

3 s.h.

Bio-solid mechanics of the cardiovascular system; mechanical properties of ventricles, valves, and blood vessels, their normal function, how they are affected by disease states; design of artificial organs, prostheses. Prerequisites: 057:019.

**051:155 Cardiovascular Fluid Mechanics**

3 s.h.

Anatomy and physiology of the human circulatory system, pressure-flow relationship in arteries, elastic properties of the arterial wall, steady and pulsatile flow dynamics, flow dynamics of human heart valves, flow dynamics past valve prostheses, fluid mechanical measurements in circulation, relationship between fluid mechanics and diseases in human circulation. Prerequisites: 057:019.

**051:157 Introduction to Applied Biomedical Finite Element Modeling**

3 s.h.

Introduction to finite element modeling as applied to biomechanics-related applications. Prerequisites: 051:050 and 057:019. Corequisites: 058:115.

**051:159 Design of Circulatory Implants and Artificial Organs**

3 s.h.

Exploration of current innovations and new technologies; examination of various devices currently on the market from a standpoint of design variables and objectives (i.e., stents, heart valves, dialyzers, VADs, artificial organs); biomedical engineers' vital role in design and improvement of these implants. Prerequisites: 051:155. Corequisites: 051:154.

**051:220 Human Response to Vibration**

3 s.h.

Exploration of the human body, a complex mechanism exposed to mechanical shock and vibration from many sources, under many conditions; interactions and applicable exposure standards, effects of whole-body and hand-arm vibration. Requirements: graduate standing in College of Engineering or College of Public Health.

**051:253 Spine Mechanics**

3 s.h.

Biomechanics applied to mechanics of the human spine; clinical aspects; state-of-the-art in spine research; basic engineering principles for biomechanical analysis. Prerequisites: 051:150.

**051:255 Advanced Biofluid Mechanics**

3 s.h.

Hemodynamic theories of atherogenesis, Womersley models, steady and unsteady flows in curvature, bifurcation and branching arterial segments, flow dynamics past prosthetic implants, experimental and computational models, particulate and mass transport simulations in human circulation. Prerequisites: 051:155.

**051:256 Advanced Biological Soft Tissue Mechanics**

3 s.h.

Topics in vascular solid mechanics; study of vascular tissue from theoretical (constitutive modeling), experimental, and computational perspectives.

**051:257 FE Analysis in Orthopaedic Biomechanics**

3 s.h.

Finite element modeling techniques applied to musculoskeletal (orthopaedic) biomechanics; use of ABAQUS finite element software. Prerequisites: 051:150. Corequisites: 051:158 and 058:115.



## Bioelectrical Engineering

### 051:141 Advanced Biological Systems

3 s.h.

Application of principles of linear system (control) theory to analysis of biological systems; development of computer-simulation techniques to study dynamic response of physiological systems.

### 051:148 Digital Image Processing

3 s.h.

Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: 051:040 or 055:040, and 051:060 or 055:043. Same as 055:148.

### 051:182 Biomedical Signal Processing

3 s.h.

Application of signal processing methods (e.g., Fourier, Laplace, z-transforms) to biomedical problems, such as analysis of cardiac signals, circadian rhythm, the breathing cycle; computer simulation lab.

### 051:185 Medical Imaging Physics

3 s.h.

Physics and data acquisition techniques of major medical imaging modalities (X-ray, CT, MR, ultrasound, PET, SPECT); physical interactions of energy with living tissue; principles and methods for acquiring imaging data and subsequent image construction; how individual modalities influence image quality; MATLAB programming required. Second in a medical imaging sequence. Requirements: background in physics and computers, and anatomy or biology or physiology.

### 051:186 Multidimensional Medical Imaging Process

3 s.h.

Algorithms developed to process and analyze large volumetric data sets; physics of CT, MRI, ultrasound, 3-D convolution and filtering, geometric transformations, shape features, surface segmentation, regional segmentation, surface tiling, surface reconstruction, volumetric registration. Third in a medical imaging sequence. Prerequisites: 051:185.

### 051:187 Health Informatics I

3 s.h.

Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 050:283, 056:186, 074:191, 096:283, 174:226, 200:110.

### 051:189 Health Informatics II

3 s.h.

Selected health informatics initiatives, including computer-based patient records, physiologic monitoring, networking, imaging, virtual reality; participation in an interdisciplinary project team focused on an informatics innovation; application and research seminars. Same as 021:280, 056:287, 074:192, 096:289, 200:120.

### 051:280 Functional Magnetic Resonance Imaging

2-3 s.h.

Basic physics principles of functional magnetic resonance imaging and approaches to data acquisition, including BOLD imaging, arterial spin labeling, and magnetic source imaging; data analysis strategies; paradigm design and development. Same as 132:250.

### 051:287 Insight into Images

3 s.h.

## Graduate Seminars, Advanced Topics, Research

### 051:191 Seminar in Biomedical Engineering

0 s.h.

Presentation of recent advances in biomedical engineering. Requirements: graduate standing.

### 051:198 Individual Investigations: Biomedical Engineering

arr.

Individual projects for biomedical engineering graduate students, such as laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

### 051:199 Research: Biomedical Engineering M.S. Thesis

arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of the requirements for the M.S. with thesis in biomedical engineering. Requirements: graduate standing.

**051:298 Advanced Individual Investigations in Biomedical Engineering**

arr.

Advanced individual projects such as laboratory study, engineering design projects, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**051:299 Research: Biomedical Engineering Ph.D. Dissertation**

arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. with thesis in biomedical engineering.

# Chemical and Biochemical Engineering

**Chair:** David W. Murhammer

**Professors:** Gregory R. Carmichael, Douglas Flanagan, Vicki Grassian, C. Allan Guymon, David W. Murhammer, Tonya L. Peebles, David G. Rethwisch, Alec B. Scranton, Venkiteswaran Subramanian, Dale Wurster

**Professor emeritus:** J. Keith Beddow

**Associate professors:** Gary Aurand, Chris Coretsopoulos, Umran Dogan, Stephen K. Hunter, Julie L.P. Jessop, Lee Kirsch, Aliasger Salem

**Assistant professors:** Jennifer Fiegel, Eric Nuxoll, Charles Stanier

**Lecturer:** Audrey Butler

**Undergraduate degree:** B.S.E. in Chemical Engineering

**Graduate degrees:** M.S., Ph.D. in Chemical and Biochemical Engineering

**Web site:** <http://www.cbe.engineering.uiowa.edu/>

Chemical and biochemical engineers combine engineering principles with knowledge of mathematics and specific sciences—chemistry, the biological sciences, and physics—to develop and operate processes that convert raw materials into products that benefit society. For example, biochemical engineers might develop and operate processes to convert switchgrass into biofuels or to mass produce an antibiotic.

Chemical and biochemical engineers engage in a wide variety of activities that benefit the global community. Fuel cells, solar energy, and biorenewable fuels (e.g., biodiesel or ethanol) fall within the realm of chemical engineering. Chemical engineering distinguishes itself from other engineering professions with its reliance on chemical reactions and physicochemical transformations to produce a wide variety of important materials and products.

Biochemical engineers are involved in a wide variety of industrial biocatalytic, fermentation, and cell culture processes that generate products ranging from the high fructose corn syrup in soft drinks to recombinant human insulin.

As part of their training, chemical and biochemical engineers learn ethical design and a respect for the larger issues in any design, such as community health, employee safety, and the global implications of the design. The University of Iowa's curriculum emphasizes chemical process safety and environmentally conscious chemical engineering design.

Chemical and biochemical engineers work in a wide range of industries, including petroleum and specialty chemical production, polymer and plastic production, food processing, microelectronics production, pharmaceutical production, biochemical processing, and environmental compliance. Potential jobs include production, process development, plant design and construction, and fundamental research. Many experienced chemical and biochemical engineers move through management ranks to high-level administrative positions.

## Undergraduate Program

The department offers the Bachelor of Science in Engineering in chemical engineering.

The program produces graduates who have a strong foundation of scientific and technical knowledge and are equipped with problem solving, teamwork, and communication skills that will serve them throughout their careers. The program's educational objectives are to produce graduates who:

- pursue careers as practicing chemical engineers in fields such as pharmaceuticals, microelectronics, chemicals, polymers/advanced materials, food processing, energy, or environmental engineering;
- pursue advanced studies in disciplines such as chemical engineering, environmental engineering, medicine, law, or business; and
- assume professional leadership roles.

The program uses the following methods and strategies to achieve its educational objectives:

- foster a personalized, supportive environment for all students by taking advantage of the unique combination of a small college atmosphere in a major research university;
- enrich the undergraduate experience through cultural diversity, international opportunities, and experiential learning;
- provide a solid foundation and understanding of the fundamental principles of mathematics, science, and engineering;
- provide students with experience in learning and applying tools (e.g., computer skills) to the solution of theoretical and open-ended chemical engineering problems;
- provide students with opportunities to participate in multidisciplinary teams, and to develop and practice written and oral communication skills, both within the team and to a broader audience;
- provide students with opportunities to design and conduct chemical engineering experiments, and to design systems, components, and chemical processes to meet specific needs and constraints; and
- provide a contemporary grounding in professional responsibility, including ethics, the global and societal impact of engineering decisions, and the need for lifelong learning.

## Bachelor of Science in Engineering

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The chemical engineering major provides a

broad education at the leading edge of technology. It emphasizes fundamental concepts, problem solving, laboratory techniques, and communication skills. The biological sciences join physics, chemistry, and mathematics as foundation disciplines for chemical engineering.

The B.S.E. curriculum covers four major stems: mathematics and basic sciences, engineering topics, elective focus area, and general education (15 s.h. of humanities and social science courses). All students take 059:005 Engineering Problem Solving I, 059:006 Engineering Problem Solving II, and 010:003 Rhetoric. General education component courses must be selected to satisfy the requirements of the College of Engineering. For information on B.S.E. curriculum stems and common course requirements, see Bachelor of Science in Engineering in the College of Engineering section of the Catalog.

For chemical engineering students, the sophomore, junior, and senior years emphasize chemical engineering courses such as process calculations, engineering flow and heat exchange, chemical engineering thermodynamics, mass transfer and separations, chemical reaction engineering, chemical process safety, chemical engineering laboratories, biochemical engineering, process dynamics and control, and process design. Experience in instrumentation, analysis, and design is obtained through an integrated laboratory program. Routine use is made of computer-based data analysis, simulation, and design.

Students are required to participate in at least one enriching activity, which may include a research experience, a cooperative education or internship experience, study abroad, completion of the Certificate in Technological Entrepreneurship, or other approved experiences.

Chemical engineering students may gain depth of knowledge related to a career path through their selection of science, engineering, humanities, and social science electives. Several preapproved elective focus areas may help students define potential careers.

Students must select elective focus area courses according to guidelines established by the Department of Chemical and Biochemical Engineering. See "Elective Focus Area" after the following curriculum list.

Some courses in the curriculum are prerequisites to others. Students who take courses in the order below satisfy the prerequisite requirements automatically. Students who do not follow this sequence still must satisfy all course prerequisites.

Seminars do not count toward the 128 s.h. required for the degree.

## **FIRST YEAR**

### **First Semester**

004:011 Principles of Chemistry I	4 s.h.
010:003 Rhetoric (or 010:001-010:002)	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
059:005 Engineering Problem Solving I	3 s.h.
059:090 Engineering Success Seminar for First-Year Students	1 s.h.

### **Second Semester**

004:012 Principles of Chemistry II	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
052:090 CBE Departmental Seminar	0 s.h.
059:006 Engineering Problem Solving II	3 s.h.

## **SECOND YEAR**

### **First Semester**

22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
052:041 Process Calculations	3 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.

059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.
General education component course	3 s.h.

**Second Semester**

004:121 Organic Chemistry I	3 s.h.
052:091 Professional Seminar: Chemical Engineering	0 s.h.
052:103 Chemical Engineering Thermodynamics	3 s.h.
052:151 Engineering Flow and Heat Exchange	3 s.h.
General education component course	3 s.h.
Statistics elective	3 s.h.

**THIRD YEAR****First Semester**

004:122 Organic Chemistry II	3 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.
052:091 Professional Seminar: Chemical Engineering	0 s.h.
052:161 Mass Transfer and Separations	3 s.h.
052:171 Thermodynamics/Transport Laboratory	3 s.h.
057:015 Materials Science	3 s.h.

**Second Semester**

052:091 Professional Seminar: Chemical Engineering	0 s.h.
052:105 Chemical Reaction Engineering	3 s.h.
052:172 Chemical Reaction Engineering/Separations Laboratory	2 s.h.
052:187 Chemical Process Safety	3 s.h.
Elective focus area courses	6 s.h.
General education component course	3 s.h.

**FOURTH YEAR****First Semester**

052:091 Professional Seminar: Chemical Engineering	0 s.h.
052:108 Introduction to Biochemical Engineering	3 s.h.
052:184 Chemical Engineering Process Design I	2 s.h.
052:185 Process Dynamics and Control in Design	3 s.h.
Advanced chemical science elective	3 s.h.
Elective focus area courses	6 s.h.

**Second Semester**

052:092 Senior Enriching Activities Seminar	0 s.h.
052:186 Chemical Engineering Process Design II	3 s.h.
Advanced chemical science electives	6 s.h.
Elective focus area course	3 s.h.
General education component course	3 s.h.

### **Elective Focus Area**

The elective focus area enables students to gain depth of knowledge in a career path. Students meet with their chemical engineering academic advisor to discuss career options and develop a plan for choosing electives based on their career interests. The department offers preapproved elective focus areas in biochemical engineering, pharmaceuticals, chemical process engineering, polymers, energy and environment, pre-medicine, business, and entrepreneurship.

Students may prefer to develop an individualized elective focus area, which is subject to approval by the department's curriculum committee. See the Department of Chemical and Biochemical Engineering web site for detailed descriptions of preapproved elective focus areas, guidelines for tailored elective focus areas, and typical four-year study plans based on elective focus areas.

### **Joint B.S.E./M.S.**

The College of Engineering offers a joint (fast-track) Bachelor of Science in Engineering/Master of Science for chemical engineering undergraduates who intend to earn an M.S. in chemical and biochemical engineering. B.S.E./M.S. students may count 12 s.h. of course work (typically advanced chemistry sequences and electives) toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the joint degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application and statement of purpose to the chair of the Department of Chemical and Biochemical Engineering.

## **Graduate Programs**

The Department of Chemical and Biochemical Engineering offers a Master of Science, with and without thesis, and a Doctor of Philosophy. Through course work and research, graduate students gain an understanding of the principles of engineering science and use those principles in contemporary applications related to energy, the environment, biotechnology, and materials. The department emphasizes research, since most opportunities for graduates are in research and development.

### **Research and Study Areas**

Current research strengths of the Department of Chemical and Biochemical Engineering are in the areas of global and regional atmospheric modeling, biomaterials medical engineering, cellular engineering, photopolymerization, biocatalysis, and biofuels.

### **BIOCHEMICAL ENGINEERING**

Biochemical engineering involves the industrial application of enzymes, microorganisms, cells, and tissues for production of chemicals, pharmaceuticals, and other materials of commercial value.

The department is working to solve problems with the use of insect cell culture for recombinant protein and viral insecticide production. Research is being conducted to improve the quality and quantity of recombinant proteins produced in large-scale bioreactors. In addition, a continuous viral insecticide production system is being developed for the large-scale production of these environmentally safe alternatives to chemical insecticides. The insect cell/baculovirus system is being used as a model system to investigate the role of oxidative stress in viral cytotoxicity.

Carbon dioxide accumulation, which commonly occurs in large-scale bioreactor systems, affects insect cell growth; the department's researchers are investigating the corresponding effect on insect cell growth and the baculovirus infection process.

The department works to design technologies for the characterization and use of extremophiles, organisms that possess unusual abilities to survive in harsh chemical environments. In these studies, novel bioreactor systems that can withstand extremes of temperature, pressure, pH, and salinity are being developed. Extremophile strategies for survival also are being studied, with the aim of discovering unique enzymes for industrial application as well as evaluating molecular interactions that govern protein stability under extreme conditions.

In addition to the study of natural extremophiles, efforts to engineer stability in biocatalysts for industrial processing are under way. Novel solvent-tolerant enzymes and organisms for environmentally beneficial chemical reactions are being generated using molecular biology tools. Combinations of chemical and biological processing are being used to produce valued chemicals from renewable feedstocks. This work contributes to the interdisciplinary training of engineers and scientists to address the challenges of minimizing and cleaning up environmental pollution, while maximizing the economic benefits of chemical processing.

The department also conducts research in structural enzymology, molecular mechanisms of host-pathogen interactions, and biocatalysis. The laboratory uses biophysical, structural, and molecular biology techniques to understand the details of enzyme action. This information is used to design and engineer biocatalysts for the production of chiral compounds. Work also is under way on cellular recognition and signaling processing during infection and inflammation. Knowledge gained from these studies aids the design of drugs and biological sensors for bacterial presence.

The integration of biotechnology with traditional chemical engineering has led to an interdisciplinary area involving other engineering departments and the Departments of Chemistry, Biology, Biochemistry, Free Radical and Radiation Biology, and Microbiology and the College of Pharmacy. This focus includes involvement in the University's Center for Biocatalysis and Bioprocessing, whose fermentation capabilities are highlighted by its 1,500-liter fermentor.

#### **BIOMEDICAL RESEARCH**

The department's research involves a multidisciplinary approach to solving problems in the medical field, particularly in drug delivery and biomaterials.

Researchers are working to develop safe delivery systems that target drugs precisely in the human body and avoid premature metabolism or elimination. To treat respiratory infections, micron-sized particles are being engineered with properties that enhance aerodynamic performance, particle stability, and targeting within the respiratory tract. Polymeric vehicles are being designed to provide sustained protection and prevention against cancers by kick-starting the immune system. Finally, work is under way to overcome barriers to efficient delivery of DNA, with the potential to provide cures for genetic disorders such as cystic fibrosis and X-Linked Severe Combined Immunodeficiency (X-SCID). This work brings together collaborators from the Carver College of Medicine, the Colleges of Dentistry and Pharmacy, and the Departments of Chemistry and Biomedical Engineering.

In the biomaterials realm, new materials are being developed that can interact with the human body to perform certain functions while maintaining compatibility. A project with the Department of Ophthalmology and Visual Sciences involves development of biodegradable stent materials to alleviate a serious eye disease induced by a blood clot in the central retinal vein. Research with the Department of Otolaryngology--Head and Neck Surgery is exploring the development of photo-patterned surfaces for directed growth of cells to improve cochlear implants. Current research in the tissue engineering field applies microfabrication techniques to develop scaffolds that are biodegradable and biocompatible with cell-interactive properties, and that directly incorporate controlled-release functionality within the scaffold.

The Department also conducts research that is focused on self-assembling systems, rational design of novel drug and gene delivery systems, and development of sophisticated scaffolds for tissue-specific regeneration. In tissue engineering, microfabrication techniques are applied to novel biomaterials to provide spatial control over tissue formation and to integrate minimally invasive scaffold delivery strategies. In drug and gene delivery, researchers are exploring the synergistic application of degradable particle technology, CpG oligonucleotides, and heat-shock protein therapy for generating sustained, stronger immune responses against carcinomas.

Students involved in animal research have access to the University's Office of Animal Resources, which is adjacent to the University of Iowa Hospitals and Clinics.

#### **ENERGY AND ENVIRONMENT**

Chemical engineers are well-suited to make major contributions toward meeting challenges for the environment, energy, and sustainable development. The Department of Chemical and Biochemical Engineering has an active research program in the environmental areas of air pollution, biofuels, atmospheric chemistry, atmospheric CO<sub>2</sub> fluxes, environmental change, bioremediation, and the design of new environmentally compatible technologies. Particular emphasis is placed on the chemistry and physics of local, regional, and global air-pollution problems. Research in support of this activity includes high-speed computing and detailed sensitivity analysis.

This work involves three centers and institutes on campus. The Center for Global and Regional Environmental Research brings together University scientists and scholars from more than 20 disciplines, including chemistry, civil and environmental engineering, geography, geology, law, and medicine. The center's chief area of concern is environmental change. Chemical and biochemical engineering researchers interact with scientists at IIHR--Hydroscience & Engineering, a research institute focusing on applied fluid mechanics; their collaborations involve environmental fluid mechanics and air pollution field studies. The Nanoscience & Nanotechnology Institute at UI provides an interdisciplinary home for chemical and biochemical researchers working on the development, application, and environmental and health effects of nanomaterials.

#### **PHOTOPOLYMERIZATION**

Photopolymerizations are chain reactions in which a liquid monomer is converted to a solid, durable polymer in a

process triggered by light of the appropriate wavelength. The use of light, rather than heat, to drive a polymerization reaction offers advantages in developing new processes or products.

Photopolymerizations provide both spatial control and temporal control of reactions, since light can be directed to locations of interest in the system and is easily shuttered on or off. Photopolymerizations also provide solvent-free formulations, which reduce the emissions of volatile organic pollutants, and they exhibit extremely rapid reaction rates. These advantages have led to tremendous growth in the application of photopolymerizations in the private sector, but much of this growth has occurred without a fundamental understanding of the underlying chemical processes.

The department's research in this area focuses on comprehensive characterization of the kinetics, mechanisms, structure, and properties of photopolymerizations. Work includes the following types of studies: characterization of the photochemical processes by which polymerizations may be initiated; kinetic characterization of cationic photopolymerization; development of methods for photopolymerization of thick polymers and composites; development of photopolymerization systems based upon agricultural feedstocks; new methods for monitoring high-speed photopolymerization reactions; nanostructured materials through photopolymerization; biomedical devices formed by photopolymerization; and influence of order on photopolymerization reactions.

## **Master of Science**

The Master of Science in chemical and biochemical engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. All M.S. students must earn at least 24 s.h. in approved graduate-level course work; courses numbered below 100 may not be used to satisfy this requirement. Thesis students earn 6 s.h. in 052:199 M.S. Thesis Research: Chemical and Biochemical Engineering. Nonthesis students earn 6 s.h. in additional approved course work and must complete and pass a final written exam on the basic core material.

M.S. students must maintain a graduate g.p.a. of at least 3.00. Each student must pass a final M.S. examination.

There is no foreign language requirement.

Graduate students who receive assistantships, fellowships, or other financial support awarded with the understanding that they will pursue an advanced degree with thesis may not elect the nonthesis option.

Graduate students in the nonthesis program may petition for entry into the thesis program or the Ph.D. program by requesting a change of status through the Graduate College. The request is reviewed by the graduate admissions committee. If approved by the committee, it is forwarded to the chemical and biochemical engineering faculty for final approval. Students then are assigned to research advisors as though they were newly admitted graduate students. For a detailed description of program requirements, see the Department of Chemical and Biochemical Engineering web site.

## **Doctor of Philosophy**

The Doctor of Philosophy in chemical and biochemical engineering requires a minimum of 72 s.h. of graduate credit. However, the degree is granted primarily on the basis of achievement rather than on the accumulation of semester hours. Candidates usually are expected to have completed three academic years in residence, or two years if they already hold a recognized master's degree.

All candidates must complete a core course requirement, which consists of a course in transport phenomena, a course in reaction engineering, a course on proposal writing, and a thermodynamics course, as well as six additional courses (total of 30 s.h.).

Ph.D. candidates must maintain a graduate g.p.a. of at least 3.25.

All doctoral students are required to satisfy a qualifying requirement and pass a comprehensive examination before they can become candidates for the degree. The Ph.D. comprehensive examination is the presentation and defense of the candidate's Ph.D. research proposal. These examinations are arranged by members of the examining committee and may be repeated at the committee's discretion. Comprehensive examination policies are published in the Manual of Rules and Regulations of the Graduate College; see Graduate College in the Catalog. There is no foreign language requirement. A final examination, which is a defense of the thesis, completes the doctoral program. For a detailed description of program requirements, visit the Department of Chemical and Biochemical Engineering web site.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants should have a B.S. in chemical engineering or related discipline, with satisfactory grades, from a recognized college or university in the United States, and a g.p.a. of at least 2.80. Students who do not meet these requirements may be granted conditional admission, with the department chair's approval. Graduates of non-U.S. universities may



be accepted, depending on evaluation of their records.

Applicants must submit their verbal and quantitative scores on the Graduate Record Examination (GRE) General Test with their applications.

Graduate courses in chemical and biochemical engineering are designed for students who have an undergraduate background in chemical engineering. Exceptional students from other areas also may apply for admission to the M.S. or the Ph.D. program in chemical and biochemical engineering. If admitted, they may be required to take specific undergraduate courses to prepare them for graduate course work.

## **Financial Support**

A number of fellowships, assistantships, and scholarships are awarded on a competitive basis to graduate students who qualify.

Graduate students have the opportunity to receive interdisciplinary research training in several fellowship programs administered through the Center for Biocatalysis and Bioprocessing (CBB). The program provides research training in areas that combine basic and applied research. Each year the center offers fellowships to doctoral students in biotechnology. These are funded by grants from the National Institute of General Medical Sciences, National Institutes of Health (NIH), National Science Foundation (NSF), and the CBB with funding from the State of Iowa. Through these programs, chemical and biochemical engineering students interact with students and faculty members from biochemistry, biology, chemistry, civil and environmental engineering, medicinal and natural products chemistry, and microbiology.

## **Facilities and Laboratories**

### **Undergraduate Core**

#### **MATERIALS SCIENCE LABORATORY**

The Materials Science Laboratory is equipped with optical microscopes and facilities for metallographic preparation. Mechanical tensile testing instruments, heat treatment and sintering furnaces, and hardness testing machines also are available. Teaching aids include metallography specimen kits and crystallography packages.

### **Required Undergraduate Laboratories**

#### **CHEMICAL ENGINEERING LABORATORY**

The Chemical Engineering Laboratory provides instruction for undergraduate students. It is equipped for experimentation in transport phenomena, heat transfer, fluid flow, chemical engineering unit operations, and reaction kinetics and catalysis. The laboratory includes pilot plant equipment, such as a distillation column, wiped film evaporator, shell-and-tube heat exchanger, jacketed kettle, and agitated extractor. Other equipment includes an advanced reactive system screening tool, concentric tube heat exchanger, reciprocating plate extractor, membrane gas separator, and a tangential flow filtration system. Analytical equipment includes gas chromatographs, UV/visible spectrophotometers, and high-performance liquid chromatography.

The laboratory is continuously updated to reflect advances at the forefront of chemical engineering technology. Additionally, a wide array of small equipment is available to support laboratory projects and demonstrations in chemical engineering courses and for use by students performing independent investigations.

#### **CHEMICAL PROCESS SAFETY LABORATORY**

The Chemical Process Safety Laboratory is an integral part of 052:187 Chemical Process Safety. It is equipped with two flash-point testers, an advanced reactive system screening tool (ARSST), a flammability limits tester, a Hartmann tube, a Van de Graaff generator, two high impedance electrometers, a field meter, a Faraday cage, and relief sizing software. This equipment is used in a series of experiments to demonstrate the principles of flammability, reactivity, explosions, relief valve sizing, and electrostatics relevant to industry.

#### **PROCESS CONTROL LABORATORY**

The Process Control Laboratory is a modern, computer-based instructional laboratory that is integral to 052:185 Process Dynamics and Control in Design. The laboratory consists of computer control of a shell-and-tube heat exchanger, and a level-and-flow control process rig with state-of-the art industrial control interfaces.

The Computer Control Laboratory offers an ensemble of learning experiences with the same equipment.

Additional laboratories provide instruction in the use of process simulators that provide analogies and better insight into the control process. Topics include determination of the gain and time constants for single-capacitance systems; determination of gain, time constant, and damping factor of second-order processes; determination of open-loop and closed-loop response to step-and-ramp changes in input for single-capacitance and multicapacitance processes; approximations of multicapacitance systems as first-order and second-order processes with dead time; analysis of instrumentation characteristics and transfer functions; tuning and optimization of feedback control parameters (P, PI, PID); system identification through frequency response methods; and determination of system stability.

Experimental arrangements in the laboratory are simple enough in design to be easily understood, yet complicated enough to help students appreciate system characteristics inherent in industrial processes (e.g., large time lags, error in parameter estimation).

### **Graduate Facilities and Laboratories**

The department offers a wide variety of facilities to support and develop research activities.

#### **AIR POLLUTION COMPUTATIONAL, FIELD, AND LABORATORY STUDIES**

The department maintains extensive facilities for computational, field, and laboratory studies of air pollution, carbon cycle gases, aerosols, and nanoparticles at the Center for Global and Regional Environmental Research (CGRER). The center occupies 5,000 square feet of laboratory and office space on the fourth floor of the Iowa Advanced Technology Laboratories.

CGRER houses one R2 ImmersaDesk Portable Large Scale Visualization System and is linked on campus to two more R2 ImmersaDesk units.

The center's computer laboratory for environmental and spatial data analysis provides numerous Windows and UNIX workstations, sophisticated software packages, and workstations and a file server necessary to run intensive visualization programs. The network backbone is University supported with high-speed wireless throughout. A variety of digital environmental databases and an extensive library of documentation and related references are available. There are 4 Beowulf Linux clusters on site and Linux clusters of 4, 16, 18, and 20 nodes for large computations and data assimilation. CGRER retains 15 TB of redundant storage and 50 TB of total storage; local storage space is scalable and expandable. A variety of software packages and programming languages are available for data analysis and display, including Arc/Info, Arcview, NCAR Graphics, Matlab, S-Plus, and Vis5d, as well as geographical information software. The ESRI software suite is part of a University-wide site license.

Laboratory and field equipment includes aerosol samplers, including scanning mobility particles sizers for aerosols from 3 nm to 1 micron with time resolution to 30 seconds; aerosol particle sizers for aerodynamic measurements of in situ particles with time resolution to 1 second; and varied condensation particle counters for measuring total particle counts. Several hygroscopic tandem differential mobility analyzers are used, as well as varied aerosol generation devices and unique aerosol inlets for RH and temperature modification and control. Cloud droplet number can be measured in the lab or in the field using a Droplet Measurement Technologies cloud condensation nuclei detector. Advanced computer control of instruments is available through Labview.

Selected instruments are field deployable in a custom air conditioned trailer. Through collaboration with the IIHR--Hydroscience & Engineering, access to micrometeorology sensors, 1-D and 2-D elastic and Raman LIDAR, and gas sensors is available, including multichannel ammonia monitors.

#### **BIOCHEMICAL ENGINEERING**

Biochemical engineering laboratories provide facilities for preparation of biological media and cultivation of organisms as well as for separation and analysis of biomolecules. This equipment includes biological incubators and floor incubator shakers, agitated and airlift bioreactors, light microscopes, autoclaves, Vi-Cell cell counter, thermocycler for PCR amplification of DNA, high- and low-speed centrifuges, UV-Vis spectrophotometers, a lyophilizer, biological safety cabinets, and an anaerobic glove box. Phase-contrast and epifluorescence microscopes, gel electrophoresis systems, gas chromatography units with flame ionization and electron capture detectors, and several high-performance liquid chromatography systems with refractive index and photodiode array detectors are available for characterization of microorganisms and constituent biomolecules. In addition, the lab has multiple extremophile cultivation systems including a high-pressure (0.1-100 MPa) cell cultivation system, several continuous cultivation systems, and high-temperature oil bath shakers for physiological studies of extremophilic microbes.

Through collaborative research agreements, graduate students also have access to specialized facilities for electron microscopy, large-scale fermentation, protein structure, recombinant DNA research, and tissue culture/hybridoma; the Flow Cytometry Facility; and the High Resolution Mass Spectrometry Facility.

#### **BIOMEDICAL ENGINEERING**

The biomedical engineering laboratories house particle technology equipment including microemulsion equipment for

drug encapsulation, sonicators, benchtop scale spray dryers, laser diffraction particle sizer, zetapotentiometer; DNA preparation equipment, gel electrophoresis apparatus; interfacial stress rheometer, surface tensiometer, UV-Vis/fluorescent plate reader, high-performance liquid chromatograph, luminometer, lyophilizer, custom-built simulated cough machine, microscopes, incubators, wet chemistry equipment, rotary shakers, incubated plate shakers, autoclave, centrifuges, and laboratory computers. Cell culture and bacterial culture facilities are housed adjacent to the laboratories.

Graduate students also have access to core research facilities including the Central Microscopy Research Facility, Flow Cytometry Facility, DNA Facility, Electron Spin Resonance Facility, Nuclear Magnetic Resonance Facility, High Resolution Mass Spectrometry Facility, Center for Gene Therapy, Nuclear Magnetic Resonance Facility, and Statistical Consulting Center.

#### COMPUTER FACILITIES

The departmental computer facilities contain a variety of graphics workstations, printers, and microcomputers. The department is supported by the college's Computer Systems Support (CSS). CSS maintains a large network of high performance UNIX and Windows XP workstations along with extensive commercial and public domain software. The department also has access to the University's central research facility in high-speed vector computation. This facility has SGI Power Challenger minisupercomputers and provides nodes for external links for access to supercomputers.

#### FUNDAMENTALS AND APPLICATIONS OF PHOTOPOLYMERIZATION

The Photopolymerization Center was established to advance fundamental understanding of the kinetics and mechanisms of photopolymerizations. To this end, the center provides unique opportunities for collaborations by industrial and academic investigators to explore photopolymerization processes and develop novel applications based on photopolymerizations.

The center provides equipment and instrumentation for the characterization of photopolymerization systems on the molecular, microscopic, and macroscopic levels. Center researchers pursue understanding of fundamental photophysical and photochemical processes involved in the photoinitiation reaction; characterization of high-speed propagation and termination kinetics that lead to the polymer structure; and evaluation of material properties through the course of the photopolymerization reaction. Both radical and cationic photopolymerizations are studied with state-of-the-art experimental techniques to elucidate the complex chemical and physical mechanisms that control the initiation, propagation, and termination of the active centers.

## Chemical and Biochemical Engineering Courses

### General Topics

**052:000 Cooperative Education Training Assignment: Chemical Engineering** 0 s.h.  
Chemical engineering students participating in the Cooperative Education Program register for this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

**052:002 Half-time Cooperative Education Training Assignment: Chemical Engineering** 0 s.h.  
Registration for work assignment periods; for students participating in the Cooperative Education Program.

**052:029 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**052:030 Energy and Society** 3 s.h.  
History of energy development and use throughout the world; how energy has affected the development of human societies; societal impact of engineering advances; current state of energy consumption worldwide, including distribution of energy sources, global variations in consumption, advantages and disadvantages of current energy sources; role of fossil fuel consumption in global climate change, potential scenarios for the future of energy.

**052:041 Process Calculations** 3 s.h.  
Fundamental principles of chemical process analysis, including material and energy balances for single-unit and multiple-unit processes, analysis of reactive and nonreactive systems, introduction to equations of state, thermodynamics of multiphase systems. Prerequisites: 22M:031.

- 052:090 CBE Departmental Seminar** 0 s.h.  
Introduction to the profession and the department; presentations by guest speakers, visits to laboratories and industries.
- 052:091 Professional Seminar: Chemical Engineering** 0 s.h.  
Professional aspects of chemical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Prerequisites: 052:041. Requirements: sophomore standing.
- 052:092 Senior Enriching Activities Seminar** 0 s.h.  
Aspects of chemical engineering education, including multidisciplinary team skills, understanding the impact of engineering practice locally and globally. Corequisites: 052:186.
- 052:098 Individual Investigations: Chemical Engineering** arr.  
Individual projects for chemical engineering undergraduate students, such as laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.
- 052:103 Chemical Engineering Thermodynamics** 3 s.h.  
Applications of thermodynamic principles to chemical and physical processes; prediction of material properties; phase and chemical equilibria applied to mixtures and reacting systems. Prerequisites: 059:009. Corequisites: 052:041.
- 052:105 Chemical Reaction Engineering** 3 s.h.  
Application of chemical reaction kinetics to design of chemical reactors: batch reactors, mixed flow reactors, plug flow reactors; reversible and irreversible single reactions; parallel, series, and mixed reactions; temperature and pressure effects on reactor design; heterogeneous catalysis; transport in porous catalysts. Prerequisites: 052:161.
- 052:107 Sustainable Systems** 3 s.h.  
New and emerging concepts in sustainable systems design and assessment. Same as 053:107.
- 052:109 CEBC Colloquium** 1 s.h.  
Sustainable development issues addressed by guest speakers from chemical industries; process economics, environmental impact assessment.
- 052:115 Introduction to Literature Review and Technical Writing** 3 s.h.  
Review of technical literature, how to contribute to it; produce and present orally a peer-reviewed-journal-quality review article; brainstorming, group writing, research ethics, plagiarism. Recommendations: nonthesis track graduate standing.
- 052:117 Intermediate Thermodynamics** 3 s.h.  
Fundamental principles of thermodynamics as applied to phase equilibrium; properties of fluids, first and second law, variable composition systems, behavior of real fluids, mathematical techniques for solution thermodynamics. Requirements: 052:103 or 058:040 or graduate standing. Same as 058:140.
- 052:118 Mathematical Methods in Engineering** 3 s.h.  
Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: 22M:033 and 22M:034. Same as 053:113, 058:113.
- 052:171 Thermodynamics/Transport Laboratory** 3 s.h.  
Error analysis, propagation of errors, experimental design, data collection techniques, report writing, oral presentations, laboratory safety; laboratory investigations of thermodynamics, fluid flow, heat transfer, fluid rheology. Prerequisites: 052:103 and 052:151. Corequisites: 052:161. Recommendations: statistics course.
- 052:172 Chemical Reaction Engineering/Separations Laboratory** 2 s.h.  
Experimental design, data collection techniques, report writing, oral presentations; laboratory investigations of chemical reaction engineering and separations; experiments with plug flow and batch reactors, distillation, evaporation, membrane separation. Prerequisites: 052:161 and 052:171. Corequisites: 052:105.
- 052:192 Special Topics** 1 s.h.  
Research techniques for graduate students in chemical and biochemical engineering. Requirements: graduate standing.

**052:195 Contemporary Topics: Chemical and Biochemical Engineering**

arr.

Research techniques for graduate students in chemical and biochemical engineering. Requirements: graduate standing.

**052:196 Photopolymerization Topics**

1 s.h.

Seminars presented by faculty members, research assistants, students.

**052:215 Introduction to Literature Review and Proposal Writing**

3 s.h.

Tools for reviewing literature, skills for critical reading of publications, training in successful proposal writing; experience drafting a proposal that can be used as a starting point for the Ph.D. comprehensive.

**Biochemical Engineering****052:108 Introduction to Biochemical Engineering**

3 s.h.

Biochemistry, cellular biology, recombinant DNA and hybridoma technologies; emphasis on engineering aspects of biotechnology, including enzyme kinetics, cell growth kinetics, transport phenomena in bioreactors, bioreactor design, bioseparations, formulation and sterilization of growth media, commercial applications of biotechnology. Prerequisites: 052:105.

**052:181 Bioseparations**

3 s.h.

Unit operations used to isolate and purify biologically-derived chemicals, including flocculation, filtration, centrifugation, extraction, adsorption, chromatography, precipitation, crystallization, electrophoresis and cell disruption for intracellular product recovery.

**052:223 Introduction to Biocatalysis**

3 s.h.

Applications of biological catalysis in varied industries; potential of biological catalysis to address future challenges in science and engineering.

**052:225 Biotechnology of Extremophiles**

3 s.h.

Evolution and engineering of biocatalysis under extreme conditions; physiological, kinetic, and molecular behavior of systems that perform under extremes of temperature, pH, salinity, pressure, solvent concentrations.

**052:226 Engineering Aspects of Animal Cell Culture**

3 s.h.

Applications of animal cell culture (insect and mammalian) in biochemical engineering, with emphasis on recombinant protein synthesis; special considerations of animal cell cultures (e.g., sensitivity to hydrodynamic stress), scale-up of attachment-dependent and attachment-independent cell cultures, medium development, hybridoma cultures, protein processing in animal cells. Prerequisites: 052:108.

**052:227 Tissue Engineering**

3 s.h.

Introduction to tissue engineering; scaffolds, fundamentals, principles. Same as 046:290, 051:175.

**052:275 Perspectives in Biocatalysis**

1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 046:275, 053:275, 061:275, 099:275.

**Environmental Engineering****052:133 Engineering Analysis of Alternative Energy Systems**

3 s.h.

Engineering and sustainability analyses of conventional and emerging energy technologies; alternative energy sources, including biomass, wind, solar, geothermal; alternative energy carriers (transportation fuels), including varied biofuels, hydrogen, natural gas, ammonia. Prerequisites: 059:009.

**052:231 Environmental Chemistry I**

3 s.h.

Principles of general, physical, organic chemistry applied in water and air systems; emphasis on qualitative and quantitative understanding of chemical kinetics and equilibrium; acid-base reactions, complex formation, precipitation, dissolution, and oxidation-reduction reactions; organic nomenclature. Prerequisites: 004:012. Same as 053:152.

**052:235 Air Pollution Control Technology** 3 s.h.

Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Prerequisites: 053:050. Same as 053:159.

**052:236 Atmospheric Chemistry and Physics** 3 s.h.

Principal chemical and physical processes affecting atmospheric trace gas and pollutant cycles; emphasis on atmospheric photochemistry, aerosol science, major sources, removal processes. Corequisites: 052:105. Same as 053:161.

**052:237 Green Chemical and Energy Technologies** 3 s.h.

Strategies for pollution prevention for chemical processes studied at the macroscale (industrial sector), the mesoscale (unit operations), and the microscale (molecular level); case studies. Corequisites: 052:105 and 052:187.

## Transport Phenomena

**052:151 Engineering Flow and Heat Exchange** 3 s.h.

Fundamentals of fluid flow and heat transfer; fluid rheology, boundary layer theory, potential flow, dimensional analysis, laminar and turbulent flow in pipes, flow through packed beds, fluidized beds, pumps, flow measurement, filtration, heat exchanger design, and conductive, convective, and radiative heat transfer. Corequisites: 052:041.

**052:161 Mass Transfer and Separations** 3 s.h.

Mechanisms of diffusional mass transfer; solution of industrial problems, including the design of distillation, extraction, absorption, adsorption, drying, membrane processes; mechanical separations. Prerequisites: 052:103 and 052:151.

**052:217 Transport Phenomena I** 3 s.h.

Unified treatment of momentum, mass, energy transport in chemical engineering problems; use of vector and tensor notations in expressing equations of continuity, motion, energy.

**052:272 Diffusive Transport** 3 s.h.

Diffusive transport of heat, mass, and momentum; phenomenological laws and analogies; analytical and numerical solution techniques; inverse heat conduction; multiphase and multicomponent systems. Prerequisites: 058:145. Same as 058:245.

## Materials Science

**052:140 Polymer Fundamentals** 1 s.h.

Basic knowledge of polymers required as a foundation for other UI courses on polymers: basic polymer terminology, polymer groups, polymerization mechanisms, molecular weight determination. Five weeks. Same as 051:168.

**052:141 Polymer Science and Technology** 3 s.h.

Uses, properties of industrially important polymeric materials; polymer chemistry, polymer structure, characterization, polymer processing. Prerequisites: 004:122. Corequisites: 052:105.

**052:156 Scanning Electron Microscopy and X-Ray Microanalysis** arr.

Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as 012:156, 060:156.

**052:242 Polymer Chemistry** 3 s.h.

Monomer reactivity and polymerization reactions; step, radical, ionic, and ring-opening polymerizations. Prerequisites: 004:122.

## Process Dynamics, Design, Analysis

### 052:184 Chemical Engineering Process Design I

2 s.h.

Engineering economics of process evaluation, including time value of money and bases for cost estimation; preliminary design of chemical process plants using computer-aided engineering. Prerequisites: 052:105 and 052:161.

### 052:185 Process Dynamics and Control in Design

3 s.h.

Theory and application of process dynamics to the design of chemical process control systems; mathematical models of unit operations, transfer functions, feedback and feed-forward control, stability, instrumentation, digital control systems; computer methods, including simulation and commercial software use; laboratory focus on process analysis and design. Prerequisites: 052:105.

### 052:186 Chemical Engineering Process Design II

3 s.h.

Capstone chemical engineering course; design and optimization of chemical process plants; application of process calculations, thermodynamics, kinetics, process synthesis, energy efficiency in separations, heat-exchanger network synthesis, physical property estimation, safety, computer-aided design, unit operations theory, process control, and economics. Prerequisites: 052:184.

### 052:187 Chemical Process Safety

3 s.h.

Application of transport phenomena, thermodynamics, chemical kinetics to study of safety, health, loss prevention; government regulations, toxicology/industrial hygiene, relief sizing, runaway reactions, toxic release and dispersion models, source models, fires and explosions, risk assessment, hazard identification, case studies and accident investigation, incorporation of safety into design; laboratory experiments. Prerequisites: 052:161. Corequisites: 052:105.

## Graduate Seminars, Advanced Topics, Research

### 052:191 Seminar in Chemical and Biochemical Engineering

1 s.h.

Presentation and discussion of recent advances and research in chemical and biochemical engineering by guest lecturers, faculty, students. Requirements: graduate standing.

### 052:198 Individual Investigations: Chemical and Biochemical Engineering

arr.

Individual projects for chemical and biochemical engineering graduate students; may include laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

### 052:199 M.S. Thesis Research: Chemical and Biochemical Engineering

arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in chemical and biochemical engineering. Requirements: graduate standing.

### 052:299 Research: Chemical and Biochemical Engineering Ph.D. Dissertation

arr.

Experimental and/or analytical investigation of an approved topic for Ph.D. in chemical and biochemical engineering.

## Civil and Environmental Engineering

**Chair:** Keri Hornbuckle

**Professors:** Jasbir S. Arora, M. Asghar Bhatti, A. Allen Bradley, Greg Carmichael, William E. Eichinger, Keri Hornbuckle, Witold F. Krajewski, Wilfrid A. Nixon, A. Jacob Odgaard, Thanos Papanicolaou, Gene F. Parkin, Jerald L. Schnoor, Colby C. Swan, Peter Thorne, Richard L. Valentine, Larry J. Weber

**Professors emeriti:** Dan E. Branson, Forrest M. Holly Jr., Subhash C. Jain, Wayne L. Paulson, Han-Chin Wu

**Adjunct professors:** Konstantine P. Georgakakos, Tatsuaki Nakato

**Associate professors:** Paul Hanley, Anton Kruger, Hosin David Lee, Patrick O'Shaughnessy, Michelle Scherer, James W. Stoner, Frank Weirich, Y.K. Zhang

**Adjunct associate professors:** Shauna Hallmark, Louis A. Licht, John Nestler

**Assistant professors:** Nandita Basu, Tim Mattes, Salam Rahmatalla

**Adjunct assistant professors:** Craig Just, Ken Lloyd, Marcela Politano, Doug Schnoebelen, Nathan Young

**Adjunct lecturers:** Don Guckert, Michael Valde

**Undergraduate degree:** B.S.E. in Civil Engineering

**Graduate degrees:** M.S., Ph.D. in Civil and Environmental Engineering

**Web site:** <http://www.cee.engineering.uiowa.edu>

Civil engineering is one of the three largest fields of engineering. It traditionally has been concerned with infrastructure facilities that are both large in scale and essential to modern life. Civil and environmental engineering projects include transportation systems and their components, such as bridges, highways, public transit systems, railways, harbors, airports, seaports, and even spaceports; large-scale structures and office buildings that provide enclosed working and living space; environmental and hydraulic systems that provide clean water and air, including filtration plants and distribution systems for municipal and industrial water supplies, wastewater treatment plants, dams, levees, and irrigation systems.

Growth areas of civil and environmental engineering include infrastructure development, construction management, computer-aided design, hazardous waste management, and engineered environmental systems. In the future, civil and environmental engineers will be called upon to design structures for earth and outer space, prevent erosion and sedimentation of our rivers, predict effects of global climate change on the environment, provide modern and efficient transportation systems, and ensure the quality of our air and our surface waters and groundwaters.

In planning and design, civil and environmental engineers work with other engineers, architects, landscape architects, planners, economists, financiers, sociologists, lawyers, and other specialists as members of the design team. Some civil engineers work in engineering offices; others may be called upon to construct or supervise outdoor projects they have designed. These field assignments, many of which are in remote and fascinating parts of the world, are particularly appealing to many civil and environmental engineers. There also is significant potential for entrepreneurial work by civil and environmental engineers as they start their own companies.

## Undergraduate Program

The department offers the Bachelor of Science in Engineering in civil engineering. The program's objective is to provide a well-rounded, superior engineering education that:

- provides students with appropriate proficiency in the civil engineering subdisciplines of structures and materials, water-resources engineering, transportation systems, and environmental engineering;
- ensures that students are knowledgeable about the importance, procedures, and benefits of professional licensure and continuing education;
- offers design experiences that include projects in the curriculum that are offered by and guided in part by the professional community; and
- provides research opportunities to undergraduate students through the department's connections with on-campus research entities including IIHR--Hydroscience and Engineering, the Center for Global and Regional Environmental Research, the Public Policy Center, the Center for Computer Aided Design, the Center for Biocatalysis and Bioprocessing, and the Center for Health Effects of Environmental Contamination.

## Bachelor of Science in Engineering

The Bachelor of Science in Engineering requires a minimum of 128 s.h. Students majoring in civil engineering choose one of two subtracks: civil, which provides breadth in the discipline; or environmental, which provides for a concentration.

The B.S.E. curriculum covers four major stems: mathematics and basic sciences, engineering topics, elective focus area, and general education (15 s.h. of humanities and social science courses). All students take 059:005 Engineering Problem Solving I, 059:006 Engineering Problem Solving II, and 010:003 Rhetoric. General education component courses must be selected to satisfy the requirements of the College of Engineering. For information on B.S.E. curriculum stems and common course requirements, see Bachelor of Science in Engineering in the College of Engineering section of the Catalog.

Subtrack requirements are the same for the first semester of the first year but are different beginning with the second semester.

Students must select elective focus area courses according to guidelines established by the Department of Civil and



Environmental Engineering. See "Elective Focus Area" after the following curriculum list.

Some courses in the curriculum are prerequisites to others. Students who take courses in the order below satisfy the prerequisite requirements automatically. Students who do not follow this sequence still must satisfy all course prerequisites.

## FIRST YEAR

### First Semester

004:011 Principles of Chemistry I	4 s.h.
010:003 Rhetoric	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
059:005 Engineering Problem Solving I	3 s.h.
059:090 Engineering Success Seminar for First-Year Students	1 s.h.

### Civil Subtrack

## FIRST YEAR

### Second Semester

22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
059:006 Engineering Problem Solving II	3 s.h.
General education component course	3 s.h.

## SECOND YEAR

### First Semester

22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
029:082 Introductory Physics II	3-4 s.h.
053:015 Civil and Environmental Engineering Practice	2 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.
059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.

### Second Semester

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
053:018 Geology for Engineers (053:105 for fall 2010)	3 s.h.
053:020 CEE Sophomore Seminar	0 s.h.
053:050 Natural Environmental Systems	3 s.h.
057:010 Dynamics	3 s.h.
057:019 Mechanics of Deformable Bodies	3 s.h.

## THIRD YEAR

### First Semester

053:030 Soil Mechanics	3 s.h.
053:033 Principles of Structural Engineering	3 s.h.
053:063 Principles of Transportation Engineering	3 s.h.

053:091 Professional Seminar: Civil Engineering	0 s.h.
057:020 Fluid Mechanics	4 s.h.
Elective focus area course	3 s.h.

**Second Semester**

053:055 Principles of Environmental Engineering	4 s.h.
053:071 Principles of Hydraulics and Hydrology	3 s.h.
053:086 Civil Engineering Materials	3 s.h.
053:091 Professional Seminar: Civil Engineering	0 s.h.
Elective focus area course	3 s.h.
General education component course	3 s.h.

**FOURTH YEAR****First Semester**

053:091 Professional Seminar: Civil Engineering	0 s.h.
General education component course	3 s.h.
Two elective focus area courses	6 s.h.

Two of these:

053:136 Design of Concrete Structures	3 s.h.
053:157 Environmental Engineering Design	3 s.h.
053:174 Water Resource Design	3 s.h.

**Second Semester**

053:084 Project Design and Management in Civil Engineering	3 s.h.
053:091 Professional Seminar: Civil Engineering	0 s.h.
General education component course	3 s.h.
Three elective focus area courses	9 s.h.

**Environmental Subtrack****FIRST YEAR****Second Semester**

004:012 Principles of Chemistry II	4 s.h.
22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
059:006 Engineering Problem Solving II	3 s.h.

**SECOND YEAR****First Semester**

22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
053:015 Civil and Environmental Engineering Practice	2 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.

059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.
General education component course	3 s.h.

**Second Semester**

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
053:018 Geology for Engineers (053:105 for fall 2010)	3 s.h.
053:020 CEE Sophomore Seminar	0 s.h.
053:050 Natural Environmental Systems	3 s.h.
057:010 Dynamics	3 s.h.
057:019 Mechanics of Deformable Bodies	3 s.h.
General education component course	3 s.h.

**THIRD YEAR****First Semester**

053:030 Soil Mechanics	3 s.h.
053:033 Principles of Structural Engineering	3 s.h.
053:063 Principles of Transportation Engineering	3 s.h.
053:091 Professional Seminar: Civil Engineering	0 s.h.
053:152 Environmental Chemistry I	3 s.h.
057:020 Fluid Mechanics	4 s.h.

**Second Semester**

053:055 Principles of Environmental Engineering	4 s.h.
053:071 Principles of Hydraulics and Hydrology	3 s.h.
053:086 Civil Engineering Materials	3 s.h.
053:091 Professional Seminar: Civil Engineering	0 s.h.
Elective focus area course	3 s.h.
General education component course	3 s.h.

**FOURTH YEAR****First Semester**

053:091 Professional Seminar: Civil Engineering	0 s.h.
General education component course	3 s.h.
Two elective focus area courses	6 s.h.

Two of these:

053:134 Design of Steel Structures	3 s.h.
053:136 Design of Concrete Structures	3 s.h.
053:157 Environmental Engineering Design	3 s.h.
053:162 Design of Transportation Systems	3 s.h.
053:174 Water Resource Design	3 s.h.

**Second Semester**

053:084 Project Design and Management in Civil Engineering	3 s.h.
053:091 Professional Seminar: Civil Engineering	0 s.h.
General education component course	3 s.h.
Three elective focus area courses	9 s.h.

### Elective Focus Area

Civil engineering students may choose from several standard elective focus areas developed by the department, a focus area offered jointly with another engineering department, or an individual focus area tailored to the student's interests.

Standard elective focus areas are offered in environmental engineering; hydraulics and water resources; structures, mechanics, and materials; transportation; urban and regional planning; and in the broad field of civil engineering. Elective focus areas offered jointly with other engineering departments cut across programs (e.g., computer-aided engineering, design and optimization, environmental processes).

Civil engineering students must take one general education component course related to their elective focus area.

For more detailed information about elective focus areas, see "Bachelor of Science in Engineering"/"Elective Focus Area" in the College of Engineering section of the Catalog. For a list of standard elective focus area options and guidelines for tailored elective focus areas in civil engineering, see the Department of Civil and Environmental Engineering web site.

### Joint B.S.E./M.S.

The College of Engineering offers a joint (fast-track) Bachelor of Science in Engineering/Master of Science for civil engineering undergraduates who intend to earn an M.S. in civil and environmental engineering. B.S.E./M.S. students may attend the departmental graduate seminar and work on a master's thesis or research project while still undergraduates. They may count a limited amount of course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the joint degree program, students must have completed at least 80 s.h. and must have a cumulative g.p.a. of at least 3.25. They must submit an application form to the Department of Civil and Environmental Engineering, along with a letter stating their proposed area of specialization and the name of a department faculty member willing to be their primary M.S. advisor. They also must identify a faculty sponsor who can guide them from at least the second semester of their senior year until they complete the M.S.

Applications are due by March 1.

## Graduate Programs

The Department of Civil and Environmental Engineering offers a Master of Science and a Doctor of Philosophy. Both programs prepare students for professional careers and further study. The principal concentration areas are environmental engineering and science; global and regional environmental research; hydraulics, hydrology, and water resources; structures, mechanics, and materials; and transportation and infrastructure systems.

The department also participates in an interdisciplinary doctoral program offered by the Graduate College; see Applied Mathematical and Computational Sciences in the Catalog.

### Research and Study Areas

#### ENVIRONMENTAL ENGINEERING AND SCIENCE

The environmental engineering and science curriculum provides a comprehensive base of course work and research in the areas of air- and water-quality management, environmental chemistry and microbiology, natural systems modeling, and processes for water supply, pollution control, and solid and hazardous waste management. Interdisciplinary specialization and study are conducted with programs including IIHR--Hydrosience & Engineering, the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, the Hazardous Substances Research Center, the Center for Biocatalysis and Bioprocessing; the Departments of Chemical and Biochemical Engineering, Geography, Geoscience, Microbiology, Occupational and Environmental Health; and the Urban and Regional Planning Program. New areas of interdisciplinary focus include groundwater contamination, biotechnology, global climate change, and hazardous substances.

#### GLOBAL AND REGIONAL ENVIRONMENTAL RESEARCH

The department has an active interdisciplinary research program in the environmental areas of air pollution, water pollution, groundwater remediation, global atmospheric change, and hazardous waste management. Particular emphasis is placed on the microbiology, chemistry, and physics of local, regional, and global air, soil, and water quality problems. Research includes sophisticated environmental quality analysis, high-speed computing, and detailed sensitivity analysis. The Department of Chemical and Biochemical Engineering and the Center for Global and Regional Environmental Research also collaborate in these endeavors.

#### **HYDRAULICS, HYDROLOGY, AND WATER RESOURCES**

The hydraulics, hydrology, and water resources curriculum is associated with IIHR--Hydrosience & Engineering, a world-renowned research institute. Senior staff members of the institute are professors in the program; they devote about half of their time to teaching.

IIHR offers unique opportunities for students to participate actively in the research, analysis, and design aspects of real-world problems. Considerable attention is given to the use of computers in mathematical modeling and in data acquisition and processing. IIHR high-speed computer facilities and advanced graphics and communication software complement the hydrology, hydraulics, and water resources curriculum.

#### **STRUCTURES, MECHANICS, AND MATERIALS**

The structures, mechanics, and materials curriculum is designed for students who wish to gain knowledge and skill in the mechanics of solids and structures that they can apply to civil infrastructure systems and other fields. The program concentrates on developing appropriate methodologies for tackling broad, complex issues related to civil infrastructure systems, and on educating engineers in the implementation and application of methodologies to actual engineering projects. Faculty members have expertise in structural engineering, design optimization, solid mechanics, and computational methods.

#### **TRANSPORTATION AND INFRASTRUCTURE SYSTEMS**

The transportation and infrastructure systems curriculum aims at graduating students interested in developing specialized knowledge and skills applicable to diverse set of issues associated with transportation. Faculty members have expertise in traffic engineering, infrastructure management systems, pavement engineering, advanced construction materials, dynamic load and pavement simulation, optimal design, winter highway maintenance, real-time simulation, human factors, intelligent sensors, nondestructive testing, transportation planning, and travel demand modeling.

### **Master of Science**

The Master of Science in civil and environmental engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. The program enables students to concentrate in one or more areas of their choice. Graduates are placed in advanced technical positions in industry, consulting firms, or government, or they may continue their graduate study. Current and projected demand for M.S. graduates is excellent.

Students who choose the thesis program earn up to 6 s.h. for the thesis. Nonthesis students in the environmental engineering and science curriculum earn an additional 3 s.h.

With the approval of their advisor, students develop a study plan that satisfies the requirements of their chosen curriculum.

All M.S. students must have a g.p.a. of at least 3.00, pass an oral examination, and in some program options, a written examination.

### **Doctor of Philosophy**

The Doctor of Philosophy in civil and environmental engineering requires a minimum of 72 s.h. of graduate credit; the semester-hour requirements for some curriculum areas are higher. The doctoral degree is granted primarily on the basis of achievement rather than on a prescribed course of study. Students usually need at least three years of full-time graduate study to complete the degree. One year is devoted to the preparation of a dissertation that contributes to knowledge in the field. In some specialty areas, a qualifying examination may be required.

All doctoral students are required to pass a written and oral comprehensive examination before being formally admitted to candidacy for the degree. This examination usually is taken after all required course work has been completed.

The program culminates in a final examination, in which candidates must successfully defend their dissertation.

Ph.D. students must maintain a g.p.a. of at least 3.00 throughout the program.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Each of the program's curricula is flexible; students may be admitted from all disciplines of engineering as well as from the mathematical and basic sciences.

Applicants to the M.S. program should have a cumulative undergraduate g.p.a. of at least 3.00. Ph.D. applicants should have a graduate g.p.a. of at least 3.00. Applicants whose grade-point average is slightly lower should contact the department.

Applicants should have a combined verbal and quantitative score of at least 1100 on the Graduate Record Examination (GRE) General Test. Lower scores are considered with other evidence of academic promise (recommendation letters, grade-point average). GRE General Test scores also are used in financial aid decisions.

## Financial Support

A significant number of research assistantships are available on a variety of research projects, as are a limited number of teaching assistantships. Selection of recipients usually is based on scholastic achievement and research interest.

## Facilities and Laboratories

### Undergraduate Core

The first-year engineering course 059:005 Engineering Problem Solving I includes an introduction to the college's Computer Systems Support (CSS). Students in the course use computer-aided design tools on engineering work stations. All civil engineering courses require knowledge of personal computers and contain significant computer content.

For information about laboratories affiliated with core courses coordinated by other engineering departments, see the Catalog section for each of the departments.

### Required and Elective Undergraduate Laboratories

**053:015 Civil and Environmental Engineering Practice (2 s.h.)**, **053:063 Principles of Transportation Engineering (3 s.h.)**, and **053:084 Project Design and Management in Civil Engineering (3 s.h.)**: use of a state-of-the-art laboratory for computer-aided design and drawing.

**053:030 Soil Mechanics (3 s.h.)**: equipped for determining the classification, seepage characteristics, stress-strain properties, and strength of soils.

**053:050 Natural Environmental Systems (3 s.h.)**: environmental chemistry and biology of air, water, and soil quality, air and water pollution, limnology, global atmospheric change, fate and transport of pollutants; hazardous substances, risk analysis, standard setting.

**053:055 Principles of Environmental Engineering (4 s.h.)**: conducted at the University Water Treatment Plant and Iowa City Wastewater Plant for demonstrations of unit operations and processes of water and wastewater treatment, and applications in environmental chemistry and microbiology.

**053:071 Principles of Hydraulics and Hydrology (3 s.h.)**: hydraulics of pressure conduits and open channels, dimensional analysis, flow measurements, hydraulic machinery, with laboratory.

**053:153 Environmental Chemistry Laboratory (3 s.h.)**: experiments to demonstrate fundamental principles of aquatic chemistry and chemical analyses for characterization of water and wastewater quality, conducted in the Environmental Engineering Laboratories.

**053:154 Environmental Microbiology (3 s.h.)**: typical microorganisms isolated and their physiology and metabolic characteristics studied in the Environmental Engineering Laboratories.

**053:156 Physical-Chemical Process Fundamentals (3 s.h.)** and **053:151 Biological Treatment Processes (3 s.h.)**: unit operations, processes studied in bench scale experiments; use of typical process analytical parameters; experiments conducted in the Environmental Engineering Laboratories, University Water Plant, and Iowa City Wastewater Treatment Plant.

### Graduate Laboratories

#### ENVIRONMENTAL ENGINEERING AND SCIENCE LABORATORIES

The Environmental Engineering and Science Laboratories provide state-of-the-art facilities, equipment, and expertise to

support both undergraduate and graduate-level instruction and research. The laboratories support research in contaminant fate and transport in various media (air, water, soil, plants, and microbes), drinking water disinfection and distribution, wastewater treatment, geochemical-contaminant interactions, bioremediation, and phytoremediation. They also provide resources for analytical chemistry, electrochemistry, molecular biology, microscopy, computer modeling, and simulated environments on the bench- and pilot-scale levels.

The Environmental Engineering and Science Laboratories are affiliated with the University's Center for Health Effects of Environmental Contamination and its Center for Global and Regional Environmental Research, and with the UI Environmental Health Sciences Research Center, an affiliate of the National Institute of Environmental Health Sciences (NIEHS).

#### **HYDRAULICS, HYDROLOGY, AND WATER RESOURCES LABORATORIES**

The teaching and research functions of the department are closely connected to the research activities of IIHR--Hydrosience & Engineering. The institute houses some of the most modern research facilities in the world, including a 330-foot towing tank, several hydraulic flumes and wind tunnels, an array of field instrumentation for hydrologic experiments, extensive laboratory space for hydraulic modeling, a special low-temperature flow facility for investigation of ice phenomena, state-of-the-art instrumentation for flow measurement and visualization, and comprehensive computational facilities.

Research related to ecohydraulics and the environment takes place at the Lucille A. Carver Mississippi Riverside Environmental Research Station. Located on the Mississippi River near Muscatine, Iowa, the station provides engineers and biological scientists with an ideal facility in which to examine the multifaceted ecohydraulic processes of the upper Mississippi. The 500-square-foot facility is equipped with water-quality laboratories and a seminar room and is operated by IIHR--Hydrosience & Engineering.

#### **STRUCTURES, MECHANICS, AND MATERIALS LABORATORIES**

Facilities for computations, materials testing, geotechnical experiments, and small-scale structural testing are available for research and teaching. Faculty, staff, and students in structures, mechanics, and materials (SMM) have access to the computing resources of both Engineering Computer Systems Support and the Center for Computer-Aided Design (CCAD). Both centers continuously update their computing facilities to maintain pace with the rapidly changing field.

A wide range of experimental facilities is available for testing structural materials such as Portland cement concrete, asphalt, metals, timber, and composites. These facilities include several loading frames (purely uniaxial, purely torsional, and axial-torsional) that are available with computer-based control and data collection systems. Facilities for creep testing, triaxial soil testing, and high-cycle fatigue testing are also available. The laboratories have a variety of ovens and other facilities for preparation and treatment of test specimens.

Four well-equipped physical testing laboratories are dedicated to SMM teaching and research: the Civil Materials Laboratory, Soil Mechanics Laboratory, Plasticity Laboratory, and the Asphalt Laboratory. The Civil Materials Laboratory currently has a small-scale single-degree-of-freedom shaker table. Faculty, staff, and students have access to a small-scale six-degree-of-freedom shaker table through CCAD and a 12-camera Vicon motion-capture system.

#### **TRANSPORTATION INFRASTRUCTURE SYSTEMS LABORATORY**

The department's Asphalt Laboratory is equipped with a set of SuperPave testing equipment and new Interlaken Simple Performance Testing Equipment, which measures dynamic modulus and dynamic creep of asphalt mixtures. The laboratory's Wirtgen asphalt foaming equipment can be used for mix design of cold in-place recycled asphalt using foamed asphalt; equipment for Marshall mix design, indirect tensile strength test, and volumetric analysis of asphalt mixtures is also available. The laboratory is one of the department's group of laboratories for materials testing the strength behavior of other materials.

## **Civil and Environmental Engineering Courses**

### **Special Topics**

#### **053:000 Cooperative Education Training Assignment: Civil Engineering**

0 s.h.

Civil engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record card. Requirements: admission to the Cooperative Education Program.

#### **053:002 Half-time Cooperative Education Training Assignment: Civil and Environmental Engineering**

0 s.h.

Registration for work assignment periods; for students participating in the Cooperative Education Program.

- 053:015 Civil and Environmental Engineering Practice** 2 s.h.  
Concepts of the built environment and the natural environment; infrastructure life cycle; engineering communication (plans, engineering drawings and information systems, computer-aided drafting); field trip to major city.
- 053:020 CEE Sophomore Seminar** 0 s.h.  
Introduction to civil and environmental engineering curriculum and profession; presentations by senior undergraduate students, graduate students, faculty; laboratory visits. Requirements: sophomore standing.
- 053:083 Surveying and Remote Sensing** 3 s.h.  
Engineering surveying measurements, methods, computations. Prerequisites: 059:005.
- 053:084 Project Design and Management in Civil Engineering** 3 s.h.  
Design of civil engineering systems, individual and team design projects oriented toward the solution of local problems, project management, construction management, contracts, budgeting, bidding. Prerequisites: 053:033, 053:050, 053:063, and 053:071. Requirements: senior standing.
- 053:091 Professional Seminar: Civil Engineering** 0 s.h.  
Professional aspects of civil engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Requirements: junior standing.
- 053:098 Individual Investigations: Civil Engineering** arr.  
Individual projects for civil engineering undergraduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.
- 053:101 International Business and Infrastructure** 3 s.h.  
Differences between international and domestic businesses; how differences in infrastructure in the international environment influence business operations; effects of infrastructure on international commerce and business practices; case studies, site visits.
- 053:107 Sustainable Systems** 3 s.h.  
New and emerging concepts in sustainable systems design and assessment. Same as 052:107.
- 053:111 Numerical Calculations** 3 s.h.  
Development of algorithms for functional approximations, numerical differentiation and integration; solution of algebraic and differential equations, with emphasis on digital computations; initial and boundary value problems. Prerequisites: 22M:034. Same as 058:111.
- 053:112 Engineering Design Optimization** 3 s.h.  
Engineering design projects involving modeling, formulation, and analysis using optimization concepts and principles; linear and nonlinear models, optimality conditions, numerical methods. Prerequisites: 22M:033 and 059:007. Requirements: junior standing. Same as 058:112.
- 053:113 Mathematical Methods in Engineering** 3 s.h.  
Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: 22M:033 and 22M:034. Same as 052:118, 058:113.
- 053:115 Computer-Aided Engineering** 3 s.h.  
Computational engineering modeling and simulation, geometric modeling, grid generation, finite-element and finite-volume methods, uncertainty analysis, optimization, engineering applications. Prerequisites: 057:019 and 058:052. Same as 058:110.
- 053:116 Computer-Aided Design for Civil and Environmental Engineering** 3 s.h.  
Common probabilistic models used in hydrology, hydraulics, and water resources; derived distributions; multivariate models and estimation of model parameters; analysis of data and model building; uncertainty analysis. Prerequisites: 22M:034 and 22S:039.
- 053:126 International Perspectives: Xicotepec** 2 s.h.



Introduction to providing service to a community in a less developed country; student projects intended to improve community life in Xicotepec. Corequisites: 165:126. Requirements: P3 standing. Same as 046:126.

**053:168 Civil Infrastructure** 3 s.h.

Analytical methods for developing Infrastructure Management Systems (IMS); evaluation of infrastructure condition, performance modeling, rehabilitation optimization, development of the IMS; basic concepts of information technology applied in solving civil infrastructure management problems. Prerequisites: 053:015.

**053:210 Developing Professional Service Business** 2-3 s.h.

Use of professional skills and functional knowledge in creating a specialized service business. Same as 06T:210.

**053:214 Analytical Methods in Mechanical Systems** 3 s.h.

Vector and function spaces; functionals and operators in Hilbert spaces; calculus of variations and functional analysis with application to mechanics; Ritz and Galerkin methods. Prerequisites: 058:113. Same as 058:214.

**053:297 Teaching Undergraduate Science and Engineering** arr.

Basic skills to be a successful undergraduate instructor; teaching of technical subjects and solving problems; emphasis on practical applications of lesson material and class demonstrations; techniques for teaching effective classes; opportunity for students to teach; intended for graduating Ph.D. students with a career interest in a university environment.

**Structures, Mechanics, and Transportation**

**053:030 Soil Mechanics** 3 s.h.

Identification and classification of earth materials; hydraulic and mechanical properties of soils; soil improvement; laboratory testing. Prerequisites: 057:019.

**053:033 Principles of Structural Engineering** 3 s.h.

Fundamental principles of structural analysis applied to statically determinate and indeterminate structures, continuous beams, trusses, and frames; external and internal equilibrium, compatibility of deformation, influence lines, virtual work; parallel use of classical and matrix formulation; slope deflection, flexibility and stiffness methods; use of computers. Prerequisites: 057:019.

**053:063 Principles of Transportation Engineering** 3 s.h.

History of transportation modes, new transport technologies, traffic operations and control, economic evaluation of transport alternatives, transportation planning, roadway design and construction, route location, preventive maintenance strategies. Corequisites: 053:015.

**053:086 Civil Engineering Materials** 3 s.h.

Structure, strength and failure, durability, deformation, practice, and processing for primary construction materials systems, including steel, aluminum, concrete, asphalt, fiber-reinforced composites, masonry, timber. Corequisites: 053:030 and 057:019.

**053:131 Impacts of Technological Singularity** 3 s.h.

Technological singularity--what it is, its current standing, impacts, implications; bio-, nano-, and information technologies; how new technologies affect sustainability; ethical issues raised by technologies.

**053:132 Fundamentals of Vibrations** 3 s.h.

Vibration of linear discrete and continuous mechanical and structural systems; harmonic, periodic, and arbitrary excitation; modal analysis; applications. Prerequisites: 057:019. Same as 058:153.

**053:133 Finite Element I** 3 s.h.

One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: 057:019. Same as 058:115.

**053:134 Design of Steel Structures** 3 s.h.

Concepts and procedures in steel design; LRFD (load and resistance factor design) methodology for beams/columns; analysis and design of indeterminate structures. Prerequisites: 053:033.

**053:135 Structural Modeling and Health Monitoring** 3 s.h.

Measurements, structural modeling, structural analysis, stiffness method, trusses and frames, structural testing, modal analysis. Prerequisites: 053:033 and 057:019.

**053:136 Design of Concrete Structures** 3 s.h.

Fundamental analysis and design of reinforced concrete members and structures, flexure, shear, bond, continuity, beams, one-way slab system; columns. Prerequisites: 053:033.

**053:139 Foundations of Structures** 3 s.h.

Application of soil mechanics to analysis of structural foundations; slope stability analysis; bearing capacity and settlement of shallow and deep foundations; retaining structures, braced cuts, reinforced earth structures; usage of computational models; subsurface exploration methods. Prerequisites: 053:030.

**053:140 Intermediate Mechanics of Deformable Bodies** 3 s.h.

Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: 057:019. Same as 051:151, 058:150.

**053:148 Fatigue/Durability in Design** 3 s.h.

Macro- and micromechanisms of fatigue behavior, design of engineering materials/components/structures subjected to cyclic loading, emphasis on metals; stress-life, strain-life, linear elastic fracture mechanics approach to fatigue crack growth; safe-life, fail-safe, damage tolerant design; constant and variable amplitude life predictions; notches, residual stress, corrosion, temperature, multiaxial, weldments. Prerequisites: 051:085 or 058:055 or 058:150. Same as 058:158.

**053:149 Fracture Mechanics** 3 s.h.

3-D stress states, definition and criteria for failure, nominal and local yield phenomena, linear elastic and elastic plastic fracture mechanics, plane stress and plane strain fracture toughness, J-Integral, crack opening displacement, environmental assisted cracking, fatigue crack growth, fail safe, and damage tolerant design. Prerequisites: 051:085 or 058:055 or 058:150. Same as 058:159.

**053:160 Introduction to Bridge Engineering** 3 s.h.

Bridge engineering and design; history of the bridge; factors that affect bridge design; bridges according to use (e.g., road, rail, pedestrian and bicycle) and type (e.g., suspension, cable stay, truss); how sustainability concepts may impact bridge design; substantial design exercise. Prerequisites: 053:033.

**053:162 Design of Transportation Systems** 3 s.h.

Application of CAD/CAE tools to transportation systems design; review of CAD tools, derivation of standards for geometric design, roadway design software, cross-sectional and longitudinal geometric design of highways, applications to visualization and animation. Requirements: 053:063 or graduate standing.

**053:163 Traffic Engineering** 3 s.h.

Design of traffic control devices; evaluation and analysis of intersections and transportation networks using appropriate computer software. Prerequisites: 22S:039 and 053:063.

**053:164 Winter Highway Maintenance** 3 s.h.

Aspects of winter highway maintenance; current and innovative practices and the theory that underpins them.

**053:165 Pavement Analysis and Design** 3 s.h.

Fundamental design principles, including pavement analysis and characterization and testing of asphalt and concrete pavement materials. Prerequisites: 053:063.

**053:167 Public Transit Operations and Planning** 3 s.h.

Bus, light and heavy rail, and paratransit modes; transit operations, planning, modeling and optimization, transit agency economics, transit finance, and evolving transportation policy; skills essential to planners and engineers who intend to work for a either planning agency, transportation provider, or a transportation or planning consulting firm; individual and group projects involving transit operations. Requirements: undergraduate or graduate standing in engineering, or graduate standing in urban and regional planning. Same as 102:195.

- 053:194 Graduate Seminar: Transportation** 0 s.h.  
Recent advances and research in transportation engineering. Requirements: senior or graduate standing.
- 053:233 Finite Element II** 3 s.h.  
Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: 053:133. Same as 058:215.
- 053:235 Applied Optimal Design** 3 s.h.  
Optimal design problem formulation; optimality conditions; linear, quadratic, convex, and nonlinear programming; Lagrangian duality; numerical algorithms for unconstrained and constrained design problems, design sensitivity analysis, engineering applications. Prerequisites: 053:113.
- 053:241 Continuum Mechanics and Elasticity** 3 s.h.  
Cartesian tensors and geometrical foundations; concept of stress, strain, motion; fundamental physical laws; constitutive equations and finite elasticity; equations of linear elasticity, elastic extension, torsion and bending of bars. Prerequisites: 057:019. Requirements: concurrent enrollment in 053:113 or graduate standing. Same as 058:279.
- 053:243 Computational Inelasticity** 3 s.h.  
Computational techniques and implementations for elastic, hyperelastic, elasto-plastic, visco-elastic, and viscoplastic material models; development of sound numerical integration algorithms from rate constitutive equations. Prerequisites: 053:241. Same as 058:251.
- 053:244 Energy Principles in Structural Mechanics** 3 s.h.  
Principles of virtual work; stationary and minimum potential energy; calculus of variations; Ritz method, Galerkin's method; beams, plates; Hamilton's principle; elastic stability; extremum principle of plasticity. Requirements: (for 058:254) 058:113 and 058:150; (for 053:244) 053:113 and 053:140. Same as 058:254.
- 053:247 Advanced Continuum Mechanics** 3 s.h.  
Continuum mechanics of fluids and solids, balance laws, invariance restrictions, continuum thermodynamics, constraint theory, mixtures, materials with microstructure. Prerequisites: 058:262 or 058:279. Same as 058:252.
- 053:249 Multiscale Modeling** 3 s.h.  
Computational modeling of engineering materials ranging from molecular to continuum scales, molecular dynamics and Monte Carlo methods, nanoscale continuum modeling, scale-coupling methods. Prerequisites: 058:115 or 058:143. Same as 058:255.
- 053:250 Advanced Fracture Mechanics** 3 s.h.  
Fracture of modern engineering materials; linear-elastic fracture; computational methods; functionally graded materials; elastic-plastic fracture; multiscale fracture and fatigue crack initiation. Prerequisites: 058:113, 058:115, and 058:159. Same as 058:250.
- 053:262 Transportation Demand Analysis** 3 s.h.  
City planning procedures and traffic engineering techniques applied to transportation problems; trip generation, distribution, assignment, mode choice models; travel surveys, data collection techniques; arterial flow, intersection performance, parking; transit system analysis. Requirements: (for 053:262) 22S:039. Same as 102:262.
- 053:263 Application Simulation to Transportation** 3 s.h.  
Transportation system management and traffic engineering; application of real-time simulation and visualization. Prerequisites: 053:063 or 053:163. Same as 102:263.

## Environmental Engineering and Science

- 053:018 Geology for Engineers** 3 s.h.
- 053:050 Natural Environmental Systems** 3-4 s.h.  
Environmental chemistry and biology of air, water, and soil quality, air and water pollution, limnology, global atmospheric change, fate and transport of pollutants; hazardous substances, risk analysis, standard setting. Prerequisites: 004:011.

**053:055 Principles of Environmental Engineering**

4 s.h.

Water supply and treatment processes; wastewater treatment processes; processes for air pollution control, groundwater remediation; solid and hazardous waste management. Prerequisites: 053:050. Same as 152:162.

**053:102 Groundwater**

3 s.h.

Groundwater quality and quantity; Darcy's Law, 2-D flow equation, unsaturated zone, contaminant transport, redox reactions, drinking water quality, bioremediation; laboratories in permeameter testing, porous media grain size analysis, pump testing, monitoring well installation.

**053:104 Groundwater Modeling**

3 s.h.

Groundwater flow and contaminant transport modeling; numerical methods, applications of groundwater modeling to water supply, groundwater resources evaluation, remediation design using software; GMS (MODFLOW, MODPATH, and MT3D). Prerequisites: 012:166 or 053:103, and 22M:026. Same as 012:184.

**053:141 Design for the Developing World**

3 s.h.

Experience working on interdisciplinary teams to solve problems of the developing world; technologies for improving water and sanitation, energy, housing, and health; community building strategies, participatory methods, other techniques essential to good design; service-learning component.

**053:151 Biological Treatment Processes**

3 s.h.

Applied microbiology and fundamental principles of aerobic and anaerobic biological wastewater treatment processes; sludge processing and advanced wastewater treatment and bioremediation; lectures and laboratory. Prerequisites: 053:050, 053:152, and 053:154. Corequisites: 053:055 and 053:156.

**053:152 Environmental Chemistry I**

3 s.h.

Principles of general, physical, organic chemistry applied in water and air systems; emphasis on qualitative and quantitative understanding of chemical kinetics and equilibrium; acid-base reactions, complex formation, precipitation, dissolution, and oxidation-reduction reactions; organic nomenclature. Prerequisites: 004:012. Same as 052:231.

**053:153 Environmental Chemistry Laboratory**

3 s.h.

Laboratory experiments to demonstrate important concepts in environmental chemistry and to familiarize students with procedures used to characterize water and wastewater and evaluate certain treatment processes. Prerequisites: 004:012. Corequisites: 053:152.

**053:154 Environmental Microbiology**

3 s.h.

Fundamentals of microbiology and microbial ecology with application in water quality and biodegradation of priority pollutants; lectures and laboratory. Corequisites: 053:152.

**053:156 Physical-Chemical Process Fundamentals**

3 s.h.

Theory of physical and chemical operations and processes in water and wastewater treatment, including fundamental aspects of process dynamics; lectures, laboratory. Prerequisites: 053:050 and 053:152. Corequisites: 053:055.

**053:157 Environmental Engineering Design**

3 s.h.

Application of physical, chemical, and biological operations and processes to the design of water and wastewater treatment systems; applications in solid and hazardous waste treatment. Prerequisites: 053:050, 053:071, and 053:055.

**053:158 Solid and Hazardous Wastes**

3 s.h.

Sources, characteristics, collection, disposal of solid and hazardous wastes; environmental impacts of hazardous waste management; resource recovery systems. Requirements: (for 053:158) 053:050; (for 175:198) 175:197. Same as 175:198.

**053:159 Air Pollution Control Technology**

3 s.h.

Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Prerequisites: 053:050. Same as 052:235.

**053:161 Atmospheric Chemistry and Physics**

3 s.h.

Principal chemical and physical processes affecting atmospheric trace gas and pollutant cycles; emphasis on atmospheric photochemistry, aerosol science, major sources, removal processes. Corequisites: 052:105. Same as 052:236.

**053:204 Environmental Health Policy**

3 s.h.

Major concerns in environment and human health, legislation enacted to deal with these concerns; emphasis on contemporary issues. Offered fall semesters of odd years. Requirements: (for 175:252) 175:197; (for 053:204) 053:050. Same as 152:252, 175:252.

**053:251 Environmental Systems Modeling**

3 s.h.

Mathematical modeling of environmental systems, including rivers, lakes, estuaries, treatment systems for conventional and toxic pollutants. Prerequisites: 053:050, 053:055, and 053:152.

**053:275 Perspectives in Biocatalysis**

1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 046:275, 052:275, 061:275, 099:275.

**Hydraulics, Hydrology, and Water Resources****053:071 Principles of Hydraulics and Hydrology**

3 s.h.

Hydraulics of pressure conduits and open channels, dimensional analysis, flow measurements, hydraulic machinery, laboratory. Prerequisites: 057:020.

**053:103 Water Quality**

3 s.h.

Sources, availability, uses, characteristics, criteria, best management practices for surface waters; protection of waters impaired by eutrophication, soil erosion and sedimentation; pathogenic organisms, habitat destruction, wastewater discharges, contaminated sediments, atmospheric deposition, watershed development, invasive species, irrigation return flows, stormwater discharges, nonpoint sources, agricultural runoff; laboratory component, measurement of water quality characteristics in the field.

**053:117 Remote Sensing**

3 s.h.

Fundamentals of electromagnetic waves, atmospheric radiative transfer, passive remote sensing, weather radar, hydrologic application of remote sensing. Prerequisites: 053:116.

**053:120 Water Resources Sustainability**

3 s.h.

**053:128 Fluvial Geomorphology**

3 s.h.

Hydrologic principles, stream channel processes, and fluvial geomorphology within drainage basin systems; spatial and temporal variations in water distribution, analysis of hydrological data, flow mechanisms, sediment transport, forecasting procedures, hydrograph construction, modeling. Requirements: 012:102 or another 100-level geology or hydraulics course. Same as 012:138.

**053:169 Intermediate Mechanics of Fluids**

3 s.h.

Basic concepts and definitions; pressure distribution in a fluid; governing equations and boundary conditions; integral and differential analysis; dimensional analysis and similarity; experimental analysis; laminar and turbulent internal and external flows; potential flows; engineering applications. Prerequisites: 057:020 and 058:040. Same as 058:160.

**053:170 Flow in Open Channels**

3 s.h.

In-depth analysis of governing flow equations; steady uniform flow in channels of different resistance and cross section; flow control sections; specific energy considerations; analysis and computation of gradually varied profiles and spatially varied flow effected by lateral outflow and inflow; unsteady flow; flood routing. Prerequisites: 053:071.

**053:171 Water Resources Engineering**

3 s.h.

Planning and economics of varied water resources projects; stochastic basis for design; flood damage mitigation, reservoirs, river morphology, economic analysis of water projects, urban water requirements, water supply, hydroelectric power systems, river navigation; contemporary civil-engineering problems and issues associated with water infrastructure development. Prerequisites: 053:174.

**053:172 Experimental Methods in Fluid Mechanics and Heat Transfer** 3 s.h.

Review of theory; importance of experiments; modeling and scaling laws; experimental environment and facilities; measurements at full scale and on scaled models; use of wind and water tunnels, towing tanks, and hydraulic flumes; instruments for measuring pressure, temperature, velocity, turbulence; error analysis; data acquisition and processing; laboratory demonstrations, hands-on experiments; project. Prerequisites: 058:080. Same as 058:162.

**053:173 Alluvial Channel Hydraulics** 3 s.h.

Laws governing fall velocity, applications to particle-size analysis; incipient motion, bed forms, bed load, suspended load, natural river processes; theory and practice of movable-bed model experiments. Prerequisites: 053:170.

**053:174 Water Resource Design** 3 s.h.

Prerequisites to storm water management systems design, including design flows and rates; analysis and design of storm sewers, detention basins, street and highway drainage facilities, culverts, dams, spillways, measures for energy dissipation; review of wastewater transfer systems and design. Prerequisites: 22S:039 and 053:071.

**053:175 Environmental Fluid Dynamics** 3 s.h.

Same as 058:163.

**053:178 Hydrometeorology** 3 s.h.

Atmospheric thermodynamics; precipitation processes; evaporation; infiltration; surface runoff; hydrographs, runoff relations; runoff hydrography; storage problems; frequency, intensity, duration studies of storms, floods, droughts; hydrometeorological observations and network design; watershed modeling; urban hydrology climate.

**053:183 Introduction to Comp Flow in Pipes and Channels** 3 s.h.

General review of numerical methods in hydraulics (finite-difference, finite-element, and method of characteristics); stability and accuracy of numerical schemes; steady free surface flows; flow transients in pipelines and channels. Prerequisites: 053:169.

**053:185 International Perspectives in Water Sciences and Management** 3 s.h.

Internationalization and water, with focus on a country or a world region; intensive, in-depth exposure to complex issues that affect planning and execution of water projects in large-scale watersheds.

**053:272 Environmental Dispersion Processes** 3 s.h.

Review of classical diffusion theories; longitudinal dispersion, transverse and vertical mixing in free-surface turbulent shear flow; application to natural channels; selected topics including stream-tube models, mixing and dispersion of heated effluents. Corequisites: 053:169.

**053:276 Viscous Flow** 3 s.h.

Equations of viscous flow; classical analytical and numerical solutions; flow regimes and approximations; laminar boundary layers--equations, solution methods, applications; stability theory and transition; incompressible turbulent flow--mean-flow and Reynolds-stress equations, modeling, turbulent boundary layers and free shear flows. Requirements: (for 058:260) 058:160; (for 053:276) 053:169. Same as 058:260.

**053:277 Inviscid Flow** 3 s.h.

Derivation of governing equations for fluid flow; general theorems for motion of inviscid, incompressible flows; solution techniques for two- and three-dimensional irrotational flows; forces and moments acting on immersed bodies; inviscid flow with vorticity; inviscid compressible flow; numerical methods for solution of inviscid flows. Requirements: (for 058:262) 058:160; (for 053:277) 053:169. Same as 058:262.

**Graduate Seminars, Advanced Topics, Research**

**053:190 Readings in Civil and Environmental Engineering**

arr.

For graduate nonmajors who want to earn credit in undergraduate civil and environmental engineering courses.  
Requirements: non-engineering graduate standing.

**053:191 Graduate Seminar: Structure, Mechanics, Materials** 0 s.h.  
Presentation and discussions of recent advances and research in structures, mechanics, and materials engineering by guest lecturers, faculty, students. Requirements: senior or graduate standing.

**053:192 Environmental Engineering Seminar** 0 s.h.  
Presentation and discussion of current topics, case studies, and research in environmental science and engineering by students, guest lecturers, faculty. Requirements: senior or graduate standing.

**053:193 Graduate Seminar: Hydraulics, Hydrology, and Water Resources** 0 s.h.  
Presentation and discussions of recent advances and research in hydraulics, hydrology, and water resources by guest lecturers, faculty, students. Requirements: senior or graduate standing.

**053:195 Contemporary Topics in Civil and Environmental Engineering** arr.  
New topics or areas of study not formally offered in other civil and environmental courses; ice engineering, chaos and strange attractors, remote sensing, nonlinear dynamics of hydrologic processes, advanced water and wastewater treatment processes, hazardous waste control, global climate change, damage mechanics; based on faculty/student interest. Requirements: senior standing.

**053:198 Individual Investigations: Civil and Environmental Engineering** arr.  
Individual projects for civil and environmental engineering graduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**053:199 Research: Civil and Environmental Engineering M.S. Thesis** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for the M.S. with thesis in civil and environmental engineering. Requirements: graduate standing.

**053:215 Hydrogeology Seminar** 3 s.h.  
Innovative experimental and modeling studies in hydrogeology; experimental need, design, mathematical formulation, assumptions, data collection techniques; data analysis and its importance to groundwater modeling. Prerequisites: 012:166. Same as 012:210.

**053:299 Research: Civil and Environmental Engineering Ph.D. Dissertation** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for the Ph.D. in civil and environmental engineering.

# Electrical and Computer Engineering

**Chair:** Milan Sonka

**Professors:** David R. Andersen, Er-Wei Bai, Thomas F. Boggess, Thomas L. Casavant, Gary E. Christensen, Steve M. Collins, Soura Dasgupta, Michael Flatté, Jon G. Kuhl, Sudhakar M. Reddy, Arthur L. Smirl, Milan Sonka

**Professors emeriti:** Earl D. Eyman, Adrianus Korpel, Karl E. Lonngren, Norbert R. Malik, John P. Robinson

**Associate professors:** Michael Abramoff, Mark S. Andersland, Anton Kruger, John Prineas, Punam Saha, Tom Schnell, Xiaodong Wu

**Assistant professors:** Reinhard Beichel, Mona Garvin, Zhiqiang Liu, Hans Johnson, Raghuraman Mudumbai, Hassan Raza, Alf Sjöchi, Daniel Thedens

**Adjunct assistant professors:** Dave Matthews, Jim Maxted, Andreas Wahle

**Visiting assistant professor:** Guadalupe Canahuat

**Lecturer:** Cliff Curry

**Undergraduate degree:** B.S.E. in Electrical Engineering

**Graduate degrees:** M.S., Ph.D. in Electrical and Computer Engineering

**Web site:** <http://www.engineering.uiowa.edu/ece>

Electrical engineers and computer engineers make vital contributions to nearly all facets of modern society through their work in areas such as computer systems, medical imaging, robotics, wireless communications, and fiber optics. From the World Wide Web to high-definition television, cellular telephones, and computer networks, the contributions of electrical and computer engineers are changing everyday life.

Many benefits that have sprung from electrical engineering technology now are taken for granted--noninvasive imaging of the brain and other internal organs, astonishing views of the solar system's outer planets, and wireless telecommunications. Electrical engineers also play crucial roles in major emerging technologies, such as wireless Internet, optical communications, and mapping of the human genome.

As the United States strives to retain or enlarge its share of national and international markets, electrical engineers are certain to play an important role in improving productivity through automation, increased efficiency, and new technologies.

Electrical and computer engineers work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries.

## Undergraduate Program

The department offers the Bachelor of Science in Engineering in electrical engineering. The program's objective is to produce graduates who:

- contribute to society in a broad range of careers;
- function professionally in an increasingly international and rapidly changing world;
- effectively understand, use, and develop modern electrical and computer engineering technologies and concepts; and
- achieve success throughout their careers.

## Bachelor of Science in Engineering

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The electrical engineering major provides technical depth and breadth as well as flexibility and the opportunity for students to customize their programs according to their own goals. Students choose one of two tracks: computer engineering or electrical engineering. The computer engineering track provides focus and depth for students preparing for careers or graduate study in computer systems hardware or software engineering. The electrical engineering track provides a broad background in electrical engineering concepts and practice, preparing students for careers in a wide range of industries and organizations.

The B.S.E. curriculum covers four major stems: mathematics and basic sciences, engineering topics, elective focus area, and general education (15 s.h. of humanities and social science courses). All students take 059:005 Engineering Problem Solving I, 059:006 Engineering Problem Solving II, and 010:003 Rhetoric. General education component courses must be selected to satisfy the requirements of the College of Engineering. For information on B.S.E. curriculum stems and common course requirements, see Bachelor of Science in Engineering in the College of Engineering section of the Catalog.

Electrical engineering students complete a core of electrical and computer engineering foundation courses and then take five required track courses and two track electives. See "Track Breadth and Depth Electives" after the following curriculum list. Students must select elective focus area courses according to guidelines established by the Department of Electrical and Computer Engineering. See "Elective Focus Area" after the following curriculum list.

Some courses in the curriculum are prerequisites to others. Students who take courses in the order below satisfy the prerequisite requirements automatically. Students who do not follow this sequence still must satisfy all course prerequisites.

### FIRST YEAR



**First Semester**

004:011 Principles of Chemistry I	4 s.h.
010:003 Rhetoric (or 010:001-010:002)	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
059:005 Engineering Problem Solving I	3 s.h.
059:090 Engineering Success Seminar for First-Year Students	1 s.h.

**Second Semester**

22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
059:006 Engineering Problem Solving II	3 s.h.
General education component course	3 s.h.

**SECOND YEAR****First Semester**

22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
029:082 Introductory Physics II	3-4 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.
059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.

**Second Semester**

22M:037 Engineering Mathematics V: Vector Calculus	3 s.h.
055:040 Linear Systems I	3 s.h.
057:017 Computers in Engineering	3 s.h.
057:018 Principles of Electronic Instrumentation	4 s.h.
General education component course	3 s.h.

**THIRD YEAR****First Semester**

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
055:032 Introduction to Digital Design	3 s.h.
055:070 Electromagnetic Theory	3 s.h.
055:091 Professional Seminar: Electrical Engineering	1 s.h.
Two required track courses	6 s.h.

**Second Semester**

Three required track courses	9 s.h.
Two elective focus area courses	6 s.h.
General education component course	3 s.h.

**FOURTH YEAR****First Semester**

055:088 Principles of Electrical Engineering Design	3 s.h.
Track breadth elective	3 s.h.
Three elective focus area courses	9 s.h.
General education component course	3 s.h.

**Second Semester**

055:089 Senior Electrical Engineering Design	3 s.h.
Track depth elective	3 s.h.
Two elective focus area courses	6 s.h.
General education component course	3 s.h.

**Required Track Courses**

Both curriculum tracks require five track courses, as follows.

**COMPUTER ENGINEERING TRACK**

22C:019 Discrete Structures	3 s.h.
22C:031 Algorithms	3 s.h.
055:033 Introduction to Software Design	3 s.h.
055:035 Computer Architecture and Organization	3 s.h.
055:036 Embedded Systems and Systems Software	3 s.h.

**ELECTRICAL ENGINEERING TRACK**

055:041 Electronic Circuits	4 s.h.
055:043 Linear Systems II	3 s.h.
055:050 Communication Systems	3 s.h.
055:060 Control Systems	3 s.h.
055:072 Electrical Engineering Materials and Devices	3 s.h.

**TRACK BREADTH AND DEPTH ELECTIVES**

Students in the computer engineering track must choose their track breadth elective from the list of courses required for the electrical engineering track. Students in the electrical engineering track must choose their track breadth elective from the list of courses required for the computer engineering track.

Students also choose one track depth elective, which must be an advanced course in a subject area within the student's track--normally a 100-level course for which one of the required track courses is a prerequisite. For a complete list of depth electives for each track, see the Department of Electrical and Computer Engineering web site.

**Elective Focus Area**

The elective focus area provides access to the broad range of course work in the department, the college, and the University. Students work with their academic advisors to develop an elective focus area tailored to their own goals--for example, additional technical depth in one or more areas of electrical engineering, completion of a minor in a relevant area, completion of the Certificate in Technological Entrepreneurship, or pursuit of interdisciplinary experience.

The elective focus area must include at least 15 s.h. of technical course work, at least 6 s.h. of which must be earned in 100-level electrical and computer engineering courses. Students earning a minor in business administration (Tippie College of Business) or a Certificate in Technical Entrepreneurship may apply up to 6 s.h. of the required technical course work to the minor or certificate. All students must demonstrate an ability to work on multidisciplinary teams.

All elective focus area plans must be approved in advance by the department.

For more detailed information about elective focus areas, see "Bachelor of Science in Engineering"/"Elective Focus Area" in the College of Engineering section of the Catalog. For more information about the department's elective focus area guidelines, see the Department of Electrical and Computer Engineering web site.

### **Joint B.S.E./M.S.**

The College of Engineering offers a joint (fast-track) Bachelor of Science in Engineering/Master of Science for electrical engineering undergraduates who intend to earn an M.S. in electrical and computer engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work and do thesis-level research while still undergraduates. They may count 9 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the joint degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Electrical and Computer Engineering.

## **Graduate Programs**

The department offers a Master of Science, with and without thesis, and a Doctor of Philosophy in electrical and computer engineering. It also offers an optional M.S. subtrack in software engineering, which is available to thesis and nonthesis students. Excellence in scholarship and research is stimulated by close contact with the faculty throughout graduate study and through programs tailored to fit individual needs.

Students select an advisor and, with the advisor, plan an individual program bounded only by the broad guidelines of the Graduate College and the program. The department maintains close interdisciplinary ties with other University of Iowa departments, especially with the Departments of Physics and Astronomy, Computer Science, Mechanical and Industrial Engineering, and Biomedical Engineering, and the Carver College of Medicine. Principal areas of graduate study include waves and materials, computer systems, wireless communications, signal and image processing, computational genomics, and control systems and robotics.

### **Research and Study Areas**

#### **BIOINFORMATICS AND COMPUTATIONAL BIOLOGY**

The Center for Bioinformatics and Computational Biology (CBCB) is a multidisciplinary research enterprise that encompasses numerous laboratories and collaborates with many graduate programs on campus. Students may earn the Certificate in Informatics, offered by the Graduate College, to augment their Ph.D. training in disciplines ranging from molecular biology to biochemistry to computer science to engineering.

Since 1994, the Coordinated Laboratory for Computational Genomics, a CBCB affiliate, has engaged in a broad range of research activities that complement the Human Genome Project. Members of the laboratory develop new hardware and software techniques for analysis and annotation of genomic sequence, its transcription and translation, and the proteome. Other efforts are aimed at systematic capture and curation of phenotypic information acquired from massive databases of clinical information derived from collaborations with the College of Medicine. The goal of these projects is to elucidate the mechanisms of human disease and develop promising new methods for cures and treatments. The laboratory's facilities include more than 200 workstations, 3 Linux clusters, and access to the NSF TeraGrid and other high-performance computing facilities. Projects in the laboratory frequently involve cutting-edge genomic and proteomic instruments such as the Roche 454 next-generation sequencing platform and several high-throughput gene expression (microarray) measurement platforms.

#### **COMPUTER SYSTEMS AND VLSI CIRCUITS**

Research emphasis is directed toward design and test of very-large-scale integrated (VLSI) circuits, high-performance computing and networking, and intelligent agent systems. Research in the VLSI area involves development of techniques and algorithms that assist in synthesis and testing of large-scale logic circuits, and incorporation of these techniques into computer-aided design tools. Current projects include new pattern sources for built-in-test, efficient test pattern generation, generation of compact test sets, and methods for reducing test data volumes.

High-performance computing research involves development of collaborative and parallel computing environments and associated software tools, and use of these facilities and tools in varied application domains, including image processing and computational biology. Current work in networking focuses on protocols and layer-integration schemes that support high-performance wireless networking, and on control and coordination of mobile ad hoc networks. Current research facilities in these areas include several large cluster computers and an experimental asynchronous

transfer mode (ATM) network.

Departmental facilities that support this work include a network of SUN, HP, SGI, and Linux workstations, and high-speed network connections to collegiate, University, and national facilities, including an NSF-funded, dedicated ATM network of high-performance workstations, the college's Computer Systems Support (CSS), the University's Information Technology Services, national supercomputer centers, federal laboratories, and facilities at other universities.

## **CONTROL SYSTEMS AND ROBOTICS**

Current research emphasizes optimal, adaptive, digital, robust and stochastic control and the control of discrete event dynamical systems. Recent work has concerned the estimation, identification, and robust control of linear and nonlinear dynamical systems; set membership identification, control over wireless communication channels; coordinated fault tolerant control of unmanned vehicles; use of control theory to analyze distributed computing, communications, and manufacturing systems; interplay between communications and control; design of fast digital controllers using subband coding; and multirate control systems.

## **NANOSCALE ELECTRONICS AND SPINTRONICS**

Nanoscale devices and systems provide solutions for low-power logic devices, high-density 3-D stackable electronic and/or spintronic memory elements, and solar/waste energy harvesting applications. Current nanoscale and spintronics work involves post-CMOS transistor research to extend Moore's law in this century; use of novel magnetic and nonmagnetic nanomaterials for enhanced-CMOS and nonvolatile memory; and intelligent solar cells, thermoelectric devices, fuel cells and batteries for efficient solid-state energy conversion. Departmental researchers are pursuing experimental, theoretical, and large-scale computational approaches.

## **SIGNAL AND IMAGE PROCESSING**

Research in image processing and basic and applied signal processing is supported by a digital signal processing laboratory and an image analysis laboratory. Collaborative research with faculty in the Departments of Radiology, Neurology, Psychiatry, Internal Medicine, Ophthalmology and Visual Sciences, Radiation Oncology, and Biomedical Engineering is directed at quantitative analysis of medical images.

In the area of signal processing, current projects include analysis and design of efficient adaptive algorithms for signal processing, efficient coding and transmission of speech, speech processing aids for the hearing-impaired, robust equalization of uncertain channels, application of neural networks to communications systems, multirate signal processing, and subband coding and channel equalization.

Image processing and analysis projects include development of novel methods for image segmentation, image registration, computer-aided detection and diagnosis, early identification of disease patterns from medical image data, computer-aided surgical planning, virtual and augmented reality medical image visualization, building anatomic atlases, and a broad range of translational medicine projects focusing on research and clinical applications of the novel methods. The areas of interest span all scales, from molecules to cells to small animals to humans, and cover a broad range of organ systems and targeted diseases. The spectrum of medical imaging modalities used for research and applications in image processing and analysis is equally broad, encompassing all existing modalities, including X-ray, CT, MR, PET, SPECT, and OCT.

The Medical Image Analysis Labs consist of several specialized facilities for digital image processing. They are equipped with state-of-the-art devices for data storage, transfer, visualization, and analysis. High-capacity data storage devoted to image processing research offers more than 17 TB of online hard disk space. An augmented reality medical image visualization lab serves as a high-performance collaborative resource for the Iowa Institute for Biomedical Imaging. The institute makes additional resources available to image processing research, including small and large animal as well as human research scanning facilities, and provides a backbone for interdisciplinary medical image analysis research to electrical and computer engineering graduate students and faculty.

## **WAVES AND MATERIALS**

Research in this area is carried out primarily in the Iowa Advanced Technology Laboratories, a well-equipped, modern facility two blocks from the Engineering Building, and in Van Allen Hall. Current research topics are optical and electronic properties of semiconductors, semiconductor devices, electro-optics, nonlinear optics, nonlinear wave propagation in plasmas, nanotechnology, and medical devices.

Much work is done in collaboration with other University of Iowa departments, including the Departments of Physics and Astronomy, Chemistry, Internal Medicine, and Neurosurgery. Facilities include two molecular beam epitaxy reactors (in physics and astronomy), a microfabrication laboratory with micrometer resolution capabilities, electrical characterization capability to 22 GHz, several Ti-sapphire lasers, a mid-infrared optical parametric oscillator, and

plasma equipment for nonlinear wave plasma interaction studies.

Examples of current projects are the design and fabrication of diode lasers based on the bandgap engineering of antimony and arsenic-based III-V compound semiconductors, phase control of laser arrays, development of an all-optical power equalizer, characterization of quantum well devices, nonlinear waveguide devices, development of a noncontact method to measure transport properties, plasma and optical soliton excitation and propagation, development of cellular probes, and a noninvasive glucose sensor for medical research.

## WIRELESS COMMUNICATION SYSTEMS

The department is engaged in research using wireless sensor networks (WSNs), which consist of spatially distributed autonomous devices that use sensors to cooperatively monitor physical or environmental conditions such as temperature, sound, vibration, pressure, motion, and pollutants at different locations. WSNs are used for environment and habitat monitoring, healthcare applications, home automation, and traffic control. Current research includes the application of WSN, traditional telemetry, and commercial cellular communication infrastructure for geosciences data collection (e.g., rainfall, water quality, soil moisture).

Another important research interest involving distributed sensor networks is the distributed control of power systems, especially requirements of the next-generation electric grid with smart metering and distributed generation using small-scale wind and solar generators. Research on WSNs also includes the design of cooperative communication techniques for energy efficient WSNs and issues of localization, network organization, and control.

Research activities in communication systems focus on design and analysis of receivers for digital wireless communications, especially the development of effective and practical receivers for multiple-user wireless cellular systems in multipath channels. Projects include the removal of intersymbol interference by blind identification/equalization, multiple-user detection in CDMA without power control, receiver structures for 3G wireless cellular systems, cooperative beam forming for ad hoc wireless networks, resource allocation in OFDM systems, and scheduling in wireless networks. Fundamental theoretical issues and practical implementation are emphasized.

## Master of Science

The Master of Science in electrical and computer engineering requires 30 s.h. of graduate credit with thesis, and 36 s.h. of graduate credit without thesis. Either option may precede Ph.D. study.

M.S. students must maintain a cumulative g.p.a. of at least 3.00.

Thesis students must complete at least 12 s.h. from an approved list of electrical and computer engineering courses and 6 s.h. in 055:199 Research: Electrical and Computer Engineering M.S. Thesis. Nonthesis students must complete at least 18 s.h. from an approved list of electrical and computer engineering courses; nonthesis students may count no more than 3 s.h. of independent study toward the degree. Courses required for the B.S.E. in electrical engineering do not count toward the M.S. requirements.

All M.S. students must successfully complete a final examination, which is conducted by a committee of at least three faculty members. One part of the final examination for thesis students consists of an oral defense of the thesis.

## M.S. Subtrack in Software Engineering

A Master of Science subtrack in software engineering is available to both thesis and nonthesis students. The M.S. with software engineering subtrack requires the same amount of graduate credit as the M.S. without the subtrack: a minimum of 30 s.h. for the thesis option, and 36 s.h. for the nonthesis option. All rules for additional credit and the M.S. final examination are the same as for the M.S. without the subtrack. Successful completion of the subtrack results in the designation "with specialization in software engineering" on the student's transcript.

The software engineering subtrack requires the following course work.

055:131 Introduction to VLSI Design	3 s.h.
055:132 High Performance Computer Architecture	3 s.h.
055:133 Graph Algorithms and Combinatorial Optimization	3 s.h.
055:180 Fundamentals of Software Engineering	3 s.h.
055:181 Formal Methods in Software Engineering	3 s.h.
055:182 Software Engineering Languages and Tools	3 s.h.
055:183 Software Engineering Project	3 s.h.

In addition to the courses listed above, thesis students complete another 3 s.h. of course work from the approved list of electrical and computer engineering courses; nonthesis students complete another 6 s.h.

### **Doctor of Philosophy**

The Doctor of Philosophy in electrical and computer engineering requires a minimum of 72 s.h. of graduate credit. At least 45 s.h. must be earned in formal course work (not in thesis work or other independent study), including 30 s.h. from an approved list of electrical and computer engineering courses. Each Ph.D. student's study plan must be approved by the student's advisor and by the graduate committee.

Ph.D. students take a Ph.D. qualifying examination and a Ph.D. comprehensive examination. Then they must successfully complete a research program that includes a minimum of 18 s.h. of Ph.D. research and culminates in the preparation of a thesis. Finally, the candidate must present a successful oral defense of the thesis.

Ph.D. students must maintain a cumulative g.p.a. of 3.25 or higher in all graduate course work.

Acceptance to the Ph.D. program requires successful completion of the Ph.D. qualifying examination. This all-day written exam is given once a year, late in the spring semester. It covers four areas chosen by the student from a list of six. Students normally are expected to take the qualifying examination within the first 30 s.h. of graduate studies. A cumulative g.p.a. of at least 3.25 is required for admittance to the exam. Students who fail the examination may retake it only once, the next time it is offered.

Following successful completion of the Ph.D. qualifying examination and invitation to the Ph.D. program, a student must complete the two-part Ph.D. comprehensive examination. The first part is a written research proposal that includes a thorough literature survey providing the motivation and background for the proposal. The second part is an oral examination.

Students must pass the Ph.D. qualifying examination before they may take the Ph.D. comprehensive exam, and they must complete the comprehensive exam no later than three calendar years after passing the qualifying exam. Students who fail to meet this deadline must retake the qualifying exam. The qualifying exam and the comprehensive exam may not be taken in the same semester.

The final requirement for completion of the Ph.D. program is the preparation and successful defense of the Ph.D. thesis. This must be completed no sooner than six months but no longer than three years after completion of the comprehensive examination.

### **Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

M.S. applicants must have a g.p.a. of at least 3.00, and Ph.D. applicants must have a g.p.a. of at least 3.25, on all electrical and computer engineering, mathematics, and physics course work. M.S. applicants with a g.p.a. between 2.75 and 3.00 in electrical and computer engineering, mathematics, and physics course work may be admitted on probation, if warranted by other aspects of their academic records.

Students with baccalaureate degrees in related areas (e.g., physics, mathematics, and computer science) may be admitted on conditional status. They may be required to complete additional course work, without earning graduate credit, before being granted regular status.

Each application is reviewed individually. Extenuating circumstances may permit deviations from the usual standards.

### **Financial Support**

A number of fellowships, traineeships, assistantships, scholarships, and industrial grants are available to graduate students who qualify. These are awarded on a competitive basis.

### **Facilities and Laboratories**

#### **Undergraduate Core**

Electrical and computer engineering provides core instruction for the college in electrical circuits, electronics, instrumentation, and computers. A key part of this core teaching responsibility lies in providing students with an early opportunity to use engineering laboratory instrumentation.

#### **Undergraduate Laboratories**

The undergraduate laboratories include facilities for the study of electrical and electronic circuits, signals and systems,

microprocessor-based computers and systems, measurement automation, communication systems, control systems, computer-aided design of VLSI circuits, image processing, robotics, and optics. The laboratories are equipped with modern equipment, including digital oscilloscopes, computer-controlled virtual instrumentation, and software and hardware for embedded-systems development.

### Graduate Facilities and Laboratories

The department has laboratories intended primarily for graduate research in the areas of parallel processing, image processing, CAD for VLSI circuits, software engineering, electro-optics, plasma physics, control systems, cardiovascular image processing, and wireless communication. A network of SUN, IBM, and HP workstations and server nodes provides departmental computing support. This network is tied to the College of Engineering facilities, which consist of more than 100 Hewlett-Packard workstations. Connections are provided to central University facilities and national networks. Through cooperative arrangements, advanced computing facilities at national supercomputing centers, federal laboratories, and other universities are available for graduate research.

## Electrical and Computer Engineering Courses

### Special Topics

**055:000 Cooperative Education Training Assignment: Electrical Engineering** 0 s.h.  
Electrical engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

**055:002 Half-time Cooperative Education Training Assignment: Electrical Engineering** 0 s.h.  
Registration for work assignment periods; for students participating in the Cooperative Education Program.

**055:088 Principles of Electrical Engineering Design** 3 s.h.  
Design problems requiring integration of subject matter from other required electrical and computer engineering courses. Requirements: senior standing.

**055:089 Senior Electrical Engineering Design** 3 s.h.  
Individual or team project; demonstration of completed project and formal engineering report. Prerequisites: 055:088. Requirements: senior standing.

**055:091 Professional Seminar: Electrical Engineering** 1 s.h.  
Professional aspects of electrical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Repeatable. Requirements: junior standing.

**055:098 Individual Investigations: Electrical Engineering** arr.  
Individual projects for electrical engineering undergraduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

### Digital Systems, Computers, Software Engineering

**055:032 Introduction to Digital Design** 3 s.h.  
Modern design and analysis of digital switching circuits; combinational logic; sequential circuits and system controllers; interfacing and busing techniques; design methodologies using medium- and large-scale integrated circuits; lab arranged. Requirements: sophomore standing.

**055:033 Introduction to Software Design** 3 s.h.  
Design of software for engineering systems; algorithm design and structured programming; data structures; introduction to object-oriented programming in JAVA; applications to engineering problems; lab arranged. Prerequisites: 057:017.

**055:035 Computer Architecture and Organization** 3 s.h.

Basic concepts; computer evolution, register transfer level design, simulation techniques, instruction sets (CISC and RISC), assembly language programming, ALU design, arithmetic algorithms and realization of arithmetic functions, hardwired and microprogrammed control, memory hierarchies, virtual memory, cache memory, interrupts and DMA, input/output; introduction to high-performance techniques, pipelining, multiprocessing; introduction to hardware description languages (Verilog, VHDL); students design and simulate a simple processor. Offered fall semesters. Prerequisites: 055:032 and 057:017.

**055:036 Embedded Systems and Systems Software**

3 s.h.

Microprocessors and microcontrollers as components in engineering systems; embedded system design processes; microcontroller/microprocessor architecture; interrupts and traps; memory and device interfacing; low-level and high-level software design for embedded systems; examples of embedded system architecture and design; fundamentals of operating systems; tasks and processes; context switching and scheduling; memory and file management, interprocess communication; device drivers. Prerequisites: 057:017. Corequisites: 055:035.

**055:121 Introduction to Bioinformatics**

4 s.h.

Basics of genetics and molecular biology; overview of bioinformatics and genome science, including genome projects, functional genomics, phylogenetics, proteomics, microarrays, DNA polymorphisms, data-mining algorithms; experimental methods, analytical approaches. Requirements: 002:128 or 099:120 or graduate standing. Same as 002:169, 051:121.

**055:122 Computational Genomics**

3 s.h.

Same as 002:174, 051:122, 127:173.

**055:130 Switching Theory**

3 s.h.

Switching algebras; combinational circuits--hazards, minimization, multiple-output networks; sequential circuits--critical races, essential hazards, fundamental-mode, pulse-mode, synchronous circuits-state assignment, state reduction; input-output experiments. Prerequisites: 055:032.

**055:131 Introduction to VLSI Design**

3 s.h.

MOS devices and circuits; MOS transistor theory, MOS processing technologies, MOS device models; timing and power considerations; performance issues; scaling; various logic schemes; circuit techniques; clocking strategies; I/O structures; design styles; ASIC design; MOS subsystem design; system case studies, use of electronic design automation tools, introduction to hardware description languages, design synthesis, design projects; lab. Prerequisites: 055:032 and 055:041.

**055:132 High Performance Computer Architecture**

3 s.h.

Problems involved in designing and analyzing current machine architectures using hardware description language (HDL) simulation and analysis, hierarchical memory design, pipeline processing, vector machines, numerical applications, multiprocessor architectures and parallel algorithm design techniques; evaluation methods to determine relationship between computer design and design goals. Prerequisites: 22C:112 or 22C:113 or 055:035. Same as 22C:160.

**055:133 Graph Algorithms and Combinatorial Optimization**

3 s.h.

Combinatorial optimization problems; time complexity; graph theory and algorithms; combinatorial optimization algorithms; complexity theory and NP-completeness; approximation algorithms; greedy algorithms and matroids. Prerequisites: 055:033.

**055:138 Testing Digital Logic Circuits**

3 s.h.

Logic models for faults; fault detection in combinational and sequential circuits; fault-diagnosis; design for testability; random testing, compressed data testing, built-in testing. Prerequisites: 055:032.

**055:180 Fundamentals of Software Engineering**

3 s.h.

Problem analysis, requirements definition, specification, design, implementation, testing/maintenance, integration, project management; human factors; management, technical communication; design methodologies; software validation, verification; group project experience. Prerequisites: 22C:022 or 055:033. Same as 22C:180.

**055:181 Formal Methods in Software Engineering**

3 s.h.

Models, methods, and their application in all phases of software engineering process; specification methods; verification of consistency, completeness of specifications; verification using tools. Prerequisites: 22C:180. Same as 22C:181.



**055:182 Software Engineering Languages and Tools**

3 s.h.

Object-oriented programming concepts (objects, classes, single and multiple inheritance, polymorphism and dynamic binding); object-oriented languages and environments such as JAVA and Eiffel; introduction to design patterns and software architectures such as Model-View-Controller and application frameworks; component-based software development; use of standard component frameworks such as CORBA and COM/DCOM. Prerequisites: 22C:180 or 055:180. Requirements: experience with an object-oriented programming language. Same as 22C:182.

**055:183 Software Engineering Project**

3 s.h.

Team software development project using concepts and methodologies learned in earlier software engineering classes; practical aspects of large-scale software development. Prerequisites: 22C:180 and 22C:182. Same as 22C:183.

**Signal and Image Processing****055:040 Linear Systems I**

3 s.h.

Introduction to continuous and discrete time signals and systems with emphasis on Fourier analysis; examples of signals and systems; notion of state and finite state machines; causality; linearity and time invariance; periodicity; Fourier transforms; frequency response; convolution; IIR and FIR filters, continuous and discrete Fourier transforms; sampling and reconstruction; stability. Prerequisites: 22M:034 and 059:008.

**055:041 Electronic Circuits**

4 s.h.

Design and analysis of FET and BJT amplifiers; low, midrange, high-frequency analysis; difference amplifiers; feedback amplifiers; SPICE simulation; power amplifiers; digital logic families. Prerequisites: 055:040 and 057:018.

**055:043 Linear Systems II**

3 s.h.

Continuation of 055:040, emphasis on Laplace and Z-transform analysis; unilateral and bilateral Laplace transform; region of convergence; stability; block diagram algebra; first- and second-order continuous and discrete time systems; Bode plots. Prerequisites: 055:040.

**055:141 Advanced Circuit Techniques**

3 s.h.

Advanced circuit principles; component, signal, and noise models; subcircuit design including oscillators, amplifiers, multipliers, noise generators, frequency converters, phase-locked loops, filters, transmission gates, and level-shifters; measurement techniques including bridge, signal-averaging and lock-in techniques; case studies of A/D and D/A converters; single-supply op amps, low-noise, large-signal, and high-frequency circuits; lab. Prerequisites: 055:041.

**055:145 Pattern Recognition**

3 s.h.

Mathematical foundations and practical techniques of pattern recognition; adaptation, learning, description; statistical pattern recognition; syntactic pattern recognition, neural networks for recognition; fuzzy logic for recognition; nonstandard and combined pattern recognition approaches. Prerequisites: 055:040.

**055:146 Digital Signal Processing**

3 s.h.

Theory, techniques used in representing discrete-time signals; system concepts in frequency and sampling domains; FIR and IIR digital filter theory, design and realization techniques; theory, application of discrete Fourier transforms/FFT. Prerequisites: 055:043 and 055:046.

**055:148 Digital Image Processing**

3 s.h.

Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: 051:040 or 055:040, and 051:060 or 055:043. Same as 051:148.

**055:245 Magnetic Resonance Imaging Systems**

3 s.h.

Mathematical foundations and practical implementation for magnetic resonance imaging (MRI); principles of image formation using Fourier and projection techniques, non-Cartesian sampling, tomographic image reconstruction, sources of artifacts and their correction. Prerequisites: 055:146 and 055:148.

**055:247 Image Analysis and Understanding**

3 s.h.

Mathematical foundations and practical techniques of digital image analysis and understanding; image segmentation (from edges and regions), object description (from boundaries, regions, scale, scale insensitive descriptions, 3-D shape, texture) pattern recognition (statistical and syntactic methods, cluster analysis), image understanding (knowledge representation, control strategies, matching, context, semantics), image analysis and understanding systems; lab arranged. Prerequisites: 055:148.

**055:248 Advanced Digital Image Processing**

3 s.h.

Advanced local operators (scale-space imaging, advanced edge detection, line and corner detection), image morphology (binary/gray scale operators, morphological segmentation and watershed), digital topology and geometry (binary/fuzzy digital topology, distance functions, skeletonization), color spaces, wavelets and multi-resolution processing (Haar transform, multi-resolution expansions, wavelet transforms in one or two dimensions, fast wavelet transform, wavelet packets), image registration (intensity correlation, mutual information, and landmark-based deformable registration methods). Prerequisites: 055:146 and 055:148.

**055:292 ECE Graduate Seminar on Image Processing, Computer Vision, and Medical Imaging**

0 s.h.

Recent advances and research in image processing, computer vision, and medical imaging; presentation by guest lecturers, faculty, students. Requirements: graduate standing.

**Communication and Information****055:050 Communication Systems**

3 s.h.

Introduction to analog and digital communications; emphasis on modulation and noise analysis; Fourier analysis, probability theory, random variable and processes, AM, FM, pulse-coded modulation, binary digital modulation, SNR analysis of AM and FM, BER analysis of digital modulation schemes. Prerequisites: 22S:039 and 055:043.

**055:054 Communication Networks**

3 s.h.

Communication networks, layered network architectures, applications, network programming interfaces (e.g., sockets), transport, congestion, routing, data link protocols, local area networks, emerging high-speed networks, multimedia networks, network security, Internet protocol; technology examples. Prerequisites: 057:017. Corequisites: 22S:039.

**055:150 Communication Theory**

3 s.h.

Random processes, source coding, digital transmission at baseband, optimum receiver design for Gaussian noise, error probability and power spectrum analysis, signal design for bandlimited channels, digital carrier modulation, bandwidth/energy/error probability tradeoffs, coding for error detection and correction. Prerequisites: 055:050 and 055:051.

**055:152 Introduction to Information and Coding Theories**

3 s.h.

Quantitative measure of information; source encoding; error detecting codes; block and convolutional codes, design of hardware and software implementations; Viterbi decoding. Prerequisites: 055:050.

**055:153 Wireless Sensor Networks**

3 s.h.

Wireless sensor networks overview; antennas, radio propagation models; WSN power and energy considerations, engineering issues, batteries, networks layers, stacks; medium access control (MAC); spread spectrum, FHSS, CDMA; infrastructure establishment; WSN routing; localization; synchronization; sensors; RFID; WSN case studies; lab. Prerequisites: 055:050. Requirements: senior standing.

**Controls****055:060 Control Systems**

3 s.h.

Fundamental concepts of linear feedback control, mathematical modeling, transfer functions, system response, feedback effects, stability, root-locus and frequency response analysis and design, compensation, lab arranged. Prerequisites: 055:040.

**055:160 Control Theory**

3 s.h.

State space approach; controllability, observability, canonical forms; design of Luenberger observers; feedback control via pole placement; stability, minimal realization; advanced topics. Prerequisites: 055:060. Same as 058:133.

**055:164 Computer-Based Control Systems**

3 s.h.

Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: 055:060. Same as 058:134.

**Waves and Materials****055:070 Electromagnetic Theory**

3 s.h.

Electric and magnetic forces, Maxwell's equations, wave propagation; applications, including radiation, transmission lines, circuit theory. Prerequisites: 22M:037 and 029:082.

**055:072 Electrical Engineering Materials and Devices**

3 s.h.

Fundamentals of semiconductor physics and devices; principles of the p-n junction diode, bipolar transistor, field effect transistor. Prerequisites: 029:082 and 055:041.

**055:170 Advanced Electromagnetic Theory**

3 s.h.

Time varying fields; plane wave propagation, reflection, refraction; waves in anisotropic media transmission lines, impedance matching, Smith chart; metallic and dielectric wave guides; resonators; antennas, antenna arrays. Prerequisites: 055:070.

**055:172 Solid State Physical Electronics**

3 s.h.

Advanced topics in semiconductor physics and devices; elementary concepts in quantum and statistical mechanics, diodes, bipolar transistor, field-effect transistor. Prerequisites: 055:072.

**055:173 Introductory Solid State Physics**

3 s.h.

Phenomena associated with solid state; classification of solids and crystal structures, electronic and vibrational properties in solids; thermal, optical, magnetic, dielectric properties of solids. Prerequisites: 029:140 and 22M:028. Same as 029:193.

**055:177 Introductory Optics**

3 s.h.

Geometrical and physical optics; interference; diffraction; polarization; microscopic origins of macroscopic optical properties of matter; optical activity; electro-optical, magneto-optical, acousto-optical phenomena; spontaneous Brillouin, Raman, Rayleigh scattering. Prerequisites: 029:130. Same as 029:180.

**055:178 Optical Signal Processing**

3 s.h.

Linear systems description of optical propagation; diffraction and angular plane wave spectrum; lenses as Fourier transformers, lens configurations as generalized optical processors; lasers, coherence, spatial frequency analysis; holography; convolvers, correlators, matched filters; synthetic aperture radar; optical computing. Requirements: (for 055:178) 055:070; (for 029:184) 029:130. Same as 029:184.

**055:179 Electro Optics**

3 s.h.

Wave equation solutions; optical birefringence; finite beam propagation in free space, dielectric waveguides and fibers; optical resonators; nonlinear phenomena; electro-optic, acousto-optic modulation; optical detection, noise; application to communication systems. Requirements: (for 055:179) 055:070; (for 029:182) 029:130. Same as 029:182.

**055:273 Semiconductor Physics**

3 s.h.

Electronic, optical, and materials properties of semiconductors. Prerequisites: 029:193 and 029:246. Same as 029:229.

**055:274 Laser Principles**

3 s.h.

Laser theory, stimulated emission, dispersion theory, broadening mechanisms, rate equations, gain saturation, optical resonators, mode-locking, Q-switching techniques, survey of laser types, modes of operation. Requirements: (for 029:224) 029:130; (for 055:274) 055:170. Same as 029:224.

**055:276 Nonlinear Optics**

3 s.h.

Classical treatment of second- and third-order optical nonlinearities; phase matching, harmonic generation, three- and four-wave mixing, self-focusing, self-phase modulation, stimulated scattering of light, applications. Requirements: (for 029:222) 029:130; (for 055:276) 029:130 or 055:170. Same as 029:222.

**Graduate Seminars, Advanced Topics, Research****055:191 Graduate Seminar: Electrical and Computer Engineering**

0 s.h.

Presentation and discussion of recent advances and research in electrical and computer engineering by guest lecturers, faculty, students. Requirements: graduate standing.

**055:195 Contemporary Topics in Electrical and Computer Engineering**

arr.

New topics or areas of study not offered in other electrical and computer engineering courses; based on faculty/student interest; not available for individual study. Requirements: senior standing.

**055:198 Individual Investigations: Electrical and Computer Engineering**

arr.

Individual projects for electrical and computer engineering graduate students; laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**055:199 Research: Electrical and Computer Engineering M.S. Thesis**

arr.

Experimental and/or analytical investigation of approved topic for partial fulfillment of requirements for M.S. degree with thesis in electrical and computer engineering. Requirements: graduate standing.

**055:291 Seminar: Plasma Physics**

arr.

Current research. Same as 029:261.

**055:295 Advanced Topics in Electrical and Computer Engineering**

arr.

Discussion of current literature in electrical and computer engineering.

**055:299 Research: Electrical and Computer Engineering Ph.D. Thesis**

arr.

Experimental and/or analytical investigation of approved topic for partial fulfillment of requirements for Ph.D. in electrical and computer engineering.

# Mechanical and Industrial Engineering

**Chair:** Andrew Kusiak

**Professors:** Karim Abdel-Malek, Kurt M. Anstreicher, Jasbir S. Arora, Christoph Beckermann, T.D. Brown, P. Barry Butler, Greg Carmichael, Krishnan B. Chandran, Kyung K. Choi, Andrew Kusiak, Ching-Long Lin, Peter O'Grady, Jun Ni, Joon B. Park, Sharif Rahman, K. Rim, Matthew Rizzo, Ralph I. Stephens, Frederick Stern, H.S. Udaykumar

**Professors emeriti:** James G. Andrews, Dennis L. Bricker, Lea-Der Chen, Gary W. Fischer, Edward J. Haug, Robert G. Hering, George M. Lance, John M. Liittschwager, Enzo O. Macagno, Donald H. Madsen, Virendra C. Patel, J. Richard Simon, Theodore F. Smith

**Associate professors:** Pablo Carrica, Yong Chen, Jia Lu, Thomas Schnell, Geb W. Thomas, Shaoping Xiao

**Assistant professors:** James Buchholz, Pavlo Krokhmal, Albert Ratner, Olesya Zhupanska

**Undergraduate degrees:** B.S.E. in Industrial Engineering, Mechanical Engineering

**Graduate degrees:** M.S., Ph.D. in Industrial Engineering, Mechanical Engineering

**Web site:** <http://www.mie.engineering.uiowa.edu/>

The Department of Mechanical and Industrial Engineering offers distinct undergraduate and graduate degrees and research programs in industrial engineering and in mechanical engineering.

## Industrial Engineering

Industrial engineering is concerned with analysis, design, and implementation of systems through optimal use of resources--human, material, energy, information, and financial. Systems may range from small units to extremely large operations. In order to accomplish these activities, the industrial engineer must be skilled in mathematics, physical sciences, management, and human relations as well as manufacturing, computer systems, economics, optimization, human behavior, and systems analysis and design.

Industrial engineers have many opportunities for employment and service in industrial, government, research, and public service organizations. Employment opportunities are among the most varied in the engineering field. Industrial engineers hold positions as advisors to management or may participate directly in management decisions.

Representative job titles include industrial engineer, manufacturing engineer, systems analyst, quality specialist, operations research analyst, internal consultant, human factors specialist, supervisor, and manager. Industrial engineers are employed by manufacturing and energy firms, wind turbine manufacturers, government agencies, and service organizations such as airlines, banks, hospitals, health care groups, and consulting companies.

## Mechanical Engineering

Mechanical engineering is broadly concerned with energy, manufacturing, and design of machines. Mechanical engineers conceive, plan, design, and direct the manufacture, distribution, and operation of a wide variety of devices, machines, and systems--including complex human-machine systems--for energy conversion, biofuel production, environmental control, materials processing, transportation, materials handling, and other purposes. Major subspecialties of mechanical engineering include thermal-fluids engineering and mechanical systems engineering.

Thermal-fluid phenomena occur in many engineering systems and devices, such as aircraft; automobiles; off-road vehicles; ships; gas turbines; heat exchangers; material processes; heating, ventilating, air-conditioning, and refrigerating systems; hydraulic and wind turbines; airbag inflators; fuel cells; biofuel processes; environmental control devices; and biomedical systems. Mechanical systems and machines are the foundations of human technology. Examples are found in manufacturing equipment, medical equipment, automobiles, tractors, aircraft, ships, home appliances, packaging machinery, wind turbine gearbox, and robots.

Mechanical engineers find a wide variety of career opportunities in industry, government, and education. Mechanical engineers form an integral part of most industries, including aerospace firms, energy companies, automobile manufacturers, health care providers, food- and metal-processing industries, petroleum refineries, electronic and computer manufacturers, heavy construction and agricultural vehicle manufacturers, wind turbine manufacturers, thermal comfort equipment firms, farm equipment firms, and consulting companies.

## Undergraduate Programs

The department offers a Bachelor of Science in Engineering in industrial engineering, and a Bachelor of Science in Engineering in mechanical engineering.

### Industrial Engineering

The objective of the B.S.E. program in industrial engineering is to produce graduates who:

- have a strong foundation of mathematical, scientific, and technical knowledge and are equipped with skills in problem solving, teamwork, and communication that will serve them throughout their careers;
- are able to pursue successful careers as practicing industrial engineers in manufacturing industries, medical institutions, and engineering consulting firms;
- are able to successfully pursue advanced studies in industrial engineering; in other engineering disciplines; or in diverse nontechnical fields such as medicine, law, or business; and
- are able to assume professional leadership roles.

## Mechanical Engineering

The objective of the B.S.E. program in mechanical engineering is to produce graduates who:

- have a strong foundation of knowledge in mathematics, science, and mechanical engineering and are equipped with skills in problem solving, design, teamwork, and communication that will serve them throughout their careers;
- are able to pursue successful careers as practicing mechanical engineers in manufacturing industries, energy and utility companies, and engineering consulting firms;
- are able to successfully pursue advanced studies in mechanical engineering; in related technical areas such as physics, applied mathematics, and other engineering disciplines; and in other professional fields; and
- are able to assume professional leadership roles.

## B.S.E. in Industrial Engineering

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The industrial engineering major requires a strong foundation of courses in engineering science, mathematics, design, manufacturing, social science, and humanities.

Advanced work includes specialty courses in human factors and ergonomics, management, information systems, concurrent engineering, production, manufacturing, quality control, reliability, and operations research. Design is an integral part of the undergraduate program; all students complete a comprehensive design experience.

The B.S.E. curriculum covers four major stems: mathematics and basic sciences, engineering topics, elective focus area, and general education (15 s.h. of humanities and social science courses). All students take 059:005 Engineering Problem Solving I, 059:006 Engineering Problem Solving II, and 010:003 Rhetoric. General education component courses must be selected to satisfy the requirements of the College of Engineering. For information on B.S.E. curriculum stems and common course requirements, see Bachelor of Science in Engineering in the College of Engineering section of the Catalog.

Students must select elective focus area courses according to guidelines established by the Department of Mechanical and Industrial Engineering. See "Elective Focus Area" after the following curriculum list.

Some courses in the curriculum are prerequisites to others. Students who take courses in the order below satisfy the prerequisite requirements automatically. Students who do not follow this sequence still must satisfy all course prerequisites.

### FIRST YEAR

#### First Semester

004:011 Principles of Chemistry I	4 s.h.
010:003 Rhetoric	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
059:005 Engineering Problem Solving I	3 s.h.
059:090 Engineering Success Seminar for First-Year Students	1 s.h.

#### Second Semester

22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
056:010 Industrial Engineering First-Year Seminar	0 s.h.
059:006 Engineering Problem Solving II	3 s.h.
General education component course	3 s.h.

### SECOND YEAR

#### First Semester

22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
--	--------

029:082 Introductory Physics II	3 s.h.
031:001 Elementary Psychology	3 s.h.
056:020 Industrial Engineering Sophomore Seminar	0 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.
059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.

**Second Semester**

22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
056:020 Industrial Engineering Sophomore Seminar	0 s.h.
056:054 Engineering Economy	3 s.h.
057:015 Materials Science	3 s.h.
Systems design elective	3 s.h.
Elective focus area course	3 s.h.

**THIRD YEAR****First Semester**

056:032 Design for Manufacturing	3 s.h.
056:091 Professional Seminar: Industrial Engineering	0 s.h.
056:144 Human Factors	3 s.h.
056:166 Stochastic Modeling	3 s.h.
056:171 Operations Research	3 s.h.
General education component course	3 s.h.

**Second Semester**

22S:030 Statistical Methods and Computing	3 s.h.
056:091 Professional Seminar: Industrial Engineering	0 s.h.
056:131 Manufacturing Systems	3 s.h.
056:147 Ergonomics	3 s.h.
056:150 Information Systems Design	3 s.h.
056:178 Digital Systems Simulation	3 s.h.
General education component course	3 s.h.

**FOURTH YEAR****First Semester**

056:091 Professional Seminar: Industrial Engineering	0 s.h.
056:134 Process Engineering	4 s.h.
056:162 Quality Control	3 s.h.
Elective focus area courses	6 s.h.
General education component course	3 s.h.

**Second Semester**

056:160 Operational Systems Design	4 s.h.
Elective focus area courses (including math/science elective)	12 s.h.

## Elective Focus Area

The industrial engineering program offers a variety of elective focus area options, including standard focus areas developed and maintained by the program and flexible focus areas tailored to individual student interests. For more detailed information about elective focus areas, see "Bachelor of Science in Engineering"/"Elective Focus Area" in the College of Engineering section of the Catalog. For a list of standard industrial engineering elective focus area options and guidelines for tailored elective focus areas, see the Department of Mechanical and Industrial Engineering web site.

## Joint B.S.E./M.S. in Industrial Engineering

The College of Engineering offers a joint (fast-track) Bachelor of Science in Engineering/Master of Science for industrial engineering undergraduates who intend to earn an M.S. in industrial engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work, attend the program's graduate seminar, and work with a faculty member on a master's thesis project while still undergraduates. They may count 6 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the joint degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Mechanical and Industrial Engineering.

Some students in undergraduate majors other than industrial engineering may be admitted to the combined program; they must meet the same admission requirements as industrial engineering majors. In some cases, they may be required to take additional course work to meet the prerequisite requirements for upper-level courses.

## B.S.E. in Mechanical Engineering

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The mechanical engineering major lays a foundation in the basic disciplines of mathematics, physics, and chemistry and in the engineering sciences of statics, dynamics, thermodynamics, mechanics of deformable bodies, mechanics of fluids and transfer processes, materials science, and electrical sciences. An understanding of these sciences enables mechanical engineers to design parts of systems and understand whole systems, plan the production and use of energy, plan and operate industrial manufacturing facilities, and design automatic control systems for machines and other mechanical systems.

Students develop an awareness of social and humanistic issues relating to business, environment, government, history, language, religion, and international relations. They also acquire an appreciation of professional and ethical responsibilities.

The B.S.E. curriculum covers four major stems: mathematics and basic sciences, engineering topics, elective focus area, and general education (15 s.h. of humanities and social science courses). All students take 059:005 Engineering Problem Solving I, 059:006 Engineering Problem Solving II, and 010:003 Rhetoric. General education component courses must be selected to satisfy the requirements of the College of Engineering. For information on B.S.E. curriculum stems and common course requirements, see Bachelor of Science in Engineering in the College of Engineering section of the Catalog.

Upper-level students work on team projects in a senior capstone design course, 058:086 Mechanical Engineering Design Project. Some students may arrange to participate in established research projects.

Students must select elective focus area courses according to guidelines established by the Department of Mechanical and Industrial Engineering. See "Elective Focus Area" after the following curriculum list.

Some courses in the curriculum are prerequisites to others. Students who take courses in the order below satisfy the prerequisite requirements automatically. Students who do not follow this sequence still must satisfy all course prerequisites.

### FIRST YEAR

#### First Semester

004:011 Principles of Chemistry I	4 s.h.
010:003 Rhetoric	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.
059:005 Engineering Problem Solving I	3 s.h.
059:090 Engineering Success Seminar for First-Year Students	1 s.h.



**Second Semester**

22M:032 Engineering Mathematics II: Multivariable Calculus	4 s.h.
22M:033 Engineering Mathematics III: Matrix Algebra	2 s.h.
029:081 Introductory Physics I	4 s.h.
059:006 Engineering Problem Solving II	3 s.h.
General education component course	3 s.h.

**SECOND YEAR****First Semester**

22M:034 Engineering Mathematics IV: Differential Equations	3 s.h.
029:082 Introductory Physics II	3 s.h.
058:020 Mechanical Engineering Sophomore Seminar	0 s.h.
059:007 Engineering Fundamentals I: Statics	2 s.h.
059:008 Engineering Fundamentals II: Electrical Circuits	3 s.h.
059:009 Engineering Fundamentals III: Thermodynamics	3 s.h.
General education component course	3 s.h.

**Second Semester**

057:010 Dynamics	3 s.h.
057:015 Materials Science	3 s.h.
057:019 Mechanics of Deformable Bodies	3 s.h.
058:032 Design for Manufacturing	3 s.h.
Elective focus area course	3 s.h.

**THIRD YEAR****First Semester**

22M:037 Engineering Mathematics V: Vector Calculus	3 s.h.
22S:039 Probability and Statistics for the Engineering and Physical Sciences	3 s.h.
057:018 Principles of Electronic Instrumentation	4 s.h.
057:020 Fluid Mechanics	4 s.h.
058:091 Professional Seminar: Mechanical Engineering	0 s.h.
Elective focus area course	3 s.h.

**Second Semester**

058:040 Thermodynamics II	3 s.h.
058:045 Heat Transfer	3 s.h.
058:052 Mechanical Systems	3 s.h.
Elective focus area course	3 s.h.
General education component course	3 s.h.

**FOURTH YEAR****First Semester**

058:048 Energy Systems Design	4 s.h.
058:055 Mechanical Systems Design	4 s.h.
058:091 Professional Seminar: Mechanical Engineering	0 s.h.
Elective focus area courses	6 s.h.
General education component course	3 s.h.

**Second Semester**

058:080 Experimental Engineering	4 s.h.
058:086 Mechanical Engineering Design Project	3 s.h.
Elective focus area courses	6 s.h.
General education component course	3 s.h.

**Elective Focus Area**

The mechanical engineering program offers a variety of elective focus area options, including standard focus areas developed and maintained by the program and flexible focus areas tailored to individual student interests. For more detailed information about elective focus areas, see "Bachelor of Science in Engineering"/"Elective Focus Area" in the College of Engineering section of the Catalog. For a list of standard mechanical engineering elective focus area options and guidelines for tailored elective focus areas, see the Department of Mechanical and Industrial Engineering web site.

**Joint B.S.E./M.S. in Mechanical Engineering**

The College of Engineering offers a joint (fast-track) Bachelor of Science in Engineering/Master of Science for mechanical engineering undergraduates who intend to earn an M.S. in mechanical engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work, attend the program's graduate seminar, and participate in master's research while still undergraduates. They may count 6 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the joint degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Mechanical and Industrial Engineering.

**Graduate Programs**

The Department of Mechanical and Industrial Engineering offers a Master of Science, with and without thesis, and a Doctor of Philosophy in industrial engineering; and a Master of Science, with and without thesis, and a Doctor of Philosophy in mechanical engineering.

The industrial engineering program also offers a wind power management concentration for M.S. and Ph.D. students.

**Research and Study in Industrial Engineering**

Graduate study in industrial engineering is tailored individually. Each student's study program is based on his or her background and career objectives and is designed according to sound academic practice. The curriculum is highly flexible; the goal is academic excellence.

The program offers six principal academic focus areas: design and manufacturing, human factors engineering and ergonomics, engineering management, reliability and production systems, operations research and applied statistics, and information systems. Graduate students participate in research in their academic concentration areas.

**ENGINEERING MANAGEMENT**

Current research in engineering management consists of entrepreneurship, parametric cash flow analysis, strategic

management, and economic risk analysis. Engineering management studies concentrate on engineering administration, engineering economics, and information systems. This area is covered by courses in the 50 series.

#### **HUMAN FACTORS AND ERGONOMICS**

Current research in human factors and ergonomics includes investigation of the effects of visual and auditory displays on human information processing and development of computer systems that ease the challenges of controlling complex medical and robotic systems. This work examines how engineers should shape information technology to enhance productivity, safety, and customer satisfaction. Industrial engineering faculty members and students work to improve the effectiveness of robot systems for exploration of Mars and the Moon, to improve driving safety, and to design new cockpit interfaces. The department has several medical, flight, and driving simulators. It also conducts research in other facilities, including National Advanced Driving Simulator, the most advanced simulation facility in the world.

Human factors and ergonomics studies concentrate on designing systems compatible with human capabilities and limitations. Human factors engineering integrates components from the fields of psychology, cognitive sciences, physiology, statistics, and technical sciences to address issues of human-interface design and human-systems design. Specific considerations include human cognitive abilities and limitations, visual performance, error reduction, workload assessment and mitigation, design of jobs in the industrial environment, information acquisition and processing, choice of action, operator performance measurement, and economic concerns. This area is covered by courses in the 40 series.

#### **INFORMATION SYSTEMS**

Studies in information systems concentrate on system design. Design problems involve devising information systems that meet a diverse set of requirements. Contemporary topics include network-based systems, client/server systems, internet systems, and medical informatics.

#### **MANUFACTURING**

Ongoing manufacturing research consists of flexible manufacturing systems, optimum control of processes, and reliability assessment. Manufacturing courses, denoted by the 30 series, delve into selecting appropriate manufacturing methods, planning processing operations, devising control strategies, and designing products and manufacturing systems. Contemporary topics include computer-aided process planning, computer-aided design, computer-controlled manufacturing, concurrent engineering, and applications of artificial intelligence in manufacturing.

#### **OPERATIONS RESEARCH AND APPLIED STATISTICS**

Ongoing research in operations research and applied statistics deals with the application of optimization techniques for informed decision making in the public and private sectors. The primary focus of this work is modeling, simulating, and optimizing the design and operation of systems such as logistics, communications, health care, and manufacturing. Studies in operations research and applied statistics concentrate on mathematical programming, statistical, and computer sciences for modeling, analyzing, and optimizing systems. Various methodologies in this area include mathematical programming, heuristic optimization, statistical analysis, and digital systems simulation. This area is covered by courses in the 70 series.

#### **QUALITY CONTROL AND PRODUCTION SYSTEMS**

Current research in quality control and production systems focuses on measures for corporate quality and reliability, computer-aided layout and scheduling, just-in-time production, inspection, and online expert systems in process control. Studies of quality control and production systems focus on reliability engineering, quality control, and production systems. This area is covered by courses in the 60 series.

#### **Research and Study in Mechanical Engineering**

The graduate programs in mechanical engineering educate students in more depth and breadth than is possible at the baccalaureate level. This prepares the graduate to use contemporary methods at advanced levels in professional careers in engineering design, development, teaching, and research. Each student's plan of study is based on his or her background and career objectives, and is designed according to sound academic practice. Faculty members in the program have teaching and research expertise in energy and power conversion, fluid and thermal sciences, solid mechanics, mechanical systems, and related areas.

Students may develop programs emphasizing fluid mechanics, thermodynamics, heat transfer, fatigue and fracture mechanics, and mechanical systems. Some may pursue more general programs that combine emphases. Others may specialize in interdisciplinary areas (e.g., energy engineering, materials engineering, automatic control, chemical processes), which involve a combination of mechanical and industrial engineering departmental courses and

appropriate electives from other departments in the College of Engineering and across the University. Ph.D. programs may center on any one of these areas through choice of appropriate course work and research topic.

For more information, see the Mechanical Engineering Graduate Student Handbook, available from the department.

The mechanical engineering program offers the following research and study areas.

#### **FLUID MECHANICS**

The graduate program in fluid mechanics provides a rigorous and broad foundation in theoretical, numerical, and experimental aspects of the subject. It is especially suitable for those seeking careers in teaching and/or research in academic and industrial organizations. The program focuses on fundamental principles and techniques of solving problems in the varied fields of fluids engineering. It emphasizes computer use, both in mathematical modeling of flow phenomena and in acquisition and processing of experimental data.

Although most of the relevant courses are offered by the Department of Mechanical and Industrial Engineering, students are strongly encouraged to take applied mathematics and classical mechanics courses offered by the Departments of Mathematics and Physics and Astronomy in the College of Liberal Arts and Sciences and by other College of Engineering departments.

Current research projects include computational modeling of viscous and turbulent flows; vortex dynamics; unsteady flows; pulmonary flow; flow separation and control; atmospheric flows; environmental flows; ship hydrodynamics; viscous flow around ships; propulsor flow and propulsor-body interactions; free-surface effects; nonlinear wave theory; biomimetic fluid mechanics; hydraulic turbines; quantitative flow visualization and image processing; computational fluid dynamics; LDV and thermal anemometry for flow analysis; and uncertainty analysis.

#### **MECHANICAL SYSTEMS**

The graduate program in mechanical systems is designed to provide students with a broad, strong background in theoretical, computational, experimental, and applied aspects of the subject. It prepares future graduates for careers in industry, teaching, and government. The program emphasizes fundamental principles, computational techniques, multiscale modeling and simulation, and experimentation used to analyze and design mechanical systems. Areas of concentration include reliability-based design and optimization, nanotechnology, tissue mechanics, machine and vehicle dynamics, optimal design, structural optimization, computational solid mechanics, probabilistic mechanics, mechanics of composite material, reliability, and fatigue and fracture mechanics.

Although most courses relevant to the specialization areas are offered by the Department of Mechanical and Industrial Engineering, students are encouraged to consider appropriate courses from other areas, such as mathematics, statistics, physics, and other College of Engineering departments.

Current research projects include design sensitivity analysis of rigid and flexible mechanical systems; computer-aided design; mechanism and manipulator workspace analysis; real-time dynamic simulation; vehicle system dynamics; computational mechanics, tissue mechanics, multiphysics, and multiple-scale problems; composite material; stochastic meshfree and finite element methods; design sensitivity analysis of nonlinear structural systems; reliability-based design optimization; surrogate modeling for reliability-based design optimization; shape optimal design of elastoplastic materials; optimal design of metal stamping process; multibody dynamics; probabilistic and elastic-plastic fracture mechanics; damage-tolerant design; and fatigue behavior and life prediction under constant and variable amplitude loading.

#### **THERMAL SCIENCES**

The graduate program in thermal sciences and systems is designed to provide students with a rigorous and broad foundation in theoretical and experimental aspects of the subject. It prepares future graduates for careers in industry, teaching, and government. The program emphasizes fundamentals of thermodynamics and heat transfer, and associated analytical, numerical, and experimental methods used in energy systems. Areas of concentration include fluid mechanics, thermodynamics, heat transfer, phase-change, combustion, and fuel cells.

Most courses relevant to the specialization areas are offered by the Department of Mechanical and Industrial Engineering. Students are encouraged to supplement these with courses from other areas, such as mathematics and physics, and courses offered by other College of Engineering departments in order to balance their programs.

Current research projects include biomass gasification; turbulent flames; combustion of biomass; alternative and renewable fuels; combustion instability; spray atomization and combustion; transport modeling of fuel cells; transport phenomena in materials processing, melting, and solidification; and optical-based diagnostics of complex thermal processes.

### **M.S. in Industrial Engineering**

The Master of Science in industrial engineering requires a minimum of 30 s.h. of graduate credit with thesis, and a minimum of 36 s.h. of graduate credit without thesis. Students who intend to pursue a Ph.D. should select the thesis option; those who hold research or teaching assistantships may be required to select the thesis option. The M.S. concentration in wind power management is open to students in either option.

All M.S. students must earn 21 s.h. in graduate-level industrial engineering courses. They earn a minimum of 9 s.h. in 200-level industrial engineering courses and complete at least one 100- or 200-level course from each of three focus areas: human factors, operations research, and reliability and systems design. Thesis students who plan to pursue a Ph.D. may choose to take two 200-level courses in each of the three focus areas in order to complete their Ph.D. breadth requirement before entering the doctoral program. Students select other courses in consultation with their advisors; choices are documented in the student's plan of study.

Thesis students may count a maximum of 6 s.h. of research credit toward the degree and may include that credit in the required 21 s.h. of graduate-level industrial engineering courses. The thesis option does not include research credit.

All graduate students must register for 056:191 Graduate Seminar: Industrial Engineering (1 s.h.) each semester of enrollment. They may not substitute seminar credit for regular course work or research credit.

M.S. students must maintain a g.p.a. of at least 3.00 on all graduate work at The University of Iowa and must pass a final comprehensive examination as specified by their examining committees.

Entering students must have strong verbal and written skills in English and a background in computer programming (e.g., C++, C, VB), probability, statistics, and mathematics equivalent to that required by accredited undergraduate engineering programs. Students with insufficient academic background must remedy deficiencies by taking appropriate courses beyond those normally required for the study plan.

Entering students are advised by the department chair or by a designated faculty advisor. The department chair or the graduate program coordinator assigns an advisor to each student during his or her first regular semester in residence.

During that semester, the student and the advisor prepare a study plan, which they submit to the department chair for approval. Once the plan is approved, it is filed with the student's record. It is the student's responsibility to assure that the study plan is submitted to the department chair.

M.S. students must pass a final comprehensive examination, as specified by their examination committees. Examination committees consist of at least three Graduate College faculty members and must be approved by the department chair.

The comprehensive examination may consist of both oral and written parts. Its purpose is to assess the adequacy of the student's defense of thesis and/or course preparation. The final study plan, approved by the Graduate College dean, is prerequisite to the exam. The student should consult with his or her advisor on the composition of the advisory/examination committee and the time and place for the exam.

It is the student's responsibility to submit a degree application to the Graduate College by the college's deadline.

For more detailed information about M.S. program requirements, including a list of focus area courses, see the Industrial Engineering Graduate Handbook or link to industrial engineering graduate programs on the Department of Mechanical and Industrial Engineering web site.

### **M.S. Concentration in Wind Power Management**

M.S. students in industrial engineering may concentrate in wind power management. They must meet all regular requirements for the M.S. in industrial engineering. In addition, thesis option students must take three courses (9 s.h.) from the list of recommended courses. Nonthesis option students must take four courses (12 s.h.) from the list of recommended courses and one course (3 s.h.) from the list of electives. Students' course selections must be approved by their advisors.

#### **WIND POWER MANAGEMENT: RECOMMENDED COURSES**

053:107 Sustainable Systems	3 s.h.
053:117 Remote Sensing	3 s.h.
053:251 Environmental Systems Modeling	3 s.h.
056:134 Process Engineering	4 s.h.
056:162 Quality Control	3 s.h.
056:166 Stochastic Modeling	3 s.h.
056:171 Operations Research	3 s.h.
056:178 Digital Systems Simulation	3 s.h.
058:143 Computational Fluid and Thermal Engineering	3 s.h.
058:147 Fuel Cells	3 s.h.
058:195 Contemporary Topics in Mechanical Engineering	3 s.h.

058:255 Multiscale Modeling	3 s.h.
058:268 Turbulent Flows	3 s.h.

#### **WIND POWER MANAGEMENT: ELECTIVES**

06K:176 Managerial Decision Models	3 s.h.
06K:226 Visual Basic Programming	3 s.h.
06K:228 Web and Multimedia	3 s.h.
06K:234 Information and Knowledge Management	3 s.h.
012:114 Energy and the Environment	3 s.h.
22C:144 Database Systems	3 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:135 Urban Geography	3 s.h.
056:176 Applied Linear Regression	3 s.h.
175:192 Occupational Safety	3 s.h.

### **Ph.D. in Industrial Engineering**

The Ph.D. in industrial engineering requires a minimum of 72 s.h. It is granted upon demonstration of comprehensive knowledge and scholarly work at the highest level.

A maximum of 36 s.h. earned toward the M.S. may be counted toward the 72 s.h. required for the Ph.D. Students must spend at least two semesters in residence at The University of Iowa. They also must maintain a g.p.a. of at least 3.25 on all graduate work done at the University.

The degree requires broad academic background with considerable depth in at least one area of specialization that clearly demonstrates the student's capability to do high-level research. Ph.D. students must complete a series of written and oral examinations and a written dissertation based upon the results of an original investigation.

Students without a Master of Science in industrial engineering or a closely allied area must satisfy all requirements for the M.S. in industrial engineering before they may be admitted to the Ph.D. program.

Entering students are advised by the department chair or by a designated faculty advisor. During the student's first regular semester in residence, an advisor is assigned by the department chair or the graduate program coordinator. Students are expected to identify an industrial engineering faculty member willing to serve as their advisor by the end of their first regular semester in the program.

Once the student is assigned an advisor, he or she works with the advisor to prepare a study plan, which is submitted to the department chair for approval. Once the plan is approved by the department chair, it is filed with the student's record. At the beginning of each academic year, the industrial engineering faculty reviews the study plan and gives the student feedback regarding progress toward his or her degree objective. It is the student's responsibility to assure that the study plan is submitted to the program chair.

Admission to degree candidacy requires a g.p.a. of at least 3.25 on all graduate work taken at The University of Iowa, demonstration of capacity for individual research achievement (typically a dissertation research proposal), and successful completion of the comprehensive examination given by the examining committee.

The comprehensive examination is scheduled with approval of the student's advisor and the industrial engineering program coordinator or the graduate coordinator once the student's study plan is essentially completed. The examining committee determines the composition of the exam, including written and oral parts, and determines whether the student is ready to begin dissertation research.

For more detailed information about Ph.D. program requirements, see the Industrial Engineering Graduate Handbook or link to industrial engineering graduate programs on the Department of Mechanical and Industrial Engineering web site.

All Ph.D. students must satisfy the following requirements.

Graduate students must register for 056:191 Graduate Seminar: Industrial Engineering (1 s.h.) each semester of enrollment. They may not substitute seminar credit for regular course work or research credit.

#### **INDUSTRIAL ENGINEERING BREADTH REQUIREMENT**

Each Ph.D. student must pass at least two 200-level industrial engineering courses in each of three focus areas: human factors, operations research, and reliability and systems design. Students who have earned an M.S. in the

program may already have satisfied this requirement.

#### **QUALIFYING EXAM**

Each student must satisfy the qualifying exam requirement in two of the three focus areas. The requirement for a focus area can be satisfied by passing a written qualifying exam in the focus area or by earning a grade of A-minus or higher in each of two 200-level industrial engineering courses in the focus area.

#### **FOCUS AREA**

Students select one of the three focus areas and take additional course work in that area. They fulfill the minimum requirement of the focus area, completing at least two additional 200-level industrial engineering courses in the area.

#### **COMPREHENSIVE EXAMINATION**

Each student must demonstrate his or her ability to carry out creative individual research by completing and defending his or her dissertation research proposal in a comprehensive examination. The exam includes written and oral parts and is conducted by an examining committee of at least five industrial engineering and Graduate College faculty members. It is scheduled after the qualifying examination requirement has been satisfied. The examining committee determines whether the student is ready to begin dissertation research. Once the student has completed the comprehensive examination satisfactorily, he or she is accepted as a candidate for the Ph.D.

#### **FINAL EXAMINATION (THESIS DEFENSE)**

Each student must defend his or her completed dissertation in the final examination, which is conducted by the examining committee.

#### **Ph.D. Concentration in Wind Power Management**

Ph.D. students who concentrate in wind power management must meet all regular requirements for the doctoral degree. In addition, they must gain sufficient breadth and depth of domain knowledge in their study area by taking energy-related courses.

#### **Certificate in Health Informatics**

Graduate students in industrial engineering may elect to earn the Certificate in Health Informatics. The certificate program is an interdisciplinary collaboration among the health sciences, engineering, computer science, information science, management science, and statistics. Students in the program are trained to analyze health care data, evaluate information and knowledge, and study health care research, education, and practice. Certificate students complete a minimum of 20 s.h., including 056:186 Health Informatics I, 056:287 Health Informatics II, and approved electives.

The certificate may be earned in conjunction with the M.S. or Ph.D., or as postgraduate study. Completion of the Certificate in Health Informatics is noted on the student's transcript.

#### **M.S. in Mechanical Engineering**

The M.S. in mechanical engineering requires a minimum of 30 s.h., with or without thesis. Thesis students may count 6-9 s.h. earned for thesis research and writing toward the degree. Each student determines a study plan in consultation with an advisor and submits the plan to the department chair for approval.

All M.S. students must register for 058:191 Graduate Seminar: Mechanical Engineering each semester.

To earn the M.S., the student must maintain a g.p.a. of at least 3.00 on graduate work used to satisfy the degree requirements and must be successful in the final examination. This examination is administered by the student's committee, which consists of at least three faculty members, including at least one with primary appointment in the Department of Mechanical and Industrial Engineering.

The requirements for the M.S. may be completed within one calendar year. However, students with assistantship duties or other constraints may take up to two calendar years to complete the degree.

#### **Ph.D. in Mechanical Engineering**

The Ph.D. in mechanical engineering requires 72 s.h. of graduate credit, including at least 54 s.h. in course work (excluding thesis research) and at least 12 s.h. earned for Ph.D. thesis research. Students must pass the qualifying examination administered by the program to be formally admitted to the doctoral program.

Each student takes the comprehensive examination after passing the qualifying examination and when the course

work specified in the study plan is nearly completed; in any case, the comprehensive examination should be taken no later than 28 months after the first registration in the Ph.D. program. To be admitted to the comprehensive examination, a student must be in good academic standing and must be recommended by his or her advisor. The exam is administered by the student's committee. Admission to Ph.D. candidacy is recognized upon successful completion of the comprehensive examination.

Having satisfactorily completed the exam, the student usually has only to complete and defend the dissertation at the final examination.

Requirements for the Ph.D. usually can be completed in three to four years beyond the M.S.

## **Admission**

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### **Industrial Engineering**

Reference letters, student research interests, grade-point average for previous graduate study, and factors such as faculty availability are considered in admission decisions.

M.S. applicants may be admitted from an ABET Inc.-accredited baccalaureate curriculum in any engineering discipline, or in the mathematical sciences, the physical sciences, or the computer sciences with a g.p.a. of at least 3.00 and an acceptable score on the Graduate Record Examination (GRE) General Test. Applicants from institutions outside the United States must meet equivalent conditions for regular admission. Students with lesser qualifications may be considered for conditional admission.

Students from business or social science programs who have mathematical preparation similar to that of engineering students are considered for regular or conditional admission. Students on conditional status must achieve regular status within two sessions of their first registration by attaining an acceptable grade-point average and gaining regular acceptance by the industrial engineering program faculty; otherwise, they are dismissed. Admissions may be limited by available resources.

Ph.D. applicants may be admitted from an ABET Inc.-accredited baccalaureate curriculum or a postbaccalaureate curriculum in any engineering discipline or in the mathematical sciences, computer science, or physical sciences with a g.p.a. of at least 3.25 and an acceptable GRE General Test score. Applicants from outside the United States must meet equivalent standards for regular admission as determined by The University of Iowa. Students also may be admitted from business or social science programs as determined individually.

Applicants who intend to pursue a Ph.D. and who have a B.S. or an M.S. without thesis usually are admitted first to the M.S. program. All admissions to the Ph.D. program are reviewed by the graduate studies committee.

### **Mechanical Engineering**

Applicants who have earned a baccalaureate or master's degree in engineering curriculum or in the mathematical or physical sciences are eligible to be considered for admission to graduate study in mechanical engineering. In order to be considered for regular admission, applicants must have a g.p.a. of at least 3.00 on a 4.00 scale on all previous college-level work and Graduate Record Examination (GRE) General Test scores of at least 500 verbal, 750 quantitative, and 4.5 analytical writing. Students whose first language is not English must score at least 550 (paper-based), 213 (computer-based), or 81 (Internet-based) on the Test of English as a Foreign language (TOEFL).

Applicants with a lower grade-point average and/or GRE or TOEFL test scores may be considered for conditional admission, under exceptional circumstances. Applicants admitted conditionally must achieve regular standing within one semester (excluding summer sessions) after admission by attaining a g.p.a. of at least 3.00 on their first 9 s.h. at The University of Iowa. The Graduate College cancels registration for the subsequent semester for students who have not submitted their GRE and/or TOEFL scores by the end of the first semester after admission.

## **Financial Support**

### **Industrial Engineering**

A number of one-quarter-time and one-half-time teaching and research assistantships are available for graduate students. Awards are based on students' academic records and assessment of their potential contribution to the research and teaching goals of the program. Advanced graduate students also may qualify for appointments as graduate teaching fellows. Contact the chair of the Department of Mechanical and Industrial Engineering for details.

### **Mechanical Engineering**

Financial support is available to M.S. and Ph.D. students, primarily through graduate assistantships in teaching or



research from the Department of Mechanical and Industrial Engineering, the Center for Computer-Aided Design, IIHR--Hydroscience and Engineering, and the National Advanced Driving Simulator. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on the student's potential contribution to the teaching and research goals of the department. Students who fulfill their assistantship responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new assistantship awards. All applications for financial support should be submitted directly to the department chair.

M.S. students with assistantship appointments of one-quarter-time or more are required to register for a minimum of 9 s.h. during fall and spring semesters until they have completed 30 s.h. of course and research work beyond the baccalaureate degree. Ph.D. students with assistantship appointments of one-quarter-time or more must register for a minimum of 9 s.h. during fall and spring semesters until they have completed 72 s.h. of course and research work beyond the baccalaureate degree. Once they meet these minimums, graduate students must register for a graduate seminar each semester until they have successfully completed their final examination or thesis defense. All registrations should accurately reflect the amount and type of work undertaken, the use of University facilities, and the amount of consultation with the faculty.

## **Facilities and Laboratories**

### **FacilitiesIndustrial Engineering: Undergraduate and Graduate**

For information about laboratories affiliated with core courses coordinated by other College of Engineering departments, see the departments' Catalog sections.

#### **ACTIVE LEARNING FACILITY**

The Active Learning Facility (ALF) uses a project-oriented, team-based, hands-on approach to education. The facility provides NT servers, personal computers, and remote plug-ins for students' laptops. It also offers a variety of software for project management, presentations, and data analysis and reporting.

#### **ADVANCED SYSTEMS LABORATORY**

The Advanced Systems Laboratory houses research on development and implementation of computational algorithms for the optimization of complex systems.

#### **COGNITIVE SYSTEMS LABORATORY**

The Cognitive Systems Laboratory is devoted to examining the safety, performance, and user acceptance implications of technology insertion into complex systems. The laboratory has networked computers, a video editing workstation, a process control simulation, and a low-cost driving simulator. The simulator is equipped with five cameras, instrumentation to record all driver activity, and an eye tracking system. The Cognitive Systems Laboratory shares the driving simulator and an instrumented vehicle with the Operator Performance Laboratory. The equipment supports class projects, system development, and undergraduate and graduate research.

#### **COMPUTER NUMERICAL CONTROL MACHINING LABORATORY**

The Computer Numerical Control (CNC) Machining Laboratory gives undergraduate and graduate students hands-on experience in programming and operating a CNC lathe, a CNC milling machine, and a coordinate measuring machine. CNC programs can be developed through the machine control keyboard or downloaded via RS232C data link from the college's network. Research on the machinability of metals for cutting tool and machining parameters are conducted in the lab. A machine vision system is used to evaluate tool wear patterns.

#### **E-COMMERCE LABORATORY**

The E-Commerce Laboratory provides a facility for advanced research on Internet technologies and educational programs in key Internet subjects. The laboratory contains the full facilities necessary for a strong Internet capability, including Windows NT workstations, PCs and Macs, UNIX workstations, Internet server software for each platform, Java, VRML, JavaScript, ActiveX and VBScript programming facilities, videoconferencing cameras and group collaboration software, CAD systems software, and database systems.

Activities at the E-Commerce Laboratory include working with companies to improve their use of the Internet; providing assistance in advanced uses of the World Wide Web; providing seminars and workshops to improve Internet education; and carrying out research in key Internet technologies.

Research is under way in a number of key areas, including videoconferencing using the Internet; rapid product

development through Internet links with suppliers and customers; virtual reality over the Internet; use of remote databases to access corporate data; use of the Internet to support team-based activities; security of Internet-based activities; and CAD file viewing and manipulation through the World Wide Web.

#### **GROK LABORATORY**

The GROK Laboratory develops computer software and mechanical devices to improve human performance with complex tasks. The laboratory has developed technologies used by NASA to control robots exploring South America and Mars. It also designs and develops microsurgery and dental simulators to train new surgeons and dentists.

#### **INTELLIGENT SYSTEMS LABORATORY**

The Intelligent Systems Laboratory provides facilities for research in computational intelligence leading to applications in industry, service organizations, and health care. Research in the laboratory is funded by government agencies and industrial corporations. Solutions to practical problems and enhancement of engineering education are emphasized. Most of the laboratory's recent projects concentrate on development of software tools for product development, manufacturing, and health care applications.

The Intelligent Systems Laboratory is furnished with the latest computer technology to support research on numerous computing platforms. Diverse software is available for modeling, design, and construction of intelligent systems--for example, data mining software, neural networks, expert systems, and simulation software.

#### **OPERATOR PERFORMANCE LABORATORY**

Research in the Operator Performance Laboratory (OPL) focuses on determining human performance in a variety of situations, with particular emphasis on driving and flight deck environments. Much of the research is performed in the field using a state-of-the-art instrumented vehicle that is equipped with five cameras, eye movement equipment, two computers, video equipment, and a suite of sensors. The OPL also features a scale Boeing 737-400 fixed-base flight simulator with six channels of visuals. The flight simulator is equipped with a remote eye-tracking device that allows the activation of selected virtual controls in the flight deck. A specially designed stimulus presentation booth is used for color research and for photometry applications. Computer models of operator performance are designed based on the data obtained in the laboratory and field research.

### **Mechanical Engineering: Undergraduate Instruction**

#### **ENGINEERING CORE**

The laboratories for fluid flows and transport processes contain a wind tunnel; a water flume; a water table; four water channels with porous media; three air-jet tables; various air, water, and oil flow devices; and facilities for numerous small-scale experiments to demonstrate the principles of mass, momentum, and energy transfer.

For information about laboratories affiliated with core courses coordinated by other College of Engineering departments, see the departments' Catalog sections.

#### **REQUIRED AND ELECTIVE COURSE LABORATORIES**

The mechanical engineering laboratory for experimental engineering provides undergraduate students with exposure to contemporary measurement theory, sensors, signal conditioners, instrumentation, and computer-aided data acquisition systems.

The laboratory for mechanical engineering design projects provides for either team or individual project activities in mechanical engineering design, construction of mechanisms, and testing.

The thermal and heat transfer laboratory is equipped with data acquisition systems to process data online on computers. Experiments in heat transfer measurements are made in this laboratory.

### **Mechanical Engineering: Graduate Facilities**

#### **FLUID MECHANICS**

The program in fluid mechanics is conducted in close collaboration with IIHR--Hydroscience & Engineering. The equipment available to graduate students includes several wind tunnels and hydraulic flumes, an environmental flow facility, a towing tank, two special low-temperature flow facilities for investigation of ice phenomena, hot-wire and laser anemometer systems, particle-image velocimetry systems, and computer-based data acquisition systems.

Facilities available in the department include a flow visualization and imaging system with CCD (charge-coupled devices) camera, and a low-speed wind tunnel. IIHR and College of Engineering shops provide the necessary support.

In addition to using in-house workstations and computers, the department's faculty members and students make extensive use of supercomputers at national centers.

## **MECHANICAL SYSTEMS**

Experimental facilities for the department's fatigue and fracture mechanics study include access to a scanning electron microscope, a field computer data acquisition system, state-of-the-art computer controlled servo-hydraulic closed-loop fatigue test equipment, and equipment for characterization of material properties. Conventional strength of materials test equipment also is available.

Computer-based simulation research activities in the mechanical systems area are carried out mainly in the Center for Computer-Aided Design (CCAD). CCAD maintains a variety of high-performance computer systems in support of its technology research and development efforts. General computing services are supported by a number of LINUX and Windows applications servers connected to centralized file servers. CAD/CAE, software development, virtual prototyping, and virtual environment development applications are hosted on numerous high-performance workstations. Standard desktop, multimedia, and office productivity applications are hosted on a network of more than 40 workstations.

## **THERMAL SCIENCES**

Facilities for research in the thermal sciences and systems consist of a low-pressure combustion chamber, a high-pressure continuous flow combustion chamber, a high-pressure chamber for atomization study, a test rig for heat transfer to near supercritical fluids, a diffusion flame test rig, an enclosed laminar flame test rig, an air atomization spray apparatus, test stands for melting and solidification studies, various optical measurement systems, and two fuel cell test rigs. Laser-based diagnostics (e.g., laser-induced fluorescence, imaging, and laser Doppler anemometry) are available for solidification, turbulent flow, heat transfer, and combustion studies. Flow visualization and imaging by CCD camera are available for the study of complex fluid motion and heat convection, and combustion flows.

# **Mechanical and Industrial Engineering Courses**

## **Industrial Engineering**

### **Special Topics**

#### **056:000 Cooperative Education Training Assignment: Industrial Engineering** 0 s.h.

Industrial engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

#### **056:002 Half-time Cooperative Education Training Assignment: Industrial Engineering** 0 s.h.

Registration for work assignment periods; for students participating in the Cooperative Education Program.

#### **056:010 Industrial Engineering First-Year Seminar** 0 s.h.

Introduction to curriculum and profession; ethics and professionalism in classroom and workplace. Requirements: first-year or transfer standing in engineering.

#### **056:020 Industrial Engineering Sophomore Seminar** 0 s.h.

Curriculum and profession; ethics and professionalism in classroom and workplace. Requirements: sophomore or transfer standing in engineering.

#### **056:091 Professional Seminar: Industrial Engineering** 0 s.h.

Professional aspects of industrial engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Repeatable. Requirements: junior standing.

#### **056:098 Individual Investigations: Industrial Engineering** arr.

Independent projects in industrial engineering for undergraduate students, including laboratory study, an engineering design project, analysis and simulation of an engineering system, computer software development, CAD/CAM applications, or research.

## Manufacturing

### 056:032 Design for Manufacturing

3 s.h.

Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes, including casting, welding, machining, forming; laboratory exercises and projects. Corequisites: 057:015. Same as 051:062, 058:032.

### 056:131 Manufacturing Systems

3 s.h.

Manufacturing and logistics systems, supply chain management, MRP/ERP systems, lean manufacturing, concurrent engineering, value stream mapping and six sigma. Offered spring semesters. Prerequisites: 056:032 and 056:171. Same as 058:131.

### 056:134 Process Engineering

4 s.h.

Methodologies, algorithms, and tools for processing modeling, analysis, and reengineering; modeling issues in product and component design, product and process modularity, quality, reliability, agility. Offered spring semesters. Prerequisites: 056:171.

### 056:155 Wind Power Management

3 s.h.

Principles of wind power production, wind turbine design, wind park location and design, turbine and wind park control, predictive modeling, integration of wind power with a grid.

### 056:235 Computational Intelligence

3 s.h.

Concepts, models, algorithms, and tools for development of intelligent systems; data mining, expert systems, neural networks for engineering, medical and systems applications. Prerequisites: 056:171. Same as 096:313.

### 056:237 Operational Issues in Supply Chain Management Engineering

3 s.h.

Probabilistic approaches, supply chain disruption analysis, human decision making in supply chains, auctions and electronic commerce in supply chains. Requirements: graduate standing.

## Human Factors and Ergonomics

### 056:144 Human Factors

3 s.h.

Design of human-machine systems; development of optimum work environments by applying principles of behavioral science and basic knowledge of human capacities and limits. Offered fall semesters. Prerequisites: 031:001.

### 056:147 Ergonomics

3 s.h.

Ergonomic design of jobs and products in an industrial and consumer market setting; principles of good design, examples of poor design; consequences of poor job and product design; principles of work sampling, usability studies, performance rating, sizing and planning of workstations, hand tool design, ergonomic design in transportation; related group project.

### 056:240 Human Performance in Engineering Systems

3 s.h.

Human performance limits and capabilities relevant to design of engineering systems; focus on cognitive limits associated with information processing. Requirements: graduate standing.

### 056:241 Research Methods in Human Factors Engineering

3 s.h.

Logic and methods for research and for analysis and evaluation of complex human-machine systems; advanced techniques for enhancement of human interaction with advanced information technology; emphasis on cognitive task analysis techniques for innovative design, understanding of how technology affects safety, performance, user acceptance. Requirements: graduate standing.

### 056:242 Human/Computer Interaction

3 s.h.

Development of projects using human factors principles in the design of computer interfaces.

### 056:243 Modeling Operator Performance

3 s.h.

Modeling techniques that support design and analysis of the human role in complex systems; process and concepts associated with model development and application. Requirements: graduate standing.

**056:244 Airborne Design of Experiments** 3 s.h.

Issues in design of airborne human factors research, and techniques applicable to ground transportation research; statistical, human factors, flight mechanics, and organizational principles in flight test engineering; basic understanding of systematic approach to human factors flight testing, development of test points and test apparatus, flight envelope, proper briefing techniques, mission execution, and after-action review; securing, synchronizing, and analyzing data.

**056:245 Human Factors in Aviation** 3 s.h.

Measuring, modeling, and optimizing human visual performance; display design for optimal legibility, research in visibility, legibility, conspicuity, and camouflage; visibility model development. Requirements: graduate standing.

**056:246 The Design of Virtual Environments** 3 s.h.

Development of techniques for designing and creating three-dimensional representations of information for simulation, scientific visualization, and engineering; emphasis on human factors issues, software. Requirements: graduate standing.

**056:248 Analytical Methods in Human Factors Engineering** 3 s.h.

How analytical techniques can be used to analyze human factors data, how techniques complement each other; techniques used across disciplines (e.g., behavioral science, civil and industrial engineering, economics, epidemiology, marketing); case studies; experience designing a survey and using statistical analysis software to analyze survey data. Prerequisites: 22S:039 and 056:144. Requirements: graduate standing.

## **Engineering Management**

**056:054 Engineering Economy** 3 s.h.

Basic concepts of engineering economy: time value of money, cash flow equivalence, depreciation, tax considerations, continuous cash flows, cost accounting overview; main analysis techniques--present worth, uniform annual cost, rate of return, benefit/cost ratio, replacement and break-even analysis. Corequisites: 22S:039.

**056:056 Leadership in Engineering** 1 s.h.

How to balance aspects of college life, explore a personal mission, and set priorities.

**056:150 Information Systems Design** 3 s.h.

Structure and design of computer-based information systems; concepts of information systems, decision making; computer hardware, software, data structures; methods for determining system requirements; designing, implementing, evaluating, managing information systems; applied projects. Prerequisites: 059:006.

**056:153 Engineering Administration I** 3 s.h.

Current readings, cases in engineering management; methods for organizing, planning, funding, controlling engineering efforts; nature of the engineering and management function. Offered fall semesters. Prerequisites: 056:054.

## **Quality Control and Production Systems**

**056:160 Operational Systems Design** 3-4 s.h.

Projects involving product and related operational system design in an industrial or service organization; associated entrepreneurial or intrapreneurial planning. Offered spring semesters. Prerequisites: 056:054 and 056:134.

**056:161 Enhanced Design Experience** 3 s.h.

Real-world, in-depth design experience in student teams, working with engineers at major companies in the region; application of industrial engineering knowledge and skills to design products and related operational systems.

**056:162 Quality Control** 3 s.h.

Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: 22S:030 and 22S:039. Same as 22S:133.

**056:164 Six Sigma Operations and Quality Control** 3 s.h.

Six Sigma techniques for the DMAIC cycle (Define, Measure, Analyze, Improve, Control); what is needed for data collection (process inputs and outputs, measurement tools), conduct analysis (hypothesis testing, process capability studies), and conduct process improvement studies (design of experiments, response surface methodology); overview of Six Sigma, process and project management skills.

**056:165 Advanced Six Sigma and Quality Improvement** 3 s.h.

Analytical techniques used for Six Sigma techniques DMAIC cycle; design and application of experiment techniques, including factorial designs, fractional factorial, Taguchi methods; semester-long project; understanding of statistical techniques required. Prerequisites: 22S:030 and 22S:039. Corequisites: 056:162.

**056:166 Stochastic Modeling** 3 s.h.

Models for design and operation of manufacturing systems; equipment selection, machine layout, group technology, process planning, production planning and scheduling, just-in-time concepts, concurrent engineering, intelligent systems. Offered fall semesters. Prerequisites: 22S:039. Corequisites: 056:171.

**056:268 Reliability Theory and Applications** 3 s.h.

Fundamental topics in reliability engineering, including system reliability modeling, statistical inference of lifetime data, basic preventive maintenance models; statistics and random process models, including Poisson processes, renewal processes, Markov processes. Prerequisites: 22M:033 and 22S:039.

**Operations Research and Applied Statistics**

**056:171 Operations Research** 3 s.h.

Operations research models and applications emphasizing both deterministic and probabilistic models: linear programming, duality, parametric analysis, dynamic programming, Markov chains, queueing theory. Offered fall semesters. Prerequisites: 22M:033. Corequisites: 22S:039.

**056:176 Applied Linear Regression** 3 s.h.

Regression analysis with focus on applications; model formulation, checking, selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; hands-on data analysis with SAS software. Prerequisites: 22S:030 or 22S:039. Same as 22S:152.

**056:178 Digital Systems Simulation** 3 s.h.

Simulation modeling and analysis; emphasis on construction of models, interpretation of modeling results; input and output analysis; modeling discrete, continuous and hybrid systems; construction of model-related databases--hands-on usage of ARENA simulation software, manufacturing, health care, and service applications. Offered spring semesters. Prerequisites: 056:171.

**056:186 Health Informatics I** 3 s.h.

Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 050:283, 051:187, 074:191, 096:283, 174:226, 200:110.

**056:230 Innovation Science and Studies** 3 s.h.

Innovative typology and sources, classical innovation models, measuring innovation, innovation discovery from data, evolutionary computation in innovation, innovation life cycle.

**056:236 Decision Making in Supply Chain Management Engineering** 3 s.h.

Control theory and Kalman filter approaches, supply chains and behavioral supply chains, organizational approaches, network approaches. Requirements: graduate standing.

**056:270 Linear Programming** 3 s.h.

Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as 06K:286.

**056:271 Nonlinear Optimization**

3 s.h.

Mathematical models, theory, algorithms for constrained and unconstrained optimization; nonlinear, geometric, quadratic, dynamic programming; optimality conditions; aspects of duality theory. Prerequisites: 056:240.

**056:272 Integer Programming and Network Flows**

3 s.h.

Theory, applications, algorithms for combinatorial optimization problems, including integer and mixed-integer mathematical programming problems as well as problems formulated in a network or graph setting, including routing of vehicles, location of facilities in networks and scheduling. Offered fall semesters. Prerequisites: 056:171.

**056:273 Stochastic Systems**

3 s.h.

Probabilistic operations research models and algorithms, with emphasis on applications in manufacturing and production planning; random processes; Markov chains and applications; probabilistic dynamic programming; Markov decision problems; queueing models. Requirements: graduate standing.

**056:274 Stochastic Optimization**

3 s.h.

General tools and approaches used in decision making under uncertainties; modeling of uncertainties and risk, changes that uncertainties bring to the decision process, difficulties of incorporating uncertainties into optimization models, common techniques for solving stochastic problems.

**056:275 Statistical Pattern Recognition**

3 s.h.

Fundamental mathematical tools for multivariate statistical analysis and decision-making processes in pattern recognition. Requirements: graduate standing.

**056:276 Game Theory**

3 s.h.

Problems, challenges, solution strategies, and other elements that arise among decisions makers who have aligned or opposing objectives; changes that collaboration and competition bring to decision making and problem solving; how ideas and concepts of game theory can be used to understand economic, industrial, social, and biological phenomena. Requirements: basic linear programming and probability.

**056:277 Financial Engineering and Optimization**

3 s.h.

Quantitative methods of modeling various financial instruments (i.e., stocks, options, futures) and tools for measurement and control of risks inherent to financial markets; fundamentals of interest rates, options and futures contract valuation, including weather and energy derivatives, risk management, and portfolio optimization; emphasis on modeling and solution techniques based on optimization and simulation approaches traditional to industrial engineering and operations research. Recommendations: basic knowledge of probability and statistics, numerical methods, and optimization.

**056:287 Health Informatics II**

3 s.h.

Selected health informatics initiatives, including computer-based patient records, physiologic monitoring, networking, imaging, virtual reality; participation in an interdisciplinary project team focused on an informatics innovation; application and research seminars. Same as 021:280, 051:189, 074:192, 096:289, 200:120.

**Graduate Seminars, Advanced Topics, Research****056:191 Graduate Seminar: Industrial Engineering**

1 s.h.

Recent advances and research in industrial engineering presented by guest lecturers, faculty, students. Requirements: graduate standing.

**056:195 Contemporary Topics in Industrial Engineering**

arr.

New topics or areas of study not offered in other industrial engineering courses; topics based on faculty/student interest.

**056:198 Individual Investigations: Industrial Engineering**

arr.

Individual projects for industrial engineering graduate students: laboratory study, engineering design, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**056:199 Research: Industrial Engineering M.S. Thesis** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in industrial engineering. Requirements: graduate standing.

**056:295 Advanced Topics: Industrial Engineering** arr.  
Discussion of current literature in industrial engineering.

**056:298 Special Topics in Industrial Engineering** arr.

**056:299 Research: Industrial Engineering Ph.D. Dissertation** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. in industrial engineering.

## **Mechanical Engineering**

### **Special Topics**

**058:000 Cooperative Education Training Assignment: Mechanical Engineering** 0 s.h.  
Mechanical engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to the Cooperative Education Program.

**058:002 Half-time Cooperative Education Training Assignment: Mechanical Engineering** 0 s.h.  
Registration for work assignment periods; for students participating in the Cooperative Education Program.

**058:020 Mechanical Engineering Sophomore Seminar** 0 s.h.  
Introduction to the mechanical engineering profession and curriculum; ethics and professionalism in classroom and workplace; mentorship program and professional societies; visits to laboratories and local companies. Requirements: sophomore or transfer standing.

**058:080 Experimental Engineering** 4 s.h.  
Principles of physical measurements; standards calibration, estimation of error; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. Prerequisites: 057:018. Corequisites: 058:045 and 058:052.

**058:086 Mechanical Engineering Design Project** 3 s.h.  
Application of mechanical, thermal, fluid systems design; student or team design projects initiated at various levels in the design process and carried through to higher levels; emphasis on synthesis, written and oral communication. Corequisites: 058:048 or 058:055.

**058:091 Professional Seminar: Mechanical Engineering** 0 s.h.  
Professional aspects of mechanical engineering: presentations, student/faculty interaction, professional society involvement, panel discussions, plant trip. Requirements: junior standing.

**058:098 Individual Investigations: Mechanical Engineering** arr.  
Individual projects for mechanical engineering undergraduate students; laboratory study; engineering design project; analysis, synthesis, simulation of an engineering system; computer software development, research.

### **General Topics**

**058:110 Computer-Aided Engineering** 3 s.h.



Computational engineering modeling and simulation, geometric modeling, grid generation, finite-element and finite-volume methods, uncertainty analysis, optimization, engineering applications. Prerequisites: 057:019 and 058:052. Same as 053:115.

**058:111 Numerical Calculations**

3 s.h.

Development of algorithms for functional approximations, numerical differentiation and integration; solution of algebraic and differential equations, with emphasis on digital computations; initial and boundary value problems. Prerequisites: 22M:034. Same as 053:111.

**058:112 Engineering Design Optimization**

3 s.h.

Engineering design projects involving modeling, formulation, and analysis using optimization concepts and principles; linear and nonlinear models, optimality conditions, numerical methods. Prerequisites: 22M:033 and 059:007. Requirements: junior standing. Same as 053:112.

**058:113 Mathematical Methods in Engineering**

3 s.h.

Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: 22M:033 and 22M:034. Same as 052:118, 053:113.

**058:115 Finite Element I**

3 s.h.

One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: 057:019. Same as 053:133.

**058:131 Manufacturing Systems**

3 s.h.

Manufacturing and logistics systems, supply chain management, MRP/ERP systems, lean manufacturing, concurrent engineering, value stream mapping and six sigma. Offered spring semesters. Prerequisites: 056:032 and 056:171. Same as 056:131.

**058:186 Enhanced Design Experience**

3 s.h.

Experience working in teams on industry-sponsored design and product development projects scheduled for production; emphasis on practical experience with the complete design process, from conceptualization through prototyping, evaluation, testing, and production; written and oral communication. Prerequisites: 058:086.

**058:214 Analytical Methods in Mechanical Systems**

3 s.h.

Vector and function spaces; functionals and operators in Hilbert spaces; calculus of variations and functional analysis with application to mechanics; Ritz and Galerkin methods. Prerequisites: 058:113. Same as 053:214.

**Thermal Engineering and Fluids****058:040 Thermodynamics II**

3 s.h.

Power and refrigeration cycles; mixtures of gases, psychometric mixtures; availability; thermodynamics of combustion and chemical equilibrium. Prerequisites: 059:009.

**058:045 Heat Transfer**

3 s.h.

Principles of heat transfer by conduction, convection, radiation; analytical and numerical methods of solution; applications to engineering problems. Prerequisites: 22M:037 and 057:020.

**058:048 Energy Systems Design**

4 s.h.

Principles and design of energy conversion systems, including solar, wind, and geothermal power systems; design of thermal-fluid system components, modeling and simulation of systems, optimization techniques; design projects. Prerequisites: 058:040 and 058:045.

**058:140 Intermediate Thermodynamics**

3 s.h.

Fundamental principles of thermodynamics as applied to phase equilibrium; properties of fluids, first and second law, variable composition systems, behavior of real fluids, mathematical techniques for solution thermodynamics. Requirements: 052:103 or 058:040 or graduate standing. Same as 052:117.

- 058:143 Computational Fluid and Thermal Engineering** 3 s.h.  
Governing equations of fluid flow and heat transfer; basic numerical techniques for solution of the governing equations; estimation of accuracy and stability of the approximations; boundary conditions; grid generation; applications to flows and heat transfer in engineering systems; familiarity with software for analysis and design of thermo-fluids systems. Prerequisites: 058:045.
- 058:145 Intermediate Heat Transfer** 3 s.h.  
Steady and unsteady conduction; forced and natural convection; surface and gaseous radiation; condensation and evaporation; analytical and numerical methods and applications. Prerequisites: 058:045.
- 058:146 Modeling of Materials Processing** 3 s.h.  
Manufacturing processes for metals, polymers, semiconductors; processing by casting, solidification, crystal growth, polymer molding and extrusion, welding, heat treating, application of optical (laser) and electromagnetic energy; processes that use momentum, heat, mass transfer principles; measurement and instrumentation for materials processing; current topics in materials processing. Prerequisites: 058:045.
- 058:147 Fuel Cells** 3 s.h.  
Introduction to fuel cell designs and performance evaluation; thermodynamics, transport phenomena, and reaction fundamentals essential to understanding of the processes and phenomena that pose limits on fuel cell performance. Prerequisites: 058:040 and 058:045.
- 058:148 Combustion Engineering** 3 s.h.  
Chemical kinetics, thermodynamic equilibrium, transport equations; thermodynamics of fluid flows; laminar flames; basic gas turbine cycles; propulsion systems--open gas turbine cycles, turboprop, turbofan, turbojet, ramjet; supersonic inlets; nozzle flows; contemporary propulsion concepts. Requirements: 058:040 or graduate standing.
- 058:149 Propulsion Engineering** 3 s.h.  
Opportunity to develop basic understanding and knowledge of rocket and airbreathing propulsion systems, relevant terminology and analysis techniques, parametric cycle analysis for ideal engines, off-design analysis methods, problem-solving methodology. Requirements: 058:040 or graduate standing.
- 058:160 Intermediate Mechanics of Fluids** 3 s.h.  
Basic concepts and definitions; pressure distribution in a fluid; governing equations and boundary conditions; integral and differential analysis; dimensional analysis and similarity; experimental analysis; laminar and turbulent internal and external flows; potential flows; engineering applications. Prerequisites: 057:020 and 058:040. Same as 053:169.
- 058:162 Experimental Methods in Fluid Mechanics and Heat Transfer** 3 s.h.  
Review of theory; importance of experiments; modeling and scaling laws; experimental environment and facilities; measurements at full scale and on scaled models; use of wind and water tunnels, towing tanks, and hydraulic flumes; instruments for measuring pressure, temperature, velocity, turbulence; error analysis; data acquisition and processing; laboratory demonstrations, hands-on experiments; project. Prerequisites: 058:080. Same as 053:172.
- 058:163 Environmental Fluid Dynamics** 3 s.h.  
Same as 053:175.
- 058:165 Elements of Gas Flows** 3 s.h.  
Thermodynamics of compressible fluid flow, with applications of continuity, momentum, energy equations; normal and oblique shock waves; Prandtl-Meyer expansion waves; flow with variable and constant area; Fanno flow; compressible flow with and without heat transfer. Prerequisites: 057:020 and 058:040.
- 058:245 Diffusive Transport** 3 s.h.  
Diffusive transport of heat, mass, and momentum; phenomenological laws and analogies; analytical and numerical solution techniques; inverse heat conduction; multiphase and multicomponent systems. Prerequisites: 058:145. Same as 052:272.
- 058:248 Combustion Theory** 3 s.h.  
Laminar flame theory; turbulent combustion; spray combustion; thermal ignition; pollutant formation, oxidation; combustion diagnostics. Prerequisites: 058:145 and 058:160. Requirements: graduate standing.
- 058:260 Viscous Flow** 3 s.h.

Equations of viscous flow; classical analytical and numerical solutions; flow regimes and approximations; laminar boundary layers--equations, solution methods, applications; stability theory and transition; incompressible turbulent flow--mean-flow and Reynolds-stress equations, modeling, turbulent boundary layers and free shear flows. Requirements: (for 058:260) 058:160; (for 053:276) 053:169. Same as 053:276.

**058:262 Inviscid Flow**

3 s.h.

Derivation of governing equations for fluid flow; general theorems for motion of inviscid, incompressible flows; solution techniques for two- and three-dimensional irrotational flows; forces and moments acting on immersed bodies; inviscid flow with vorticity; inviscid compressible flow; numerical methods for solution of inviscid flows. Requirements: (for 058:262) 058:160; (for 053:277) 053:169. Same as 053:277.

**058:266 Interfacial Flows and Transport Processes**

3 s.h.

Physics of fluid interfaces and numerical techniques to simulate interface dynamics; interfacial flow coupled with thermal-fluid transport, from molecular interactions to continuum approximations; development of computer code segments to track and represent interface-flow interactions. Prerequisites: 058:145 and 058:160.

**058:267 Multiphase Flow and Transport**

3 s.h.

Thermodynamic and mechanical aspects of interfacial phenomena and phase transitions; nucleation, phase-change, species transport, particulate flows, liquid-vapor systems, solidification, porous media. Prerequisites: 058:145 and 058:160.

**058:268 Turbulent Flows**

3 s.h.

Origin; need for modeling, averages, Reynolds equations, statistical description; experimental methods and analysis; turbulence modeling; free shear layers and boundary layers; complex shearflows; development of computational strategies; recent literature on theory and applications, chaos phenomena. Prerequisites: 058:160.

**058:269 Computational Fluid Dynamics and Heat Transfer**

3 s.h.

Development of numerical and algebraic approximations for elliptic, parabolic, hyperbolic partial differential equations; finite-volume, spectral, pseudo-spectral, Galerkin techniques; stability of numerical methods; CFL condition; stiff problems; adaptive grid generation and boundary-fitted coordinates; numerical solutions for one- and two-dimensional compressible and incompressible fluid flow and heat transfer problems. Prerequisites: 058:111 and 058:160. Requirements: graduate standing.

**058:296 Advanced Topics in Thermal and Fluid Engineering**

arr.

Thermodynamics, fluid mechanics, heat and mass transfer, related experimental and analytical techniques; selection of subject and content determined by instructor/student interest. Requirements: graduate standing.

**Mechanical Systems****058:032 Design for Manufacturing**

3 s.h.

Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes, including casting, welding, machining, forming; laboratory exercises and projects. Corequisites: 057:015. Same as 051:062, 056:032.

**058:052 Mechanical Systems**

3 s.h.

Topics in stress, deflection, stiffness, statistics, reliability, material behavior, manufacturing processes, static loads; introduction to finite element analysis using established software. Prerequisites: 057:019. Corequisites: 22S:039, 057:015, and 058:032.

**058:055 Mechanical Systems Design**

4 s.h.

Design considerations for mechanical engineering systems; strength, deformation, durability of mechanical elements; safe-life, fail-safe, damage-tolerant design; standards, products liability, ethics in design; data-acquisition/life-prediction experiment. Prerequisites: 058:052.

**058:133 Control Theory**

3 s.h.

State space approach; controllability, observability, canonical forms; design of Luenberger observers; feedback control via pole placement; stability, minimal realization; advanced topics. Prerequisites: 055:060. Same as 055:160.

**058:134 Computer-Based Control Systems**

3 s.h.

Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: 055:060. Same as 055:164.

**058:136 Digital Human Modeling and Simulation**

3 s.h.

Fundamentals of using computational methods in modeling, simulating, and animating articulated kinematic chains such as robots and humans; underlying mathematics, introductory concepts in kinematics and dynamics, serial chain kinematics and multibody dynamics; methods from kinematics and dynamics, coupled with biomechanical concepts, provide an integrated approach to predicting and analyzing serial link motion (e.g., human and robotic manipulator motion). Prerequisites: 057:010. Same as 051:162.

**058:150 Intermediate Mechanics of Deformable Bodies**

3 s.h.

Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: 057:019. Same as 051:151, 053:140.

**058:153 Fundamentals of Vibrations**

3 s.h.

Vibration of linear discrete and continuous mechanical and structural systems; harmonic, periodic, and arbitrary excitation; modal analysis; applications. Prerequisites: 057:019. Same as 053:132.

**058:154 Intermediate Kinematics and Dynamics**

3 s.h.

Kinematic and dynamic analysis of unconstrained and constrained planar mechanical systems; computational kinematics, variational and Lagrangian dynamics, constrained dynamics. Prerequisites: 057:010. Corequisites: 058:052.

**058:158 Fatigue/Durability in Design**

3 s.h.

Macro- and micromechanisms of fatigue behavior, design of engineering materials/components/structures subjected to cyclic loading, emphasis on metals; stress-life, strain-life, linear elastic fracture mechanics approach to fatigue crack growth; safe-life, fail-safe, damage tolerant design; constant and variable amplitude life predictions; notches, residual stress, corrosion, temperature, multiaxial, weldments. Prerequisites: 051:085 or 058:055 or 058:150. Same as 053:148.

**058:159 Fracture Mechanics**

3 s.h.

3-D stress states, definition and criteria for failure, nominal and local yield phenomena, linear elastic and elastic plastic fracture mechanics, plane stress and plane strain fracture toughness, J-Integral, crack opening displacement, environmental assisted cracking, fatigue crack growth, fail safe, and damage tolerant design. Prerequisites: 051:085 or 058:055 or 058:150. Same as 053:149.

**058:215 Finite Element II**

3 s.h.

Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: 053:133. Same as 053:233.

**058:250 Advanced Fracture Mechanics**

3 s.h.

Fracture of modern engineering materials; linear-elastic fracture; computational methods; functionally graded materials; elastic-plastic fracture; multiscale fracture and fatigue crack initiation. Prerequisites: 058:113, 058:115, and 058:159. Same as 053:250.

**058:251 Computational Inelasticity**

3 s.h.

Computational techniques and implementations for elastic, hyperelastic, elasto-plastic, visco-elastic, and viscoplastic material models; development of sound numerical integration algorithms from rate constitutive equations. Prerequisites: 053:241. Same as 053:243.

**058:252 Advanced Continuum Mechanics**

3 s.h.

Continuum mechanics of fluids and solids, balance laws, invariance restrictions, continuum thermodynamics, constraint theory, mixtures, materials with microstructure. Prerequisites: 058:262 or 058:279. Same as 053:247.

**058:253 Computational Methods in Dynamics**

3 s.h.

Computational methods for three-dimensional multirigid body systems; spatial kinematics and dynamics; constrained and recursive dynamics for closed-loop multi-chain systems. Prerequisites: 058:154.

**058:254 Energy Principles in Structural Mechanics**

3 s.h.

Principles of virtual work; stationary and minimum potential energy; calculus of variations; Ritz method, Galerkin's method; beams, plates; Hamilton's principle; elastic stability; extremum principle of plasticity. Requirements: (for 058:254) 058:113 and 058:150; (for 053:244) 053:113 and 053:140. Same as 053:244.

**058:255 Multiscale Modeling**

3 s.h.

Computational modeling of engineering materials ranging from molecular to continuum scales, molecular dynamics and Monte Carlo methods, nanoscale continuum modeling, scale-coupling methods. Prerequisites: 058:115 or 058:143. Same as 053:249.

**058:256 Computational Solid Mechanics**

3 s.h.

Advanced computational methods for nonlinear and dynamic analysis of solids, structures; new space- and time-discretization methods for problems, including highly nonlinearities, large deformation, contact/impact conditions. Prerequisites: 058:113 and 058:115. Requirements: graduate standing.

**058:257 Probabilistic Mechanics and Reliability**

3 s.h.

Stochastic and reliability analysis of mechanical systems; computational methods for structural reliability; random eigenvalue problem; random field and stochastic finite element methods. Prerequisites: 058:113 and 058:115.

**058:259 Mechanical Design in Structures**

3 s.h.

Discrete and continuum variational equilibrium equations, discrete design sensitivity analysis for static responses and eigenvalues, interactive design workstation, continuum sizing design sensitivity analysis for static responses and eigenvalues, design sensitivity analysis of structural dynamics, differentiability theory, shape optimal design, shape design sensitivity analysis, design sensitivity of nonlinear structural systems. Prerequisites: 058:113, 058:115, and 058:150.

**058:279 Continuum Mechanics and Elasticity**

3 s.h.

Cartesian tensors and geometrical foundations; concept of stress, strain, motion; fundamental physical laws; constitutive equations and finite elasticity; equations of linear elasticity, elastic extension, torsion and bending of bars. Prerequisites: 057:019. Requirements: concurrent enrollment in 053:113 or graduate standing. Same as 053:241.

**058:295 Advanced Topics in Mechanical Systems**

3 s.h.

Advanced contemporary topics in mechanical systems engineering not covered in other courses and determined by student/faculty interest.

**Graduate Seminars, Advanced Topics, Research****058:191 Graduate Seminar: Mechanical Engineering**

0 s.h.

Presentation and discussion of recent advances and research in mechanical engineering by guest lecturers, faculty, students. Requirements: graduate standing.

**058:195 Contemporary Topics in Mechanical Engineering**

arr.

New topics in fluid and thermal sciences and mechanical systems not covered in other courses; topic and coverage determined by student/faculty interest. Requirements: junior standing.

**058:198 Individual Investigations: Mechanical Engineering**

arr.

Individual project in mechanical engineering, for department graduate students; laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**058:199 Research: Mechanical Engineering M.S. Thesis**

arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in mechanical engineering. Requirements: graduate standing.

**058:299 Research: Mechanical Engineering Ph.D. Dissertation**

arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. in mechanical engineering.



# Graduate College

**Dean:** John C. Keller  
**Senior associate dean:** Dale Eric Wurster  
**Associate deans:** Daniel Berkowitz, Minnetta Gardinier  
**Web site:** <http://www.grad.uiowa.edu>

The University of Iowa has been a leading center of advanced study for more than a century. Presently, the Graduate College accounts for nearly one-fifth of the University's total enrollment. This high ratio reflects the breadth of the University's graduate programs and resources, the strength of a graduate faculty with a long tradition of personal and professional concern for students, and the opportunities afforded graduate students for involvement, recognition, and support.

The Graduate College is responsible for the review and approval of proposals for new graduate programs and for the periodic survey and evaluation of existing programs. Through its administration of scholarship, fellowship, and research assistantship funds, the college encourages research and strengthening of departments. In cooperation with the Office of the Vice President for Research, it offers assistance to individual faculty members in finding the resources necessary for research projects, and it works with the other colleges and departments of the University to formulate policies concerning selection, supervision, and support of graduate students.

The faculty of the Graduate College is made up of all University tenure-track faculty members at the ranks of assistant professor, associate professor, and professor. A 17-member Graduate Council, elected from and by the graduate faculty and the Graduate Student Senate, is the executive committee of the graduate faculty and is advisory to the dean of the Graduate College.

## Degrees Offered

The Graduate College confers the Master of Arts (M.A.), Master of Science (M.S.), Master of Accountancy (M.Ac.), Master of Arts in Teaching (M.A.T.), Master of Computer Science (M.C.S.), Master of Fine Arts (M.F.A.), Master of Health Administration (M.H.A.), Master of Physical Therapy (M.P.T.), Master of Public Health (M.P.H.), Educational Specialist (Ed.S.), Master of Science in Nursing (M.S.N.), Master of Social Work (M.S.W.), Doctor of Philosophy (Ph.D.), Doctor of Musical Arts (D.M.A.), Doctor of Nursing Practice (D.N.P.), Doctor of Physical Therapy (D.P.T.), and Doctor of Audiology (Au.D.) degrees.

The college currently confers degrees in the following major fields.

Accounting: M.Ac.\*\*  
 African American World Studies: M.A.\*  
 American Studies: M.A.\*, Ph.D.  
 Anatomy and Cell Biology: M.S., Ph.D.  
 Anthropology: M.A.\*, Ph.D.  
 Applied Mathematical and Computational Sciences: Ph.D.  
 Art: M.A.\*, M.F.A.  
 Art History: M.A.\*, Ph.D.  
 Asian Civilizations: M.A.\*  
 Astronomy: M.S.\*  
 Biochemistry: M.S., Ph.D.  
 Biology: M.S.\*, Ph.D.  
 Biomedical Engineering: M.S.\*, Ph.D.  
 Biostatistics: M.S.\*, Ph.D.  
 Business Administration: M.A.\*, Ph.D.  
 Chemical and Biochemical Engineering: M.S.\*, Ph.D.  
 Chemistry: M.S.\*, Ph.D.  
 Civil and Environmental Engineering: M.S.\*, Ph.D.  
 Classics: M.A.\*\*\*, Ph.D.  
 Clinical Investigation: M.S.\*  
 Communication Studies: M.A.\*, Ph.D.  
 Community and Behavioral Health: M.S., Ph.D.  
 Comparative Literature: M.A.\*, Ph.D.  
 Comparative Literature--Translation: M.F.A.  
 Computer Science: M.S.\*, M.C.S.\*\*\*, Ph.D.  
 Counseling, Rehabilitation, and Student Development: M.A.\*, Ph.D.  
 Dance: M.F.A.  
 Dental Public Health: M.S.  
 Economics: M.A.\*, Ph.D.  
 Education: M.A.\*, M.A.T.\*\*\*, Ed.S.\*\*\*, Ph.D.

Educational Policy and Leadership Studies: M.A.\*, Ed.S.\*\* , Ph.D.  
Electrical and Computer Engineering: M.S.\* , Ph.D.  
English: M.A.\* , M.F.A., Ph.D.  
Epidemiology: M.S.\* , Ph.D.  
Exercise Science: M.S.\* , Ph.D.  
Film and Video Production: M.A.\* , M.F.A.  
Film Studies: M.A.\* , Ph.D.  
Free Radical and Radiation Biology: M.S.\* , Ph.D.  
French: M.A.\* , Ph.D.  
French and Francophone World Studies: M.A.\* , Ph.D.  
Genetics: Ph.D.  
Geography: M.A.\* , Ph.D.  
Geoscience: M.S.\* , Ph.D.  
German: M.A.\*\*\* , Ph.D.\*\*\*  
Greek: M.A.\*\*  
Health and Sport Studies: M.A.\* , Ph.D.  
Health Management and Policy: M.H.A.\*\* , Ph.D.  
Health Services and Policy: Ph.D.  
History: M.A.\* , Ph.D.  
Human Toxicology: M.S., Ph.D.  
Immunology: Ph.D.  
Industrial Engineering: M.S.\* , Ph.D.  
Informatics: M.S.\* , Ph.D.  
Integrative Physiology: Ph.D.  
International Studies, M.A.  
Journalism: M.A.\*  
Latin: M.A.\*\*  
Leisure Studies: M.A.\*  
Library and Information Science: M.A.\*  
Linguistics: M.A.\* , Ph.D.  
Mass Communications: Ph.D.  
Mathematics: M.S.\* , Ph.D.  
Mechanical Engineering: M.S.\* , Ph.D.  
Microbiology: M.S., Ph.D.  
Molecular and Cellular Biology: Ph.D.  
Molecular Biology: Ph.D.  
Molecular Physiology and Biophysics: M.S.\* , Ph.D.  
Music: M.A.\* , M.F.A., D.M.A., Ph.D.  
Neuroscience: Ph.D.  
Nursing: M.S.N.\* , D.N.P., Ph.D.  
Occupational and Environmental Health: M.S.\* , Ph.D.  
Operative Dentistry: M.S.  
Oral and Maxillofacial Surgery: M.S.  
Oral Science: M.S., Ph.D.  
Orthodontics: M.S.  
Pathology: M.S.  
Pharmacology: M.S., Ph.D.  
Pharmacy: M.S.\* , Ph.D.  
Philosophy: M.A.\* , Ph.D.  
Physical Rehabilitation Science: Ph.D.  
Physical Therapy: M.A.\* , D.P.T.  
Physics: M.S.\* , Ph.D.  
Physiology and Biophysics: M.S.\* , Ph.D.  
Political Science: M.A.\* , Ph.D.  
Preventive Medicine and Environmental Health: M.S.\* , Ph.D.  
Psychological and Quantitative Foundations: M.A.\* , Ed.S.\*\* , Ph.D.  
Psychology: M.A.\* , Ph.D.  
Public Health: M.P.H.\*\*  
Religious Studies: M.A.\* , Ph.D.  
Russian: M.A.\*\*\*  
Science Education: M.S.\* , M.A.T.\*\* , Ph.D.  
Second Language Acquisition: Ph.D.  
Social Work: M.S.W.\* , Ph.D.  
Sociology: M.A.\* , Ph.D.  
Spanish: M.A.\* , Ph.D.



Speech and Hearing Science: Ph.D.  
 Speech Pathology and Audiology: M.A.\*, Au.D.  
 Statistical Genetics: Ph.D.  
 Statistics: M.S.\*, Ph.D.  
 Stomatology: M.S.  
 Teaching and Learning: M.A.\*, M.A.T.\*\*\*, Ph.D.  
 Theatre Arts: M.F.A.  
 Translational Biomedicine: M.S.\*\*, Ph.D.  
 Urban and Regional Planning: M.A.\*, M.S.\*  
 Women's Studies: Ph.D.\*\*\*

\*Degree offered with or without thesis

\*\*Nonthesis degree

\*\*\*Student entry suspended

## Interdisciplinary Degree Programs

The Graduate College participates in a number of University of Iowa interdisciplinary degree programs. Detailed information about the following master's and doctoral degree programs is provided later in this section of the Catalog: Applied Mathematical and Computational Sciences, Genetics, Human Toxicology, Immunology, Informatics, Library and Information Science, Molecular and Cellular Biology, Neuroscience, Second Language Acquisition, Translational Biomedicine, and Urban and Regional Planning.

In addition to the degree programs listed above, the graduate faculty has authorized the awarding of interdisciplinary master's and doctoral degrees. Students seeking approval for interdisciplinary master's and doctoral programs must previously have been admitted to and enrolled in a departmental program in the Graduate College. See sections X.A. and XII.D. in the Manual of Rules and Regulations of the Graduate College on the college's web site or in this section of the Catalog.

## Joint Degree Programs

### Joint Law and Graduate Degrees

Joint programs under which students can pursue degrees simultaneously in the College of Law and the Graduate College have been developed with the law college and a number of departments in the Graduate College. See College of Law in the Catalog.

### Joint Programs Offered Through the Graduate College

Various joint programs have been developed whereby students work simultaneously toward two advanced degrees. Consult the appropriate Catalog sections for more information. Established joint programs include business administration/library and information science; business administration/nursing; health management and policy/business administration; health management and policy/urban and regional planning; occupational and environmental health/urban and regional planning; public health/law; public health/medicine; public health/nursing; public health/pharmacy; public health/veterinary medicine; and social work/urban and regional planning.

### Joint Au.D./Ph.D. in Speech and Hearing Science

The Graduate College, through the Department of Communication Sciences and Disorders, offers the joint Au.D./Ph.D. program. The program requires 137 s.h., allowing students to count 30 s.h. toward both degrees (the Au.D. requires 95 s.h., and the Ph.D. requires 72 s.h.). The program is a natural choice for students who are interested in practicing audiology but who also wish to pursue academic, tenure-track faculty positions in university settings. See Communication Sciences and Disorders (College of Liberal Arts and Sciences) in the Catalog.

### Joint B.S.E./M.S. in Biomedical Engineering

The Graduate College and the College of Engineering offer a joint B.S.E./M.S. program in biomedical engineering. The program allows students to take a limited number of courses that count toward both the B.S.E. and M.S. degree requirements, to attend and participate in the departmental graduate seminar, and to work on a master's thesis or research project before they have been awarded a baccalaureate degree. See Biomedical Engineering in the Catalog.

### Joint B.S.E./M.S. in Chemical and Biochemical Engineering

The Graduate College and the College of Engineering offer a joint B.S.E./M.S. program in chemical and biochemical engineering. The program allows students to count 12 s.h. of course work, typically advanced chemistry sequences and electives, toward both the B.S.E. and M.S. requirements. See Chemical and Biochemical Engineering in the Catalog.

**Joint B.S.E./M.S. in Civil and Environmental Engineering**

The Graduate College and the College of Engineering offer a joint B.S.E./M.S. program in civil and environmental engineering. The program allows students to take a limited number of courses that count toward both the B.S.E. and M.S. degree requirements, to attend and participate in the departmental graduate seminar, and to work on a master's thesis or research project before they have been awarded a baccalaureate degree. See Civil and Environmental Engineering in the Catalog.

**Joint B.A./M.C.S. or B.S./M.C.S. in Computer Science**

The Graduate College and the College of Liberal Arts and Sciences offer a joint B.A./M.C.S. or B.S./M.C.S. program in computer science. The program allows students to count 12 s.h. of course work, typically advanced technical courses and electives, toward both the bachelor's and the M.C.S. degree requirements. See Computer Science (College of Liberal Arts and Sciences) in the Catalog.

**Joint B.S.E./M.S. in Electrical and Computer Engineering**

The Graduate College and the College of Engineering offer a joint B.S.E./M.S. program in electrical and computer engineering. The program allows students to begin earning graduate credit while working toward the bachelor's degree (9 s.h. may be counted toward both the B.S.E. and M.S. requirements, and an additional 3 s.h. may be counted only toward the M.S. degree). They also may engage in thesis-level research. See Electrical and Computer Engineering in the Catalog.

**Joint B.A./M.A. in German**

Admission to the joint B.A./M.A. program in German has been suspended. The program, offered by the Graduate College and the College of Liberal Arts and Sciences, permits students to take 12 s.h. of course work that fulfills both B.A. and M.A. degree requirements and provides an opportunity for early entrance to advanced courses in German.

**Joint B.A. in Biology, Chemistry, or Physics/M.A.T. in Science Education**

The Graduate College, the College of Education and the College of Liberal Arts and Sciences offer a joint B.A./M.A.T. program for students pursuing a B.A. with a major in biology, chemistry, or physics who wish to earn an M.A.T. in Science Education. The five-year program allows students to apply 18 s.h. of credit toward both the B.A. and the M.A.T. See Biology, Chemistry, or Physics and Astronomy (College of Liberal Arts and Sciences) or Teaching and Learning (College of Education) in the Catalog.

**Joint B.S.E./M.S. in Industrial Engineering**

The Graduate College and the College of Engineering offer a joint B.S.E./M.S. program in industrial engineering. The program allows students to begin earning graduate credit (6 s.h. may be applied toward both the B.S.E. and M.S. degree requirements), to attend one of the department's graduate seminars, and to work on master's thesis research before they have been awarded a baccalaureate degree. See Mechanical and Industrial Engineering in the Catalog.

**Joint B.A./M.A. in Linguistics**

A joint B.A./M.A. program in linguistics with a specialization in Teaching English as a Second Language (TESL) is offered by the Graduate College and the College of Liberal Arts and Sciences. The program permits students to take a limited number of courses that fulfill both B.A. and M.A. degree requirements and provides for early entrance to advanced courses in linguistics. Joint B.A./M.A. students also may gain experience teaching ESL at the college level early in their graduate careers. See Linguistics (College of Liberal Arts and Sciences) in the Catalog.

**Joint B.S.E./M.S. Mechanical Engineering**

The Graduate College and the College of Engineering offer a joint B.S.E./M.S. program in mechanical engineering. The program allows students to begin earning graduate credit (6 s.h. may be applied toward both the B.S.E. and M.S. degree requirements), to attend a graduate seminar, and to participate in master's research before they have been awarded a baccalaureate degree. See Mechanical and Industrial Engineering in the Catalog.

**Joint B.S.N./M.S.N. or RN-B.S.N./M.S.N.**

The Graduate College and the College of Nursing offer a joint B.S.N./M.S.N. or RN-B.S.N./M.S.N. program that provides an avenue for exceptional B.S.N. students to progress rapidly toward completion of the M.S.N. degree. The joint program permits students to count 12 s.h. of course work, typically the four M.S.N. core courses, toward both the B.S.N. and the M.S.N. degree requirements. See College of Nursing in the Catalog.

**Joint M.A./Certificate in Library and Information Science and Book Studies**

The joint M.A. in library and information science and Certificate in Book Studies/Book Arts and Technologies prepares students for careers in special collections librarianship. The 51 s.h. program trains individuals to manage varied types of special collections, such as rare books, manuscripts, archives, graphics, music, and ephemera. Successful completion of the program is noted on the student's transcript. See Center for the Book and Library and Information

Science (both Graduate College) in the Catalog.

### **Joint M.D./Ph.D. in the Medical Scientist Training Program**

The Medical Scientist Training Program (MSTP) is an interdisciplinary M.D./Ph.D. program offered jointly by the Carver College of Medicine and the Graduate College. See Medical Scientist Training Program (Carver College of Medicine) in the Catalog.

## **Certificate Programs**

The Graduate College participates in a number of University of Iowa certificate programs. See Rhetorics of Inquiry and Transportation Studies (both Graduate College) in the Catalog for detailed information about certificates in those programs.

### **Advanced Practice Nursing**

The Certificate in Advanced Practice Nursing is a post-master's degree program that allows for advanced clinical training in four specialty tracks: pediatric nurse practitioner, adult/gerontology nurse practitioner, family nurse practitioner, and psychiatric/mental health nursing. Certificate requirements include advanced clinical core courses and a sequence of specialty courses. Successful completion of the specialty sequence qualifies a student to sit for certification as a nurse practitioner and/or a clinical nurse specialist. Completion of the certificate program is noted on the student's transcript. See College of Nursing in the Catalog.

### **Aging Studies**

The Aging Studies Program is a multidisciplinary certificate program administered by the College of Liberal Arts and Sciences in cooperation with other University of Iowa colleges. The 21 s.h. program is designed to complement graduate degree programs or to serve as a stand-alone nondegree program for students with academic, professional, research, or service career interests in aging. Completion of the Certificate in Aging Studies is noted on the student's transcript. See Aging Studies (College of Liberal Arts and Sciences) in the Catalog.

### **Agricultural Safety and Health**

The Certificate in Agricultural Safety and Health is a postbaccalaureate program for practicing health care professionals serving rural areas, and health professions students who intend to practice in rural areas. The 12 s.h. program is designed to help rural health professionals address safety and health issues in farm settings. Successful completion of the program is noted on the student's transcript. See Occupational and Environmental Health (College of Public Health) in the Catalog.

### **American Indian and Native Studies**

The American Indian and Native Studies Program (AINSP) offers an interdisciplinary certificate program focusing on the histories, cultures, languages, arts, religious traditions, political and social organizations, economies, geographies, literatures, and contemporary legal and political concerns of Native Americans of the United States as well as other indigenous peoples of the Western Hemisphere. Successful completion of the Certificate in American Indian and Native Studies is noted on the student's transcript. See American Indian and Native Studies (College of Liberal Arts and Sciences) in the Catalog.

### **Book Studies/Book Arts and Technologies**

The Certificate in Book Studies/Book Arts and Technologies offers an interdisciplinary approach to studying the relationship between the book in culture and the arts and technologies of book production. It also provides opportunities for artistic and craft-based studio, laboratory, and research investigations. The certificate may be earned as a stand-alone program or in conjunction with graduate degrees in art, English, history, library and information science, and other disciplines. Successful completion of the program is noted on the student's transcript. See Center for the Book (Graduate College) in the Catalog.

### **Clinical Investigation**

The Certificate in Clinical Investigation is designed for clinicians who seek advanced training in clinical methodology and applied patient-oriented research skills. Certificate requirements include didactic course work, clinical research preceptorships, and clinical research seminar participation. Students in the certificate program must be practicing academic clinicians who have completed doctoral training. Successful completion of the program is noted on the student's transcript. See Carver College of Medicine and College of Public Health in the Catalog.

### **College Teaching**

The Certificate in College Teaching provides overarching administration and structure that complements discipline-oriented graduate teaching preparation programs. The 12 s.h. program has three parts: course work, teaching experience, and preparation of a teaching portfolio. The program is open only to graduate students enrolled in

degree programs. Successful completion of the program is noted on the student's transcript. Formal application is made through the College of Education.

### **Emerging Infectious Disease Epidemiology**

The Certificate in Emerging Infectious Disease Epidemiology is a post-baccalaureate program designed to meet the training needs in emerging infectious disease of international public health professionals as well as graduate students at The University of Iowa. The 12 s.h. program requires one short term, intensive on-campus session, coupled with year-round, web-based, distance-learning course work. Successful completion of the program is noted on the student's transcript. See College of Public Health in the Catalog.

### **Global Health Studies**

The interdisciplinary Global Health Studies Program emphasizes international health problems and solutions in the developing and developed worlds, including the United States. Requirements for the Certificate in Global Health Studies include core courses, electives, foreign study and/or internship, a research project, and foreign language skills. Students do not need special health science courses to participate. Completion of the certificate program is noted on the student's transcript. Both the College of Liberal Arts and Sciences and the Graduate College award a Certificate in Global Health Studies. See Global Health Studies (College of Liberal Arts and Sciences) in the Catalog.

### **Informatics**

The Certificate in Informatics is an interdisciplinary program that offers four subtracks: bioinformatics and computational biology, geoinformatics, health informatics, and information science. Graduate students working toward a degree may earn the certificate, which requires a minimum of 18-21 s.h., depending on choice of subtrack. Course work includes foundations of informatics (9 s.h.) and disciplinary applications of informatics (9-12 s.h.). Completion of the certificate program is noted on the student's transcript. For more information, see Informatics (Graduate College) in the Catalog.

### **Multicultural Education and Culturally Competent Practice**

The Certificate in Multicultural Education and Culturally Competent Practice is open to graduate students enrolled in degree programs and to postbaccalaureate nondegree graduate students. The curriculum consists of five courses (15 s.h.), begins with an introductory course, and ends with a capstone course. The College of Education and the School of Social Work collaborate to offer the certificate.

### **Nursing Informatics**

The Certificate in Nursing Informatics focuses on data, information, and knowledge of management in nursing. It familiarizes students with the development, support, and evaluation of applications, tools, processes, and structures that help nurses manage data in direct patient care and administrative and management support systems. The program is available for master's, post-master's, doctoral, and postdoctoral students. Completion of the certificate program is noted on the student's transcript. See College of Nursing in the Catalog.

### **Nursing Service Administration**

The Certificate in Nursing Service Administration is designed to upgrade the skills and expertise of nurses practicing in management and nursing administration. Certificate requirements include advanced nurse manager core courses and related support courses. The program is open to postbaccalaureate, master's, post-master's, and doctoral students. Completion of the certificate program is noted on the student's transcript. See College of Nursing in the Catalog.

### **Sacred Music**

The Certificate in Sacred Music is an interdisciplinary program with course offerings in sacred music, choral conducting/literature, keyboard, voice, religion, and art and art history. Students may earn the 25 s.h. certificate while working toward a graduate degree; or with prior admission to the Graduate College and consent of the faculty advisor for the certificate, they may complete the certificate apart from pursuit of a graduate degree. Successful completion of the certificate program is noted on the student's transcript. See Music (College of Liberal Arts and Sciences) in the Catalog.

## **Affiliated Programs**

### **Office of Graduate Ethnic Inclusion**

The Office of Graduate Ethnic Inclusion (OGEI) is dedicated to providing academic assistance to graduate students from underrepresented populations across graduate programs; to helping build a sustainable practice of inclusion that nourishes and attracts underrepresented graduate students campus wide; and to helping build community through individual and group activities focused on successful academic progress.

OGEI's specific goals are to increase numbers of underrepresented ethnic minorities in graduate programs; increase

the number of doctoral students among U.S. ethnic minorities in graduate programs at Iowa; create a department-centered effort of graduate ethnic inclusion; offer support to University of Iowa departments and programs that are interested in building, extending, or sustaining their practices of ethnic inclusion; support faculty-based efforts for recruiting top graduate scholars who are underrepresented ethnic minorities; provide mentoring and support for students throughout their degree programs; and provide information on grant opportunities for departments and programs that are pursuing graduate ethnic inclusion.

## **Women in Science and Engineering**

Women in Science and Engineering (WISE) is dedicated to expanding and improving educational and professional opportunities for women in STEM disciplines (science, technology, engineering, and mathematics). The program aims to provide academic support, promote professional development, facilitate research opportunities, engage in community outreach, and encourage global cooperation.

WISE provides academic support by promoting activities that motivate and encourage undergraduate and graduate students to complete degrees and pursue careers in scientific and technical fields. It supports the recruitment and retention of women students, staff, and faculty and the full participation of women and precollege girls in gender-equitable educational programs that focus on science and engineering. The program facilitates professional development by promoting activities that empower women scientists, engineers, mathematicians, and health professionals to achieve success and assume leadership positions in their careers.

WISE encourages global cooperation by supporting activities that prepare women to enter the international STEM workforce, that support academic partnerships with foreign institutions, and that encourage scholarship and professional development of foreign women in STEM disciplines on the University of Iowa campus.

For more information on WISE goals and activities including the WISE learning community, WISE ambassadors, the Eunice Beam WISE travel grants, professional development workshops, and the WISE library and newsletter, visit the Women in Science and Engineering web site (<http://www.uiowa.edu/~wise>).

## **Research Resources**

Many of the University's diverse research activities are centrally administered by the Office of the Vice President for Research, which has a cooperative relationship with the Graduate College.

## **Financial Support**

Approximately half of the University's graduate students receive some form of University-administered financial assistance. For eligibility requirements and application procedures, see "Section VII. Graduate Appointments" in the Manual of Rules and Regulations of the Graduate College. The following are the primary sources of assistance.

### **Teaching and Research Assistantships**

Teaching and research assistantships are available in most departments. Assistantship stipends typically range between \$16,575 for a half-time academic-year appointment and \$20,258 for a half-time fiscal-year appointment; assistants also are eligible for tuition scholarships. Assistants (one-quarter-time or more) are classified as residents for fee purposes.

### **Iowa Arts Fellowships**

Iowa Arts Fellowships are for first-year University of Iowa graduate students entering M.F.A. programs. Typical stipends are \$18,500 for the academic year, with all tuition paid, for as many as two years (the second year being contingent on demonstrated exceptional progress toward completion of the M.F.A.). There are no departmental service obligations.

### **Iowa Performance Fellowships**

Iowa Performance Fellowships are for first-year D.M.A. candidates in a performance area of music. Recipients are nominated by the School of Music. Awards include academic-year fellowships (\$17,000 year one, \$8,287.50 years two and three), summer fellowships (\$2,000 years one and two), and all tuition. The School of Music provides a one-quarter-time research assistantship in years two and three.

### **Dean's Graduate Fellowships**

Dean's Graduate Fellowships are awarded to first-year graduate students from underrepresented ethnic minority groups. Doctoral students receive an annual stipend of \$22,000 (\$18,000 for the academic year and a \$4,000 summer stipend) plus tuition for the first and last years; and a half-time research assistant or teaching assistant stipend, a \$4,000 summer stipend, plus tuition for years two and three. Master's degree students receive an academic stipend of \$20,000 (\$17,000 for the academic year and a \$3,000 summer stipend), plus tuition for up to two years.

## **Presidential Graduate Fellowships**

Presidential Graduate Fellowships provide five-year awards for doctoral students on a year-round basis. Fellows receive an annual stipend of \$24,000 (\$18,500 per academic year in addition to a \$5,500 summer stipend), plus full tuition for years one and four; a research assistant or teaching assistant stipend during the academic year, plus \$5,500 summer stipend and full tuition for years two and three. In their final year, awardees receive an academic year stipend of \$20,000, a summer stipend of \$5,500, plus all tuition paid. Recipients have no assignments and are free to pursue their own studies, research, and writing full-time for three of the five years and all five summers.

## **Graduate College Summer Fellowships**

Graduate College Summer Fellowships are for advanced doctoral students who have academic-year appointments and have completed at least two years in a graduate program at The University of Iowa at the time of application for the award. Priority is given to postcomprehensive students. Awards provide a summer stipend of \$3,000 plus tuition for up to 2 s.h. Awardees must enroll for the six-week or eight-week summer session; enrollment in the three-week summer session does not qualify.

## **T. Anne Cleary International Research Fellowships**

The T. Anne Cleary International Research Fellowships are for doctoral students who have completed their comprehensive examinations. They are to be used for dissertation research outside the United States. The awards vary from \$1,500 to \$5,000 and are meant to supplement other research funds. Doctoral students in any discipline may apply.

## **Seashore and Ballard Dissertation Fellowships**

Seashore and Ballard Dissertation Fellowships are for doctoral students in the humanities and social sciences who have completed all doctoral degree requirements except their dissertation. Recipients are nominated by their departments. Fellowships provide \$18,000 for the academic year and a \$4,000 summer stipend, plus tuition for up to 2 s.h., and a health insurance allowance.

## **Scholarships**

Scholarships provide up to full tuition.

## **GRADUATE STUDENT TRAVEL AWARDS**

Graduate student travel awards provide reimbursement for travel by students who present research and scholarship results to professional conferences. Awards are competitive across disciplines and vary from \$200 to \$400. Funds are administered by the Graduate Student Senate and the Graduate College.

## **Other Sources**

For other sources of financial support, contact the Office of Student Financial Aid.

Many departments offer additional support through traineeships, part-time employment in research, or part-time teaching appointments. The Office of the Vice President for Research maintains a library of information on public and private agencies that provide funds for research and graduate study. Much material has been collected concerning awards for overseas study.

## **Graduate Student Senate**

The Graduate Student Senate is the University graduate student body representative organization. Representatives are elected annually from each University department that has a graduate degree program. The senate's primary purpose is to serve the interests of the graduate student body in matters affecting its welfare. The senate advises the dean of the Graduate College on matters pertaining to the college.

## **Manual of Rules and Regulations of the Graduate College**

The following text is from the *Manual of Rules and Regulations of the Graduate College*. The most up-to-date version of this manual is available online; see "For Students" on the Graduate College web site.

## **The Academic Program**

### **Section I. Admission to the Graduate College**

#### **A. APPLICATION PROCEDURE**

All students seeking to register for the first time in the Graduate College of The University of Iowa must secure formal admission from the director of Admissions. Applicants may obtain the proper forms from the Office of Admissions. Prospective students may also download the application or apply online from the admissions web site.

In addition to these forms, official transcripts, test scores, and other supporting material must be submitted by the designated deadline prior to the session in which admission is expected. Specific deadline dates will be established by the dean of the Graduate College and the director of Admissions and printed in the Catalog and elsewhere.

#### **B. ADVANCED MEASUREMENT TESTS**

Each graduate program will determine which, if any, advanced measurement test(s) will be required of the applicants to the program. Examples of such examinations include the General (Aptitude) Test of the Graduate Record Examination (GRE), the GRE Subject (Advanced) Tests, and the Graduate Management Admission Test (GMAT). For those departments or programs that choose to require an examination, the examination must be required for all students; there cannot be exempt categories. Additionally, a final admission decision will not be made by the Office of Graduate Admissions until the student's scores have been received. The judgment of acceptable levels of performance on these tests, and the weight of such scores in the overall decision-making process, is left to the department or program.

#### **C. ENGLISH FOR INTERNATIONAL STUDENTS**

Prior to consideration for admission, international student applicants whose native language is other than English must take and pass either the TOEFL (Test of English as a Foreign Language) or the IELTS (International English Language Testing System), unless they have received a degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand. These examinations are given at various times of the year and in many centers throughout the world.

International students transferring from unfinished degree programs of other universities in the United States who have not taken either of these examinations, or who have received a score lower than the minimum established by the Graduate College dean, must take the TOEFL or IELTS examination and receive a passing score prior to consideration for admission.

Students who barely pass the established minimum on the TOEFL, as well as all IELTS submitters, will be required to sit for an English evaluation upon arrival in Iowa City. The Graduate College will require these students to take and pass recommended course work in English usage at The University of Iowa designed especially for international students.

#### **D. EARLY ADMISSION**

A student who is within 6 s.h. of having satisfied all the requirements for the bachelor's degree at The University of Iowa or any other accredited college may be given provisional admission.

#### **E. CANDIDACY**

Admission to the Graduate College is not the equivalent of acceptance as a candidate for an advanced degree, which must be earned through work successfully completed at The University of Iowa. (See "Section X. Master's Degrees" and "Section XII. Doctor's Degrees.")

#### **F. DECLARATION OF MAJOR AND DEGREE**

Every applicant for admission must indicate on the application form the department or program of major interest and the degree, certificate, or professional objective he or she intends to pursue. The only exceptions to this regulation are the limited number of applicants registered as nondegree ("special") students. (See definition of nondegree status in next section.) Changes in the major or degree status may be made in the course of a student's graduate study with the approval of the department to which the transfer is proposed. To initiate such action, the student must file a change of major or degree status in the Office of Admissions.

#### **G. ADMISSION REQUIREMENTS AND STATUS**

Graduates of any college or university accredited by regional accrediting associations may be admitted to the Graduate College if their academic records meet the required standards. Upon admission, all students fall into one of the following three categories:

1. *Regular*--For students who have met the minimum requirements for admission and who have been accepted by a department, or interdepartmental degree program, for work leading to a graduate degree or certificate or for

professional improvement. The minimum g.p.a. for admission as a regular student to all graduate programs is 3.00.

Departments or programs may petition the Graduate College dean for admission of a student whose g.p.a. is lower than 3.00, if there is sufficient evidence of the student's academic and/or professional achievement indicating his/her potential for success in a graduate program.

Departments, or committees in charge of interdepartmental degree programs, may, and often do, set higher minimum admission requirements than those set forth above for the Graduate College as a whole. Information concerning departmental or program requirements may be obtained directly from the executive of the department concerned.

2. *Conditional*--Students who are interested in working toward a graduate degree or certificate but who are required by a department to demonstrate their ability to do satisfactory graduate work before being admitted to regular status. To be admitted on a conditional basis, the student must be recommended by a department, which will assume responsibility for advising him or her. The student on conditional status must achieve regular status within two sessions of registration in the Graduate College by attaining a g.p.a. of at least 3.00 and acceptance by the major department, or be dismissed.

3. *Nondegree (Special)*--Students with a valid bachelor's degree and at least a 2.50 g.p.a. are eligible to register for a total of no more than two courses per semester. In addition, a nondegree student may not accumulate more than two courses within a given department/program under this classification. These students must be approved for admission by the Graduate College and the Office of Admissions. Nondegree graduate students are not eligible for a graduate degree.

#### **H. ADMISSION OF FACULTY MEMBERS TO GRADUATE STUDY**

Persons who hold faculty rank of assistant professor (including clinical assistant professor) or above at The University of Iowa may be admitted as nondegree students. (See "Section G" above.) A person holding faculty rank as specified above may petition the Graduate College dean for permission to enter a departmental program for work leading to an advanced degree, certificate, or professional improvement except in the department of his or her appointment or a closely related department. Such petitions must have prior approval of the department of appointment, dean of the college of appointment, the department in which study is to be pursued, and the Graduate College.

#### **I. READMISSION**

If a student's enrollment is interrupted for any reason so that she or he is not enrolled for three consecutive academic sessions (including the spring, summer, and fall sessions but excluding the winter session), the student must apply for readmission. The readmission application form must be used. The Graduate College will not require new letters of recommendation, a new Personal Statement section, a written explanation of the reasons for the absence, or a plan for degree completion. However, departments and programs may choose to require any or all of the foregoing.

### **Section II. Registration**

#### **A. STANDARD SCHEDULE**

Students registered in the Graduate College may register for no more than 15 s.h. in all courses eligible for graduate credit (100-level or above). A maximum, graduate semester-hour registration will include all courses numbered 100 or above, whether they are offered as on-campus, extension, or workshop classes. In a schedule of mixed graduate and undergraduate courses, two hours of undergraduate credit may be substituted for 1 s.h. of graduate credit, with registration limited to a total of 18 s.h. This equivalency applies to the calculation of academic load only. Graduate credit is not given for courses numbered under 100. The maximum for the eight-week summer session is 8 s.h. Corresponding maximums for the three-week summer and winter sessions and the six-week summer session are 3 or 6 s.h., respectively.

The maximum semester-hour registration for work scheduled outside of the regular eight-week summer session will be arranged on a basis proportionate to that stated above with the approval of the Graduate College dean. In the regular semester, 9 s.h. constitutes full-time registration. (Fellows are required to carry at least 9 s.h. during a semester as a condition of their appointments.) One-quarter-time and one-third-time appointees are permitted to register for the maximum 15 s.h. per semester and 8 s.h. during the eight-week summer session.

#### **B. COURSES NOT INCLUDED IN FULL REGISTRATION**

In addition to a full schedule, a graduate student may register for offered courses carrying 0 s.h. of credit.

#### **C. CHANGES IN ANNOUNCED CREDIT**

Graduate students may not register for more credit than that offered for any course, but may register for less credit, or no credit, by permission of the instructor. The number of courses a graduate student may take for limited or no credit is



subject to the consent of the advisor and the approval of the dean of the Graduate College.

#### **D. REDUCED SCHEDULES FOR TEACHING AND RESEARCH ASSISTANTS AND OTHER APPOINTEES\***

1. One-half-time appointees may register for not more than 12 s.h. during a semester or 6 s.h. during the eight-week summer session.
2. Five-eighths-time appointees may register for not more than 10 s.h. during a semester or 5 s.h. during the eight-week summer session.
3. Two-thirds- and three-quarter-time appointees may register for not more than 9 s.h. during a semester or 5 s.h. during the eight-week summer session.

\*See Section VII.F. for information regarding graduate assistant overload appointments (those more than one-half-time/20 hours per week).

#### **E. RETROACTIVE REGISTRATION**

No form of retroactive registration is permitted.

#### **F. REGISTRATION FOR PART OF A SESSION**

A graduate student may register at any time during the semester or the eight-week summer session for not more than 1 s.h. of credit for each of the remaining weeks of classes (not including the examination period) in the term. The total registration may not exceed the 15 s.h. permitted for a semester and the 8 s.h. permitted for the eight-week summer session. Registration after the last day of the second week of a semester or the third day of the second week of a summer session is permitted only in courses involving special projects, readings, individual study, thesis, or research, with the signed approval of the instructor concerned and the Graduate College dean. Proportional credit limitations and deadlines for the three-week and six-week summer sessions will be established on a prorated basis.

#### **G. EXTRAMURAL REGISTRATION**

After admission to a departmental program in the Graduate College, registration for work done off campus may be accepted for residence credit under the following circumstances:

1. Traveling Scholar Program of the Committee on Institutional Cooperation (see "Section III").
2. Research at approved locations under the direction of members of the graduate faculty of The University of Iowa.
3. Fieldwork as part of a regularly scheduled course or research program.
4. Courses taught off campus by members of the graduate faculty (see "Section X.D" and "Section XII.C" for minimum semester hours required on campus for the master's and doctor's degrees).
5. Residence graduate credit from another Iowa Regents' university (see "Section V.B").
6. As many as 9 s.h. of graduate work taken at the Quad Cities Graduate Center from faculty other than faculty of the Iowa Regents' universities, provided the work is acceptable to the student's major department for the specified degree.

Extramural registration does not count toward residence credit in the following circumstance:

Course work transferred from another institution.

#### **H. SYSTEM OF COURSE NUMBERS**

Courses primarily for graduate students are numbered 200 or above in each department. Courses open to and carrying credit for both graduate and undergraduate students are numbered from 100 to 199. A student must be enrolled in the Graduate College in order to earn graduate credit for course work numbered 100 or above. Courses below 100 are not accepted for graduate credit irrespective of a student's classification. Graduate credit may not be earned for taking courses numbered below 100 by registering in such courses as readings, special projects, or independent study having course numbers of 100 or above.

#### **I. AUDITING OF COURSES**

Upon approval of the instructor and the advisor, graduate students may audit courses for zero credit. Fee assessment for auditing courses is based on the number of hours for which the course is offered, with a minimum of 1 s.h. Auditing is permitted only for a student who is currently registered. See "Section VI.C" for the marking system.

#### **J. DROPPING OF COURSES**

All graduate students who drop courses after the deadline date established by the dean of the Graduate College for each session and published by the registrar shall receive the grade of F unless the entire registration is withdrawn. This regulation may be waived by the Graduate College dean only on the recommendation of the Student Health director or the Counseling Service. If a student withdraws registration after the deadline date, the student must obtain permission from the dean of the Graduate College before being permitted to reregister.

### **Section III. Traveling Scholar Program**

#### **A. PURPOSE**

The program, under the auspices of the Committee on Institutional Cooperation representing 12 universities in the Midwest, enables a doctoral student to take advantage of special resources available on another campus but not available on his or her own campus: special course offerings, research opportunities, unique laboratories, and library collections.

#### **B. PROCEDURE**

1. A CIC Traveling Scholar first must be recommended by his or her own graduate advisor, who will approach an appropriate faculty member at the possible host institution in regard to a visiting arrangement.
2. After agreement by the student's advisor and the faculty member at the host institution, graduate deans at both institutions will be fully informed by the advisor and have the power to approve or disapprove.
3. A CIC Traveling Scholar will be registered at the home university, and fees will be collected and kept by that institution.
4. Credit for the work taken will be recorded at the home university.
5. Those desiring additional information should inquire at the office of the Graduate College.

#### **C. CONDITIONS**

CIC Traveling Scholars will normally be limited to two semesters or three quarters on another campus. Each university retains its full right to accept or reject any student who wishes to study under its auspices.

### **Section IV. Academic Standing, Probation, and Dismissal**

#### **A. NONDOCTORAL STUDENTS**

A nondoctoral *departmental* (master's, professional improvement, certificate) student, except one on conditional status, shall be placed on probation if, after completing 8 s.h. of graduate work, the student's cumulative grade-point average on graduate work done at The University of Iowa falls below 2.75. If, after completing 8 more s.h. of graduate work at this University, the student's cumulative grade-point average remains below 2.75, the student shall be denied permission to reregister within any departmental program; otherwise the student shall be restored to good standing.\*

Nondoctoral, *nondepartmental* (nondegree, extension, workshop) students shall be evaluated for probation and dismissal purposes based on the same semester-hour sequence as stated above, at a minimum cumulative grade-point average of 2.50.

\*This requirement shall apply to students entering nondoctoral departmental programs beginning with the fall 2001 semester. A minimum cumulative grade-point average of 2.50 is required of nondoctoral departmental students admitted prior to that session.

#### **B. DOCTORAL STUDENTS**

A doctoral student on regular status shall be placed on probation if, after completing 8 s.h. of graduate work, the student's cumulative grade-point average on graduate work done at The University of Iowa falls below 3.00. If, after completing 8 more s.h. of graduate work at this University, the student's cumulative grade-point average remains below the required level, the student shall be dropped from the program and denied permission to reregister unless the student applies and is accepted for a nondoctoral degree or certificate program. If, after completing the second 8 s.h., the cumulative grade-point average is at least 3.00, the student is returned to good standing.\*

\*This requirement shall apply to students entering doctoral programs beginning with the fall 1979 semester. A minimum cumulative grade-point average of 2.70 is required of students admitted to doctoral programs prior to that session.

#### **C. RESTRICTION ON STUDENTS ON PROBATION**

A student on probation shall not be permitted to take comprehensive or final examinations leading to any degree or certificate, nor may the student receive any graduate degree or certificate.

#### **D. DEPARTMENTAL REGULATIONS AND DISSEMINATION OF INFORMATION**

In addition to the above University-wide requirements, departments may establish further requirements which then determine the individual student's standing with regard to probation and dismissal. To this end, each department or program shall compile a written list of standards and procedures for work in that area. These documents shall be on file in each departmental office and the office of the Graduate College dean. Copies are to be available for students in the departmental office, and departments shall make all reasonable efforts to inform students. Subsequent changes in standards or procedures shall be communicated by the department to each student and the Graduate College dean. Whenever departments revise standards for a given program, the new regulations will not apply retroactively to the disadvantage of those already in the program. In addition to notifying students that they are subject to the rules of the Graduate College as set forth in the *Manual of Rules and Regulations*, any standards established by the department more stringent than the general Graduate College requirements shall be stated. Information shall be provided outlining required courses applicable to the various departmental programs of study, examination procedures and other formal evaluations, departmental policies with regard to awarding and renewing assistantships, time limits on programs of study, departmental registration policies, departmental grade-point requirements, requirements for changing from one degree program to another within the department--especially from the master's to the doctor's--departmental probation and dismissal policies and procedures (see "E" following), and other matters as are appropriate. The nature of the departmental advisory system shall be explained to incoming students.

#### **E. ACADEMIC PROGRESS, DEPARTMENTAL PROBATION, AND DISMISSAL PROCEDURES**

If a student is failing to meet departmental standards, the department shall warn the student of this fact in writing. The notification shall specify in what way(s) the student is failing to meet the standards. The student shall be provided a reasonable amount of time to meet the standards prior to departmental dismissal. If conditions such as conditional admission or probation are imposed, the department shall give, at the time of its imposition, written explanation of this status and its time limits.

A student who will not be permitted to reregister for failure to meet standards shall be notified of this fact in writing with reasons for the action provided. Such dismissal may follow failure to meet conditions of admission, conditions of probation, pre-announced departmental grade-point requirements or other standards, or failure of a regularly scheduled examination or formal evaluation. If a student judges the dismissal decision improper, the student has a right to review. Each department shall establish procedures for handling such reviews. The procedures are to be approved by the Graduate College dean and shall afford a fair and expeditious review. A description of these procedures shall be included in the departmental regulations described above. (See "Section IV.D.")

#### **F. PLAGIARISM BY GRADUATE STUDENTS**

The Online Oxford English Dictionary (<http://dictionary.oed.com/cgi/entry/50180578>) defines "plagiarize" as follows, "to take and use as one's own (the thoughts, writings, or inventions of another person); to copy (literary work or ideas) improperly or without acknowledgement; (occas.) to pass off as one's own the thoughts or work of (another)." In practice, the exact definition of "plagiarize" or "plagiarism" is dependent upon the unique attributes of the creative work of a particular discipline. Thus, it is understood that different academic disciplines and cultures may have different interpretations as to the actual actions which constitute plagiarism. With this in mind, the Graduate College will operate in the following manner when a program or department discovers an act or acts of plagiarism on the part of a graduate student.

- 1) If the faculty members of a program or department determine that the transgression is not major, or else feel that there is a misunderstanding of the acts which constitute plagiarism, the program or department may wish to work with the student so as to prevent future occurrences of plagiarism on the part of that student. Written notification of the offense and the remediation for the offense must be sent to the Graduate College for inclusion in the student's file.
- 2) If the faculty members of a program or department discover an act (or acts) of plagiarism that is (are) sufficiently egregious that expulsion from the program is warranted, the student will be terminated from his or her graduate program for reasons of plagiarism. In this case, the student will be simultaneously terminated from the Graduate College of The University of Iowa. The program or department must notify the student of his or her termination in writing. All relevant facts, as well as the process for appealing the decision, must be contained in the termination letter. The Graduate College must receive a copy of the termination letter. If the graduate student resigns from the program to avoid being terminated for reasons of plagiarism, the student will be considered to have simultaneously resigned from the Graduate College.

The appeal process for students accused of academic misconduct is specified in The University of Iowa document, "Policies and Regulations Affecting Students, C. Academic Misconduct," which states: "Questions of academic

dishonesty arising within the colleges of Medicine, Law, Pharmacy, and Dentistry, and the Graduate College are treated on an individual basis." "In the Graduate College, the questions [of academic dishonesty] are handled at the departmental level. If the departmental decision is appealed, the dean may appoint an appeals committee of faculty and students from a slate of nominees prepared by the Graduate Council and the Graduate Student Senate to recommend an appropriate course of action."

The appeal process must be initiated by the student. If the student wishes to appeal the department's or program's action, that appeal must be lodged with the Senior Associate Dean for Academic Affairs of the Graduate College within 30 days of program or departmental dismissal.

#### **G. GRADUATE COLLEGE REVIEW OF DEPARTMENTAL DISMISSAL**

Questions involving judgment of performance will not be reviewed beyond the department level. If, however, the student feels there has been unfairness or some procedural irregularity concerning dismissal, the student may pursue a grievance according to the Academic Grievance Procedure (AGP) established by the Graduate College. The AGP is available in the Graduate College. The student should consult with the Graduate College prior to initiating an academic grievance.

### **Section V. Credits**

#### **A. TRANSFER OF GRADUATE CREDIT**

Graduate work at other institutions will be entered on the student's permanent record by the Office of Admissions and a report of this action will be sent to the student and to his or her major department. Credit for these courses toward an advanced degree at Iowa must have the approval of the major department and the dean of the Graduate College. (See "Section X.E." and "Section XII.E.", Reduction of Old Credits.)

#### **B. RESIDENCE TRANSFER CREDIT**

After admission to a departmental program in the Graduate College, residence graduate credit from another Iowa Regents' university may be counted as residence credit at this institution, provided such work is acceptable to the student's major department on the basis of the department's determination of its applicability toward the degree. (See "Sections X.D." and "XII.C" for minimum semester hours required on campus for the master's and doctor's degrees, and "Sections X.E. and XII.E.", Reduction of Old Credits.)

#### **C. GRADUATE CREDIT FOR VETERANS**

Credit may be granted for studies pursued in war and military situations under such regulations as may be formulated by the national educational agencies and under such adaptation of standing rules as the Graduate Council may authorize from time to time to meet group or individual situations. The value of such credit in satisfying requirements for a degree will be determined by the major department with the approval of the dean.

#### **D. WITHDRAWAL OF REGISTRATION AND PROPORTIONAL CREDIT FOR STUDENTS ENTERING MILITARY SERVICE**

1. Students who leave within the first six weeks of the semester receive no credit.
2. Students who leave within the period of seven to nine weeks receive one-half credit.
3. Students who leave within the period of 10 to 12 weeks receive two-thirds credit.
4. Grade reports for the one-half and two-thirds credit periods: (a) Instructors report grades only as satisfactory or unsatisfactory. (b) Credit is to be assigned on the basis of total registration minus thesis and seminar. (c) Courses are to be counted toward specific degree requirements only after the student returns and then only with the department's approval.
5. Students who complete the twelfth week receive full credit.
6. Grade reports for the full-credit period: (a) Grades are to be reported only at the end of the semester. (b) Credit is to be reported in specific courses.
7. In each instance, the instructor reports the student's credit, grade, and date of withdrawal. No credit is granted unless the student's work is satisfactory at the time of leaving.
8. The amount of credit in thesis and research registration is to be reported to the registrar by individual instructors on the above basis except that less or zero credit may be assigned.

### **Section VI. Marking System**

**A. MARKS CARRYING GRADUATE CREDIT**

These are A+, A, A-, B+, B, B-, C+, C, C-, and S--satisfactory.

**B. MARKS CARRYING NO GRADUATE CREDIT**

These are D+, D, D-, F, I--incomplete, W--withdrawn without discredit, R--registered, and U--unsatisfactory.

**C. AUDIT**

R is assigned when a student registered for zero credit attends as an auditor throughout the course; if the student fails to meet the instructor's requirements for class attendance, W is assigned.

**D. INCOMPLETE**

The grade of I is to be used only when a student's work during a session cannot be completed because of illness, accident, or other circumstances beyond the student's control. In registrations for thesis, research, or independent study, the satisfactory/unsatisfactory grades may be applied. (See next paragraph, "E".) An incomplete will automatically be converted to an F at the end of the next full semester (summer and winter sessions excluded), even if the student does not enroll after the session the I was posted.

Courses may not be repeated to remove incompletes; removal of an I is accomplished only through completion of the specific work for which the mark is given.

**E. THESIS, RESEARCH, READINGS, INDEPENDENT STUDY, AND SPECIAL PROJECTS**

Grades of S and U may be used for registrations in thesis, research, readings, independent study, and special projects. S--satisfactory means that the student receives credit for the work; U--unsatisfactory means that he or she receives no credit. Neither S nor U is used in computing grade-point averages. At a later date, the instructor may change the S to a letter grade. In addition, departments may ask the Graduate College dean for permission to use grades of S and U as described above for courses which, because of their special or experimental nature, are judged to be more appropriate for such grading. The type of grading system to be used in the above cases should always be mutually understood by the instructor and student.

**F. GRADES OF S AND U**

S and U may be used for courses taken by a graduate student outside the major department or interdepartmental degree program provided that the instructor of the course and the student's departmental advisor approve the registration. Arrangements for satisfactory/unsatisfactory grading in these courses are accomplished by filing a card with appropriate signatures in the Registrar's Office at the time of registration, or no later than the last day of the second week of a semester or the third day of the second week of a summer session. No changes from letter grades to satisfactory/unsatisfactory grades or vice versa will be allowed after these dates.

It is not the policy of the Graduate College to abandon the traditional letter grades described in this section; however, in certain exceptional instances, departments having several areas of concentration involving widely differing types of effort may request the permission of the Graduate Council to allow students majoring in one area to register in courses in another area within the same department or program on a satisfactory/unsatisfactory basis. In these instances, satisfactory/unsatisfactory cards will be used as described in the preceding paragraph.

**G. COMPUTED GRADE-POINT AVERAGE**

This is based only upon graduate work graded A+=4.33, A=4.00, A-=3.67, B+=3.33, B=3.00, B-=2.67, C+=2.33, C=2.00, C-=1.67, D+=1.33, D=1.00, D-=0.67, and F=0. Although a grade of A+ has a value of 4.33 in computing a student's g.p.a., the cumulative average is truncated so as not to exceed 4.00.

**Section VII. Graduate Appointments****A. SCHOLARSHIPS**

Scholarships are competitive and are awarded on merit.

1. Eligibility for graduate scholarships and fellowships will include but will not be exclusive to: (a) registration in the Graduate College; (b) cumulative g.p.a. of at least 3.00; (c) a satisfactory rate of progress in completing the program for the degree.
2. Preference will be given to candidates for the doctoral degree.

3. Recommendations for graduate scholarships may be made to the Graduate College by the appropriate department executive, director, or dean. A graduate scholarship may be awarded whether or not a student holds an assistantship. The amount of scholarship for the academic year may vary, but in no case exceed the comprehensive fee assessed. Scholarships will be credited to the student's University account.

#### **B. GRADUATE COLLEGE FELLOWSHIPS**

Fellowships are awarded by the Graduate College upon recommendation by departments to students with outstanding academic records. Fellows must be registered as full-time students. The primary purpose of the awards is to permit an advanced student to complete his or her dissertation or creative project and take the degree. Other terms of the award will be established by the Graduate College dean in consultation with the Graduate Council.

#### **C. FACULTY RESEARCH ASSISTANTSHIPS**

Faculty research assistantships are awarded to qualified graduate students and serve two purposes: to provide research service to professorial members of the academic staff and to provide apprenticeship experience for graduate students who are in training in research. Not more than 20 hours of service per week are required of a half-time assistant. Other part-time service is scaled in proportion, and a limited academic schedule is permitted (see "Section II.D"). Appointments ordinarily are made for the nine-month academic year, but appointments may be made for other periods of time by special arrangement. Stipends vary with the qualifications of the appointee and the amount of service rendered.

#### **D. GRADUATE TEACHING ASSISTANTSHIPS**

These assistantships serve two purposes: assistance in the instructional program of the University and the preparation of future college teachers. In order to achieve both aims, scholastically superior graduate students who show exceptional promise as teachers are selected for graduate teaching assistantships. All appointments are made by the dean of the appropriate college on recommendation of the department.

#### **E. ELIGIBILITY FOR SCHOLARSHIPS, FELLOWSHIPS, AND RESEARCH ASSISTANTSHIPS**

Scholars, fellows, and faculty research assistants on the Graduate College budget must be registered as regular students in good standing in order to hold such appointments. Appointments will be terminated when registration and/or student status is terminated. In no instance may a student be promised or tendered an appointment until after approval for admission to the Graduate College by the director of Admissions.

#### **F. Graduate Assistant Overload Appointments.**

Overload graduate assistantship appointments (those more than 20 hours/week) will be granted only when there is a clear case to be made beyond the student's monetary gain or the benefit to the department.

Before making a graduate assistantship appointment that brings a student's total appointment beyond 50%, the DEO or DGS of the program in which the student is enrolled (in consultation with the student's advisor) must receive permission from the Associate Dean for Student and Administrative Affairs. All overload requests must address: (1) the potential *academic benefit* to the student from the additional appointment; (2) the student's *current progress* towards degree completion; and (3) the effect of the additional appointment on the student's *future progress*.

A total appointment of more than 62.5% should be seen as an exceptional situation and will be granted to a maximum of 75% only for one semester during the entire time of a student's graduate studies.

Before submitting an overload appointment request, the DEO or DGS must confirm that course registration for the semester does not exceed limits specified in "Section II.D." of this manual for the specific level of appointment.

*Upon approval, international students must contact OISS and gain permission for Curricular Practical Training (CPT).*

This policy applies only to teaching assistantships and research assistantships during the regular academic year. The DEO or DGS should make their graduate students aware of this policy during the department/program's fall orientation.

#### **G. LOANS**

Graduate students requiring financial assistance may apply for loans at the Office of Student Financial Aid.

#### **H. OTHER FORMS OF SUPPORT**

Many departments offer financial assistance in the form of traineeships, part-time employment on research programs, or part-time teaching. Inquiries should be addressed directly to the major department.

## **Section VIII. Advanced Programs Offered in the Graduate College**

The major areas in which the Graduate College offers degree programs are listed under "Degree Programs" at the beginning of this section of the Catalog.

## **Section IX. General Requirements for Advanced Degrees**

### **A. APPLICATION FOR DEGREE**

The student must file an application for an anticipated degree with the registrar by the deadline date printed in the Graduate College academic calendar for the session in which the degree will be conferred. The student must have the application signed by his or her advisor. Failure to file the application by the deadline date established by the Graduate College dean will result in postponement of graduation to a subsequent session.

### **B. ENROLLMENT IN FINAL SESSION**

The student must be enrolled during the session in which the degree is to be conferred. Students who are away from the University campus during that session may meet this requirement by registering for independent study, research, or thesis hours according to the practice in the various departments. Doctoral candidates who have completed all work except the final examination may register for Doctoral Final Registration described in "Section XII.L" if such registration is appropriate. Master's candidates who have completed all work except the final examination may register for Master's Final Registration if such registration is appropriate. Both the Doctoral Final Registration and Master's Final Registration require a 2 s.h. tuition/fee payment, and may be repeated if the degree requirements are not completed in this session. Registration in a course for which tuition/fees are not assessed (Cooperative Education Internship, for example) will not satisfy this requirement.

## **Section X. Master's Degrees**

### **A. KINDS OF DEGREES**

The University of Iowa offers programs leading to the Master of Arts (M.A.) degree, Master of Science (M.S.) degree, and several professional master's degrees.

M.A. and M.S. degrees require mastery of methodologies and practices of research and scholarship of the discipline. A thesis describing original scholarship or research may be required. M.A./M.S. degrees may be designed either as preparation for entry into doctoral degree programs or to provide advanced study and accomplishment that serves a variety of career and other purposes. Degrees are awarded in many fields of study, or majors, consistent with conventions of the discipline (e.g., M.A. in Art, English, Psychology; M.S. in Chemistry, Mathematics, Physiology). (For complete list, see Section VIII.) M.A. and M.S. degrees require a minimum of 30 s.h., a final examination and, in some fields, a thesis.

Professional master's degrees provide knowledge, perspectives, and skills required for professional practice. Some programs may include introduction to research or scholarship sufficient to allow application of current literature to practice. Professional master's degrees generally are indicated by a three- or four-letter designation; examples include the Master of Fine Arts (M.F.A.), Master of Social Work (M.S.W.), Master of Public Health (M.P.H.), Master of Science in Nursing (M.S.N.), Master of Accountancy (M.Ac.). (For complete list, see Section VIII.) Professional master's degrees require a minimum of 30 s.h. Some may require a final examination as well as a thesis, papers, projects, colloquia, internships, or other experiential-based activity typical of preparation for practice in the field.

A student may prepare a proposal for an interdisciplinary course of study, including the plan of study defining course work, examination requirements, a research plan, and a committee of at least three faculty members, with either the department most directly concerned or the Graduate College designated as the sponsor. Final approval of such individual programs is granted by the Graduate College dean, who may add members to the student's supervising committee from other closely related departmental faculties or from the Graduate Council. The degree will be awarded in interdisciplinary studies (master's) stipulated in the approved graduate program and, parenthetically, the name of the sponsoring department.

### **B. PLAN OF STUDY**

The applicant for a master's degree must file a plan of study approved by the advisor and the departmental executive with the Graduate College within the session in which the degree is to be granted and by the deadline date printed in the Graduate College academic calendar. If the session in which a student takes his or her final exam is earlier than the session in which the degree is to be granted, the Plan of Study must be filed prior to the administration of the student's final examination. The plan shall meet the requirements for the degree approved by the graduate faculty. (See also "Section IV.D. Departmental Regulations and Dissemination of Information.")

### **C. MAJOR AND RELATED FIELDS**

The plan of study should provide for reasonable concentration in the major field of interest and, subject to the approval of the major department, may include related subjects from other departments.

#### **D. ACADEMIC RESIDENCE REQUIREMENT**

Of the minimum of 30 s.h. required for the degree, at least 24 s.h. must be completed under the auspices of The University of Iowa after admission to a graduate department/program. Various forms of extramural registration may qualify toward fulfillment of the aforementioned 24-hour residence requirement (see "Section II.G. Extramural Registration") in addition to regular on-campus registration. Students who have elected or who are required to write a thesis for conferral of their master's degrees, must complete at least 8 semester hours of the 24-hour, academic residence requirement on campus. At the discretion of the department, the 8-semester hour, on-campus requirement may be waived for nonthesis master's programs. Election of the waiver option is to be applied programmatically, and not on a student-by-student basis, and must be formally conveyed to the Graduate College.

#### **E. REDUCTION OF OLD CREDITS**

Courses taken ten or more years prior to the session in which the master's degree is to be conferred must be evaluated by the major department in order to determine the possible use of these credit hours within a student's plan of study. The department, in turn, must send a letter of petition to the Graduate College, requesting the use of any or all of these credits toward the fulfillment of degree requirements.

#### **F. LIMIT ON PROFESSIONAL COURSES**

Work taken by a student in the Colleges of Dentistry, Law, or Medicine while enrolled for a professional degree may be credited to a graduate program leading to a master's degree if it is taken after the student has earned a bachelor's degree or has completed work equivalent to that required for a bachelor's degree at The University of Iowa. The work accepted from the professional college must be directly related to the student's major field of study in the Graduate College and be approved as a part of the plan of study by the student's advisor and the major department. Work completed while registered for a professional degree in law, medicine, or dentistry will be counted as part of the residence requirement for nondoctoral degrees in the Graduate College only when the student is registered in an appropriate joint degree program.

#### **G. TWO MASTER'S DEGREES**

The granting by this university of two master's degrees simultaneously or in succession requires the satisfaction of all requirements for each degree separately, including two theses where a thesis is required for each, and two examinations, with a minimum combined total of 60 s.h. of graduate credit.

#### **H. MASTER'S DEGREE WITH THESIS**

Not more than 9 s.h. of credit for thesis research and writing shall be counted in satisfying the 30 s.h. minimum requirement. The thesis may be a scholarly study or an artistic production.

Beginning with the Fall 2009 Semester all master's theses, excluding MFA theses, must be submitted to the Graduate College in electronic format. MFA students will have the option of submitting hard-copy or electronic theses.

The first deposit of a thesis (an ETD or one hard copy of the MFA thesis), complete and in final typed form, must be presented to the Graduate College for a check of formal characteristics by the first-deposit deadline date in the session in which the degree is to be conferred. After approval by the Graduate College and by the thesis committee, the final deposit of the thesis (an ETD or two, identical hard copies of the MFA thesis) must be deposited with the Graduate College by the final deposit deadline date in the student's graduation session. Failure to submit the first and final deposits of the thesis by the deadline dates established by the Graduate College will result in the postponement of graduation to a future session. [For detailed submission and formatting requirements, see Theses & Dissertations under Policies & Deadlines on the Graduate College web site.]

Nonrefundable fees are charged each thesis candidate to cover processing and publication costs of the thesis.

The thesis committee shall consist of at least three members of the graduate faculty and may or may not be identical to the final examination committee. (The final examination committee for the master's degree shall consist of at least three members of the graduate faculty, at least two of whom are from the major department. See "X.K. Examining Committee.")

#### **I. MASTER'S DEGREE WITHOUT THESIS**

A master's degree without thesis, consisting of at least 30 s.h. of graduate work, may be awarded upon the completion



of a curriculum prescribed by a department and approved by the Graduate Council.

#### **J. FINAL EXAMINATION**

The requirements for master's degrees may include a final examination which, at the discretion of the major department, may be written or oral or both. Such an examination will not duplicate course examinations. It will be evaluated by the examining committee as satisfactory or unsatisfactory, with two unsatisfactory votes making the committee report unsatisfactory. The report of the final examination is due in the Graduate College not later than 48 hours after the examination, and by the deadline date established by the Graduate College.

If the department so recommends, a candidate who fails the examination may present himself or herself for reexamination, but not sooner than the next regularly scheduled examination period in the following session.

The examination may be repeated only once.

A student must graduate within one calendar year after passing the final examination for a master's degree; failure to meet this deadline will require reexamination of the student.

Upon recommendation of a department, the comprehensive examination for a doctoral degree may be substituted for the master's examination.

Some master's programs do not require a final exam. Students are responsible for checking the specific requirements of their individual degree programs.

#### **K. EXAMINING COMMITTEE**

The examining committee for the master's degree consists of at least three members of the Graduate Faculty appointed by the dean upon recommendation of the major department or program. These committees are composed as follows:

At least two of the faculty members must be members of The University of Iowa tenure-track faculty.

At least two of the faculty members are from the major department or program (defined as faculty members who hold any appointment in the major department or program), and are members of The University of Iowa tenure-track faculty.

A department or program may impose additional structure on the composition of its examining committees.

Departments and programs may request the dean's permission to replace one of the three members of the Graduate Faculty by a recognized scholar of professorial rank from another academic institution. Also, a voting member may be added at the discretion of the Graduate College Dean.

### **Section XI. Graduate Certificate Programs**

Graduate certificate programs reflect specialization, either within a field or in an area of study, research, or training. Some graduate certificate programs may be open only to students seeking degrees in related fields; others may be offered as independent programs. Graduate certificate programs are designed to enhance skills, to provide professional development and career advancement opportunities, to broaden career options, and for other purposes, both for traditional, full-time students and for those with full-time employment.

Graduate certificate programs usually require a minimum of 15 s.h. of specified course work and may, in addition, require papers, projects, or experiential learning components designed for specific cohorts. Certificate programs generally require two to three semesters to complete.

Examples include the graduate certificates in aging studies, American Indian and native studies, informatics, and advanced nurse practitioner. Requirements for each graduate certificate are included in The University of Iowa General Catalog.

### **Section XII. Doctor's Degrees**

#### **A. CHARACTER OF DEGREE**

The Graduate College offers doctoral programs leading to the Doctor of Philosophy (Ph.D.), the highest degree awarded by the university; the Doctor of Musical Arts (D.M.A.); the professional Doctor of Physical Therapy (D.P.T.); the professional Doctor of Audiology (Au.D.); and the professional Doctor of Nursing Practice (D.N.P.). The Doctor of Philosophy degree indicates marked excellence in original research or other creative work, and superior comprehension in the discipline. The Doctor of Musical Arts degree indicates marked excellence in performance and pedagogy. The Doctor of Physical Therapy degree indicates marked excellence in physical therapy differential diagnosis and clinical integration. The Doctor of Audiology degree indicates marked excellence in theoretical and advanced clinical skills. The Doctor of Nursing Practice degree indicates marked excellence in clinical practice and the

application of clinical theory in the classroom and administrative venues.

#### **B. PREREQUISITES**

The candidate must present evidence of having completed a satisfactory amount of undergraduate work in the subject proposed for investigation or, in the case of deficiency, must register for prerequisite courses.

#### **C. RESIDENCE REQUIREMENT**

The Ph.D. is granted primarily on the basis of achievement rather than on the accumulation of semester hours of credit; however, the candidate is expected to have completed at least three years of residence in a graduate college. At least part of this residence must be spent in full-time involvement in one's discipline, at this university, beyond the first 24 s.h. of graduate work; this requirement can be met either by: (1) enrollment as a full-time student (9 s.h. minimum) in each of two semesters; or (2) enrollment for a minimum of 6 s.h. in each of three semesters during which the student holds at least a one-quarter-time assistantship certified by the department as contributing to the student's doctoral program. (For purposes of record and assessment of fees, student registration should reflect accurately the amount and kind of work undertaken in the Graduate College. All doctoral programs, including acceptable transfer credit, will contain a minimum of 72 s.h. of graduate work.)

#### **D. INTERDISCIPLINARY STUDIES PROGRAMS**

A student may prepare a proposal for an interdisciplinary course of study, including the plan of study defining course work, examination requirements, research plan, and a committee of at least five faculty members with either the department most directly concerned or the Graduate College, designated as the sponsor. Final approval of such individual programs is granted by the Graduate College dean, who may add members to the student's supervising committee from other closely related departmental faculties or from the Graduate Council. The degree will be awarded in interdisciplinary studies (doctorate) stipulated in the approved graduate program and, parenthetically, the name of the sponsoring department.

#### **E. REDUCTION OF OLD CREDITS**

Courses taken 10 or more years prior to the doctoral comprehensive examination must be evaluated by the major department in order to determine the possible use of these credit hours within a student's plan of study. The department, in turn, must send a letter of petition to the Graduate College, requesting the use of any or all of these credits toward the fulfillment of degree requirements.

#### **F. LIMIT ON PROFESSIONAL COURSES**

Work taken by a student in the Colleges of Dentistry, Law, or Medicine while enrolled for a professional degree may be credited to a graduate program leading to a doctoral degree if it is taken after the student has earned a bachelor's degree or has completed work equivalent to that required for a bachelor's degree at The University of Iowa. The work accepted from the professional colleges must be directly related to the student's major field of study in the Graduate College, and the plan of study must be approved by the student's advisor and the major department. Work completed while registered for a professional degree in law, medicine, or dentistry will be counted as part of the one academic year which must be spent in residence as a doctoral student only when the student is registered in a formally established joint degree program.

#### **G. JOINT PROGRAM FOR MASTER'S AND DOCTORAL DEGREES**

Those students who expect to continue their training through the doctoral degree may pursue a joint program for the master's and doctor's degrees. The master's examination may be combined with the comprehensive examination for the doctorate for these candidates. The examining committee will file separate reports of its actions on the final examination for the master's degree and for the comprehensive examination. Upon recommendation of the department and approval of the Graduate College dean, students who are well qualified by previous training may submit a plan of study that leads directly to the doctoral degree without earning the master's degree as an intervening part.

#### **H. REQUIREMENT IN FOREIGN LANGUAGES**

There is no general Graduate College requirement in foreign languages. Those departments that do require competence in one or more foreign languages establish standards as to the extent and level of competence, as well as methods of testing. Specific requirements will be found in the departmental statements of standards and procedures (see "Section IV.D.").

Specifications of departmental requirements in foreign languages are filed in the Graduate College office and may be changed upon the initiative of the departments.

**I. REQUIREMENTS FOR THE DOCTOR OF PHYSICAL THERAPY (D.P.T.), THE DOCTOR OF AUDIOLOGY (AU.D.), AND THE DOCTOR OF NURSING PRACTICE (D.N.P.)**

Students enrolled in professional D.P.T., D.N.P., and Au.D. programs do not take comprehensive and final examinations and do not deposit a thesis with the Graduate College. The departments will be required to submit a doctoral plan of study to the Graduate College during the session of degree conferral. The plan will provide a listing of all graduate courses taken that apply toward the degree and a listing of courses in progress. The plan is to be filed no later than the deadline date printed in the Graduate College academic calendar.

**J. PLAN OF STUDY**

The development of a plan of study at the doctoral level is the responsibility of the student working together with his or her advisor. A formal plan of study must accompany the departmental request to the Graduate College for permission to conduct the comprehensive examination. The plan will provide a listing of all graduate courses taken that apply toward the degree and a listing of courses in progress or to be completed after the comprehensive examination.

**K. COMPREHENSIVE EXAMINATION**

The candidate must satisfactorily complete a comprehensive examination, consisting of written or oral parts or both at the discretion of the major department. Admission to the comprehensive examination is granted upon the recommendation of the major department, the filing of the plan of study, and the approval of the dean of the Graduate College. A student must be registered in the Graduate College at the time of the comprehensive examination, which must be satisfactorily completed not later than the session prior to the session of graduation. This examination, administered only on campus, is intended to be an inclusive evaluation of the candidate's mastery of the major and related fields of study, including the tools of research in which competence has been certified.

The comprehensive examination is not a deferred qualifying examination. It is intended to evaluate the candidate's mastery of the subject at or near the end of his or her formal preparation and prior to the completion of the dissertation. The comprehensive examination and the final examination, which is concerned chiefly with defense of the thesis and related subjects, are the two principal examinations for the Ph.D. and D.M.A. doctoral degrees.

The comprehensive examination will be evaluated by a convened meeting of the committee. Each committee member will sign the examination report as satisfactory, reservations, or unsatisfactory. The completed exam warrant will be submitted to the Graduate College office within 14 days after the completion of the examination. Two "unsatisfactory" votes will make the committee report unsatisfactory.

A vote of "reservations" should only be used when a faculty member feels that the deficiencies displayed by the student were modest, and can be readily rectified. In the event of a report with two or more votes of "reservations," the actions required of the student, by the committee, that are necessary to correct the deficiencies must be recorded and submitted to the Graduate College with the examination report form. Copies of the written statement of necessary actions should be kept by: the appropriate departmental executive, the chair of the examination committee, and the student. The statement must specify the time allowed for completion of the aforementioned actions. The language describing the actions must be specific. For instance, if additional course work is required, a list of suitable courses must be presented. If the candidate needs to rewrite his or her research prospectus, the deficient areas must be identified, etc. If the candidate satisfies the required actions in the specified period of time, the appropriate departmental executive will send a written report to the Graduate College indicating the date for which the examining committee considers the actions to have been satisfied. Upon approval of the dean of the Graduate College, the comprehensive exam will be recorded as "satisfactory" as of that date. If the actions are not satisfied on time, or if the actions are not of sufficient quality, the appropriate departmental executive will send a written report to the Graduate College indicating that fact. Upon approval of the dean of the Graduate College, the comprehensive exam will be recorded as "unsatisfactory" as of that date. The candidate will not be admitted to the final oral examination of the dissertation until a grade of "satisfactory" has been recorded for the comprehensive exam.

In case of a report of unsatisfactory on a comprehensive examination, the committee may grant the candidate permission to present himself or herself for reexamination not sooner than four months after the first examination. The examination may be repeated only once, at the option of the department.

**L. CONTINUOUS REGISTRATION AFTER COMPLETION OF THE COMPREHENSIVE EXAMINATION**

The student is required to register each fall and spring semester after satisfactorily completing the comprehensive examination until the degree is awarded. If a student fails to register, the student may not be readmitted to candidacy until the student has submitted an application that has been approved by the student's advisor, the departmental executive, and the Graduate College dean.

In order to maintain continuous registration, doctoral students may register (1) for required and/or elective courses, research, and thesis hours to complete the plan of study, or (2) for Doctoral Continuous Registration (DCR). DCR

requires a 2 s.h. tuition/fee payment. If a temporary lapse in a student's academic program is required due to military service, medical leave, maternity leave, or personal/family leave, a student may petition the Graduate College to be allowed to register for Ph.D. Postcomprehensive Registration (PCR), which allows for the assessment of a special minimum fee. If a petition is granted, it is to be understood that a student will not make significant use of university resources, or engage in significant consultation with the faculty. In the final semester, doctoral students may register for Doctoral Final Registration (DFR), which requires a 2 s.h. tuition/fee payment, or appropriate course work. The DFR may be repeated if the degree requirements are not completed in this session.

Under no circumstances may courses for which tuition/fees are not assessed (Cooperative Education Internship, for example), be used to satisfy the continuous registration or final registration requirement of the Graduate College.

No registration for the summer or winter sessions is required. The exceptions are when the student is taking a degree at the end of the summer session, or when enrollment is required by the student's department.

#### **M. DISSERTATION FOR THE DOCTORAL DEGREE**

Beginning with the Fall 2009 Semester all doctoral theses must be submitted to the Graduate College in electronic format.

The student's dissertation, complete and in final form, must be presented in ETD (electronic thesis/dissertation) format at the office of the Graduate College by the first-deposit deadline date in the session in which the degree is to be conferred. The final deposit of the approved ETD must be deposited at the office by the appropriate deadline date in the student's graduation semester. The final deposit can be no later than the end of the semester (summers excluded) following the session in which the final examination is passed; failure to meet this deadline will require reexamination of the student. Failure to submit the first and final deposits of the dissertation by the deadline dates established by the Graduate College will result in the postponement of graduation to a future session. [For detailed submission and formatting requirements, see Theses & Dissertations under Policies & Deadlines on the Graduate College web site.]

Regulations regarding preparation of the dissertation shall be promulgated by the dean of the Graduate College. An external abstract of the dissertation, not to exceed two, double-spaced pages (text and approval lines), is to be deposited with the dissertation. The abstract must be approved and signed by the dissertation advisor. Approved ETDs will be forwarded to ProQuest for microfilming and digital archiving; the doctoral abstracts will be published in *Dissertation Abstracts International*. The PDF format of all electronic submissions will be forwarded by ProQuest to The University of Iowa Libraries, where they will be catalogued and made available for public use.

Dissertations shall be made available to all members of the examining committee not later than two weeks before the date of the examination.

#### **N. DISSERTATION FEES**

Nonrefundable fees are charged each doctoral candidate to cover processing and publication costs of the dissertation and abstract.

#### **O. FINAL EXAMINATION**

The work for the degree culminates in a final oral examination administered on campus. This examination should include: a critical inquiry into the purposes, methods, and results of the investigation--not a mere recapitulation of the procedures followed--and intensive questioning on areas of knowledge constituting the immediate context of the investigation.

The final examination may not be held until the next session after the student satisfactorily completes the comprehensive examination; however, a student must pass the final examination no later than five years after satisfactorily completing the comprehensive examination. Failure to meet this deadline will result in a reexamination of the student to determine his or her qualifications for taking the final examination. The procedures to be followed are the same as those for the comprehensive examination. (See "XII.K. Comprehensive Examination.")

Final examinations for the doctorate are open to the public. Members of the faculty of the Graduate College are especially invited to attend and, subject to the approval of the chair, to participate in the examination.

The report of the final examination is due in the Graduate College office not later than 48 hours after the examination. The final examination will be evaluated as satisfactory or unsatisfactory. Two unsatisfactory votes will make the committee report unsatisfactory. In case of a report of unsatisfactory in the final examination, the candidate may not present himself or herself for reexamination until the next session. The examination may be repeated only once, at the option of the major department.

#### **P. EXAMINING COMMITTEES**

The Graduate College encourages departments and programs to construct Ph.D. examining committees which are

comprised of faculty members with varying, but related, areas of expertise.

The comprehensive and final examinations are conducted by committees of no fewer than five members of the Graduate Faculty appointed by the dean upon recommendation of the major department or program. These committees are composed as follows:

At least four of the faculty members must be members of The University of Iowa tenure-track faculty.

At least two of the faculty members are from the major department or program (defined as faculty members who hold any appointment in the major department or program), and are members of The University of Iowa tenure-track faculty.

A department or program may impose additional structure on the composition of its examining committees.

Departments and programs may request the dean's permission to replace one of the five members of the Graduate Faculty by a recognized scholar of professorial rank from another academic institution. Also, a voting member may be added at the discretion of the Graduate College Dean.

### **Section XIII. Exceptions**

Petitions to waive these regulations may be made for appropriate and justifiable reasons on behalf of any graduate student through the departmental executive to the dean and the Graduate Council.

## **Nondepartmental Courses**

<b>000:000 Ph.D. Postcomprehensive Registration</b>	0 s.h.
<b>000:001 Master's Final Registration</b> Requirements: master's degree candidate.	0 s.h.
<b>000:002 Doctoral Continuous Registration</b> Requirements: doctoral degree candidate who has passed comprehensive examinations.	0 s.h.
<b>000:003 Doctoral Final Registration</b> Requirements: doctoral degree candidate in final session of enrollment.	0 s.h.
<b>000:008 CIC Scholar Nongraduate Level</b>	arr.
<b>000:800 CIC Scholar</b>	arr.
<b>000:801 Regents Exchange Program</b>	arr.
<b>000:997 Graduate/Professional Transfer</b>	arr.
<b>000:998 Undergraduate Transfer</b>	arr.
<b>000:999 Resident/Fellow/Post-Doctoral</b>	0 s.h.
<b>650:006 SROP/McNair Scholars Program</b>	0 s.h.
<b>650:270 Principles of Scholarly Integrity</b> Training in the responsible conduct of research and scholarly activities; discussion of case studies--student/mentor responsibilities in the pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to the institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, human/animal subjects). Requirements: enrollment in Graduate College degree-seeking program. Recommendations: first-year graduate standing (Ph.D., M.S./M.A.) and conducting NSF/NIH-funded research.	0-1 s.h.
<b>650:275 OGEI Topical Seminar: Professional Sustainability in Graduate School</b> Skill development and sustainability plan; professional literature, guest speakers.	1 s.h.
<b>650:300 Writing for Learned Journals</b>	1-4 s.h.

Help for graduate students in bringing written work to publishable form; analysis of target journals' audiences and interests; submission, response to criticism. Same as 08N:340, 160:300.

**650:313 Digital Rhetoric**

3 s.h.

Current discourse (utopic, dystopic, other strands) about the Internet as it shapes and is shaped by competing forces. Repeatable. Same as 008:313, 160:313.

**650:380 Practicum in College Teaching**

arr.

Supervised college teaching experience; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations. Requirements: admission to the graduate certificate in college teaching program.

**650:385 Teaching and Learning in Higher Education**

3 s.h.

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as 07B:385, 07C:385, 07P:385, 07S:384.

**650:601 Postdoctoral Research Scholar**

0 s.h.

Repeatable. Requirements: postdoctoral standing.

**650:602 Postdoctoral Research Fellow**

0 s.h.

Repeatable. Requirements: postdoctoral standing.

**650:604 Principles of Scholarly Integrity**

0 s.h.

Training in the responsible conduct of research and scholarly activities; discussion of case studies--student/mentor responsibilities for the pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to the institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, human/animal subjects). Requirements: postdoctoral standing. Recommendations: first-year postdoctoral scholar/fellow (FP01/FP02) conducting NSF/NIH-funded research.

**650:605 Writing for Learned Journals**

0 s.h.

Help for graduate students in bringing written work to publishable form; analysis of target journals' rhetoric; submission, response to criticism. Requirements: postdoctoral standing.

**650:606 Survival Skills for a Research Career**

0 s.h.

Nonlaboratory skills necessary for pursuing a scientific research career, including scientific writing, presentation, manuscript review, curriculum vitae preparation, and so forth. Repeatable. Requirements: postdoctoral standing.

**650:614 Principles of Scholarly Integrity**

0 s.h.

Training in the responsible conduct of research (RCR) and scholarly activities; discussion of case studies--student/mentor responsibilities in the pursuit of scholarly work (ownership; authorship; plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to the institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, human/animal subjects); may meet the RCR training obligation of the K award. Requirements: junior faculty member holding a federally-funded K award.

## Alliances for Graduate Education and the Professoriate Summer Program

**Director:** John C. Keller

**Associate director:** Minnetta V. Gardinier

**Assistant director:** Tarrell Portman

**Advisory committee:** John Logsdon (Biology), Len MacGillivrey (Chemistry), Paul Muhly (Mathematics), Tonya Peebles (Chemical and Biochemical Engineering), Aliasger Salem (Pharmacy), Hallie Sims (Geoscience), and Gideon Zamba (Biostatistics)

**Web site:** <http://oge.grad.uiowa.edu/agep>

The Alliances for Graduate Education and the Professoriate Summer Program (AGEP) prepares students to pursue graduate education in engineering and in the mathematical, physical, and life sciences. The eight-week program offers early research experience by matching students with University of Iowa faculty mentors in the students' interest areas. It also gives participants the opportunity to experience life as a graduate student at a large university.

Students are required to participate in weekly seminars and in social, cultural, and educational activities. They also tour facilities both on and off campus. A final report/project is required. The program ends with a research symposium at which students make oral and poster presentations of their research.

Applicants must be U.S. citizens or permanent residents, and members of an underrepresented minority (African American, Hispanic, or American Indian). They must be undergraduate students pursuing a degree in science, technology, engineering, or mathematics. To enter the program, applicants must have completed their sophomore year in college and have a cumulative g.p.a. of at least 3.00. Graduating seniors are not eligible.

For more information about AGEP summer programs, see the Alliances for Graduate Education and the Professoriate web site.

# Applied Mathematical and Computational Sciences

**Chair:** Weimin Han (Mathematics)

**Affiliated faculty:** Karim A. Abdel-Malek (Biomedical Engineering), Kurt Anstreicher (Management Sciences), Marc P. Armstrong (Geography), Bruce Ayati (Mathematics), Debashish Bhattacharya (Biology), Samuel Burer (Management Sciences), Ann M. Campbell (Management Sciences), Gregory R. Carmichael (Chemical and Biochemical Engineering), Thomas L. Casavant (Electrical and Computer Engineering), Kyung K. Choi (Mechanical and Industrial Engineering), James F. Cremer (Computer Science), Rodica Curtu (Mathematics), Isabel Darcy (Mathematics), Soura Dasgupta (Electrical and Computer Engineering), John Geweke (Economics/Statistics and Actuarial Science), Lilach Hadany (Biology), Weimin Han (Mathematics), Stephen D. Hendrix (Biology), Jian Huang (Statistics and Actuarial Science), Raj Jagannathan (Management Sciences), Laurent Jay (Mathematics), Douglas W. Jones (Computer Science), Palle Jorgensen (Mathematics), Alan R. Kay (Biology), Joseph K. Kearney (Computer Science), Pavlo Krokhmal (Mechanical and Industrial Engineering), Russell V. Lenth (Statistics and Actuarial Science), Tong Li (Mathematics), Yi Li (Mathematics), Ching-Long Lin (Industrial and Mechanical Engineering), John Logsdon (Biology), Jia Lu (Mechanical and Industrial Engineering), Michael Mackey (Biomedical Engineering/Pathology), John R. Manak (Biology), Colleen Mitchell (Mathematics), George Neumann (Economics), Gregg C. Oden (Psychology), Jeffrey W. Ohlmann (Management Sciences), Suely Oliveira (Computer Science), Wayne Polyzou (Physics and Astronomy), Sharif Rahman (Mechanical and Industrial Engineering), R. Rajagopal (Geography/Civil and Environmental Engineering), Teodor Rus (Computer Science), Gerard Rushton (Geography), Alberto M. Segre (Computer Science), Elias Shiu (Statistics and Actuarial Science), Jonathan Simon (Mathematics), Milan Sonka (Electrical and Computer Engineering), John P. Spencer (Psychology), David Stewart (Mathematics), Osnat Stramer (Statistics and Actuarial Science), Gerhard O. Strohmer (Mathematics), Kai Tan (Internal Medicine/Biomedical Engineering), Qihe Tang (Statistics and Actuarial Science), Tuong Ton-That (Mathematics), Lihe Wang (Mathematics), George G. Woodworth (Statistics and Actuarial Science), Chun-Fang Wu (Biology), Yangbo Ye (Mathematics), Hantao Zhang (Computer Science), Ying Zhang (Biostatistics)

**Graduate degree:** Ph.D. in Applied Mathematical and Computational Sciences

**Web site:** <http://www.amcs.uiowa.edu/>

Applied mathematical scientists formulate scientific concepts and problems in mathematical terms; solve the resulting mathematical problems using analytical and computational methods; and discuss, interpret, and evaluate the solutions. They explore areas of mathematical application and develop mathematical theories in new areas.

Career opportunities for applied mathematicians include positions in colleges, universities, governmental laboratories, business, industry, and consulting firms.

## Graduate Program

The program offers a Ph.D. in applied mathematical and computational sciences.

### Doctor of Philosophy

The Doctor of Philosophy in applied mathematical and computational sciences requires a minimum of 72 s.h. of graduate credit. The Ph.D. program is autonomous, broadly based, and interdisciplinary. It is designed to help students achieve a command of theoretical and applied mathematics and obtain basic knowledge in another area (engineering, medicine, or one of the behavioral, biological, physical, or social sciences).

The program is flexible; students can concentrate on applied mathematics, such as differential equations and numerical analysis, or on other applicable techniques in mathematics. Scientific computing is an important part of applied mathematics, so it is often a part of student training and dissertation research.

Prospective students should have a desire to apply a mathematical science (mathematics or statistics) to relevant problems in another area.

#### PLAN OF STUDY

Faculty members help each student plan a course of study that is consistent with the student's background, interests, and goals.

These individual programs are designed to help students develop expertise in methods of applied mathematics and build a good foundation in related topics of theoretical mathematics. The individual programs also provide sufficient knowledge in an outside area to enable students to use mathematical techniques in that area.

Students can arrange their study plans to earn a master's degree from another department after they complete part of their plan. Students find suitable thesis problems and supervisors with the help of the faculty.

#### QUALIFYING AND COMPREHENSIVE EXAMINATIONS

Students take a qualifying examination over three of the four core course sequences required for the Ph.D. (analysis, differential equations, numerical analysis, and topology). They also take a comprehensive examination over the chosen outside area.

One program objective is to have each student's dissertation research include many of the activities of an applied mathematical scientist. For example, a student might formulate a model, do a quantitative analysis of the model, and interpret the results.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. To be prepared for graduate-level course



work in mathematics and an additional area, applicants should have a bachelor's or master's degree with a strong mathematics component and some background in the additional area.

Applications for fall admission are due on January 15. For application forms and more information about the academic program, contact the chair of the Applied Mathematical and Computational Sciences Program.

### **Financial Support**

Fellowships and research and teaching assistantships are available to qualified applicants. Fellowship support is available during summers. Applications for financial support should be submitted at the same time as applications for admission.

## **Applied Mathematical and Computational Sciences Courses**

### **22A:397 Seminar: Applied Mathematical and Computational Sciences**

arr.

Current research by faculty, students, guests.

### **22A:399 Reading and Research**

arr.

Repeatable.

## Biosciences

**Director:** Andrew F. Russo

**Affiliated faculty:** Paul Abbas (Communication Sciences and Disorders/Otolaryngology--Head and Neck Surgery), Francois Abboud (Internal Medicine), Christopher Adams (Internal Medicine), Lee-Ann Allen (Internal Medicine), Mark Anderson (Internal Medicine), Michael G. Anderson (Molecular Physiology and Biophysics), Steven Anderson (Neurology), Michael Apicella (Microbiology), Mark Arnold (Chemistry), Nikolai Artemyev (Molecular Physiology and Biophysics), Mario Ascoli (Pharmacology), Vladimir Badovinac (Pathology), Zuhair Ballas (Internal Medicine), Botond Banfi (Anatomy and Cell Biology), Alex Bassuk (Pediatrics), Christopher Benson (Internal Medicine), Ramesh Bhalla (Anatomy and Cell Biology), Jackie Bickenbach (Anatomy and Cell Biology), Gail Bishop (Microbiology), Daniel Bonthius (Pediatrics), Terry Braun (Biomedical Engineering), Timothy Brennan (Anesthesiology), Charles Brenner (Biochemistry), Garry Buettner (Radiation Oncology), John Butler (Microbiology), Kevin Campbell (Molecular Physiology and Biophysics), Brent Carter (Internal Medicine), Thomas Casavant (Electrical and Computer Engineering), Martin Cassell (Anatomy and Cell Biology), Mark Chapeau (Internal Medicine), Songhai Chen (Pharmacology), Chi-Lien Cheng (Biology), Amit Choudhury (Anatomy and Cell Biology), Steven Clegg (Microbiology), Michael Cohen (Pathology), Kelly James Cole (Health and Human Physiology), John Colgan (Internal Medicine), Josep Comeron (Biology), Robert Cornell (Anatomy and Cell Biology), Charles Cox (Microbiology), Joseph Cullen (Surgery), John Dagle (Pediatrics), Michael Dailey (Biology), Warren Darling (Health and Human Physiology), Beverly Davidson (Internal Medicine), Deborah Dawson (Preventive and Community Dentistry), Kris DeMali (Biochemistry), Jeffrey Denburg (Biology), Natalie Denburg (Neurology), Frederick Domann (Radiation Oncology), John Donelson (Biochemistry), Jonathan Doorn (Pharmacy), Michael Duffel (Pharmacy), Adam Dupuy (Anatomy and Cell Biology), Daniel Eberl (Biology), Adrian Elcock (Biochemistry), Craig Ellermeier (Microbiology), John Engelhardt (Anatomy and Cell Biology), Sarah England (Molecular Physiology and Biophysics), Frank Faraci (Internal Medicine), Jan Fassler (Biology), Michael Feiss (Microbiology), Elizabeth Field (Internal Medicine), R. William Field (Occupational and Environmental Health), John Fingert (Ophthalmology and Visual Sciences), Rory Fisher (Pharmacology), Robert Franciscus (Anthropology), C. Andrew Frank (Anatomy and Cell Biology), Joseph Frankel (Biology), John Freeman (Psychology), Gregory Friestad (Chemistry), Bernd Fritsch (Biology), Ernesto Fuentes (Biochemistry), Laurence Fuortes (Occupational and Environmental Health), Minnetta Gardinier (Pharmacology), Lei Geng (Chemistry), Frederic Gerr (Occupational and Environmental Health), Pamela Geyer (Biochemistry), Paloma Giangrande (Internal Medicine), George Giudice (Dermatology), James Gloer (Chemistry), Apollina Goel (Radiation Oncology), Pedro Gonzalez-Alegre (Neurology), Jean Gordon (Communication Sciences and Disorders), Prabhath Goswami (Radiation Oncology), Vicki Grassian (Chemistry), Steven Green (Biology), Jeremy Greenlee (Neurosurgery), Thomas Griffith (Urology), Hasem Habelhah (Pathology), Amanda Haes (Chemistry), Donna Hammond (Anesthesiology), N. Charles Harata (Molecular Physiology and Biophysics), John Hartly (Microbiology), Richard Eliot Hazeltine (Psychology), Paul Heidger (Anatomy and Cell Biology), Donald Heistad (Internal Medicine), Stephen Hendrix (Biology), Michael Henry (Molecular Physiology and Biophysics), Jonathan Heusel (Pathology), Raymond Hohl (Internal Medicine), Keri Hornbuckle (Civil and Environmental Engineering), Alexander Horswill (Microbiology), Diana Horton (Biology), Douglas Houston (Biology), Jon Houtman (Microbiology), Matthew Howard (Neurosurgery), Richard Hurlig (Communication Sciences and Disorders), Fiorenza Ianzini (Pathology), Erin Irish (Biology), Siegfried Janz (Pathology), Jean Jew (Anatomy and Cell Biology), Alan Kim Johnson (Psychology), Wayne Johnson (Molecular Physiology and Biophysics), Bradley Jones (Microbiology), Masataka Kawai (Anatomy and Cell Biology), Alan Kay (Biology), Shahram Khademi (Biochemistry), John Kirby (Microbiology), Toshihiro Kitamoto (Anesthesiology), Joel Kline (Internal Medicine), Al Klingelutz (Microbiology), Stacey Klutts (Pathology), C. Michael Knudson (Pathology), Amnon Kohen (Chemistry), John Koland (Pharmacology), Markus Kuehn (Ophthalmology and Visual Sciences), Tomomi Kuwana (Pathology), Anne Kwikte (Internal Medicine), Kathryn Lamping (Internal Medicine), Amy Lee (Molecular Physiology and Biophysics), Gloria Lee (Internal Medicine), Kevin Legge (Pathology), Steven Lentz (Internal Medicine), Kimberly Leslie (Obstetrics and Gynecology), Dana Levasseur (Internal Medicine), Irwin Levin (Psychology), Andrew Lidral (Orthodontics), Fang Lin (Anatomy and Cell Biology), Jim (Chung-Jung) Lin (Biology), Ana Llopert (Biology), John Logsdon (Biology), Gabriele Ludewig (Occupational and Environmental Health), Vince Magnotta (Radiology), Robert Malone (Biology), John Manak (Biology), Claudio Margulis (Chemistry), Wendy Maury (Microbiology), Bryant McAllister (Biology), Linda McCarter (Microbiology), Laurie McCormick (Psychiatry), Paul McCray (Pediatrics), Stephen McGowan (Internal Medicine), Jeffrey Meier (Internal Medicine), John Menninger (Biology), Lou Messerle (Chemistry), Durga P. Mohapatra (Pharmacology), Peter Mohler (Internal Medicine), Steven Moore (Pathology), Jessica Moreland (Pediatrics), Craig T. Morita (Internal Medicine), David Moser (Psychiatry), David Motto (Internal Medicine), Scott Moye-Rowley (Molecular Physiology and Biophysics), Robert Mullins (Ophthalmology and Visual Sciences), David Murhammer (Chemical and Biochemical Engineering), Jeffrey Murray (Pediatrics), William Nauseef (Internal Medicine), Maurine Neiman (Biology), Hien Nguyen (Chemistry), Peggy Nopoulos (Psychiatry), Sue O'Dorisio (Pediatrics), Daniel O'Leary (Psychiatry), Nicholas Pantazis (Anatomy and Cell Biology), Sergio Paradiso (Psychiatry), Shivanand Patil (Pediatrics), Jane Paulsen (Psychiatry), Stanley Perlman (Microbiology), Robert Philibert (Psychiatry), Bryan Phillips (Biology), Robert Piper (Molecular Physiology and Biophysics), Bryce Plapp (Biochemistry), Amy Poremba (Psychology), Jonathan Poulton (Biology), David Price (Biochemistry), Dawn Quelle (Pharmacology), Frederick Quelle (Pharmacology), Daniel Quinn (Chemistry), Kamal Rahmouni (Internal Medicine), Matthew Rizzo (Neurology), Larry Robertson (Occupational and Environmental Health), Robert Robinson (Psychiatry), Jan-Uwe Rohde (Chemistry), Richard Roller (Microbiology), Paul Rothman (Internal Medicine), Peter Rubenstein (Biochemistry), Andrew Russo (Molecular Physiology and Biophysics), Tom Rutkowski (Anatomy and Cell Biology), Aliasger Salem (Pharmacy), Todd Scheetz (Ophthalmology and Visual Sciences), Annette Schlueter (Pathology), Thomas Schmidt (Molecular Physiology and Biophysics), Jerald Schnoor (Civil and Environmental Engineering), Deborah Segaloff (Molecular Physiology and Biophysics), Alberto Segre (Computer Science), Madeline Shea (Biochemistry), David Sheff (Pharmacology), Val Sheffield (Pediatrics), Erwin Shibata (Molecular Physiology and Biophysics), Ming-Che Shih (Biology), Curt Sigmund (Internal Medicine), Kathleen Sluka (Physical Therapy and Rehabilitation Science), Diane Slusarski (Biology), Richard Smith (Otolaryngology), Sarit Smolikove (Biology), David Soll (Biology), Long-Shen Song (Internal Medicine), Douglas Spitz (Radiation Oncology), Mark Starnes (Molecular Physiology and Biophysics), Jack Stapleton (Internal Medicine), George Stauffer (Microbiology), Christopher Stipp (Biology), C. Martin Stoltzfus (Microbiology), Edwin Stone (Ophthalmology and Visual Sciences), Stefan Strack (Pharmacology), Fayyaz Sutterwala (Internal Medicine), William Talman (Neurology), Kai Tan (Internal Medicine), Christie Thomas (Internal Medicine), Peter Thorne (Occupational and Environmental Health), Nelson Ting (Anthropology), Ingo Titze (Communication Sciences and Disorders), J. Bruce Tomblin (Communication Sciences and Disorders), Yurii Usachev (Biology), Daniel Tranel (Neurology), Lubomir Turek (Pathology), Christopher Turner (Communication Sciences and Disorders), Ergun Uc (Neurology), Yuri Usachev (Pharmacology), Steve Varga (Microbiology), Shaun Vecera (Psychology), Thomas Waldschmidt (Pathology), Michael Wall (Neurology), Lori Wallrath (Biochemistry), M. Todd Washington (Biochemistry), Edward Wasserman (Psychology), Thomas Wassink (Psychiatry), Daniel Weeks (Biochemistry), Ronald Weigel (Surgery), George Weiner (Internal Medicine), Joshua Weiner (Biology), David Weiss (Microbiology), Jerrold Weiss (Internal Medicine), Michael Welsh (Internal Medicine), John Wemmie (Psychiatry), David Wiemer (Chemistry), Terence Williams (Anatomy and Cell Biology), Mary Wilson (Internal Medicine), Marc Wold (Biochemistry), Michael Wright (Molecular Physiology and Biophysics), Chun-Fang Wu (Biology), Dale Wurster (Pharmaceutics), Yi Xing (Internal Medicine), Hai-Hui Howard Xue (Microbiology), Timothy Yahr (Microbiology), Charles Yeaman (Anatomy and Cell Biology), Joseph Zabner (Internal Medicine), Nicholas Zavazava (Internal Medicine)

**Web site:** <http://www.healthcare.uiowa.edu/biosciences>

## Graduate Program

Participation in the Biosciences Program leads to a Ph.D. degree in a biosciences discipline. The program provides graduate students the freedom to explore research in any of 16 University of Iowa biosciences research departments and programs: the Departments of Anatomy and Cell Biology, Biochemistry, Biology, Biomedical Engineering, Chemistry, Communication Sciences and Disorders, Microbiology, Molecular Physiology and Biophysics, Pharmacology, and Physical Therapy and Rehabilitation Science; and the Free Radical and Radiation Biology, Genetics, Human Toxicology, Immunology, Molecular and Cellular Biology, and Neuroscience Programs.

Biosciences students enjoy the flexibility of investigating several disciplines through research rotations in the laboratories of Biosciences Program faculty members. Following completion of their first year in the program, students select a research laboratory and program affiliation and decide on a thesis project that will lead to a Ph.D.

Semester hour requirements for the doctorate vary by program, but all Ph.D. degrees at Iowa require at least 72 s.h. of graduate credit. For detailed information on Graduate College policies, see the Manual of Rules and Regulations of the Graduate College.

### Curriculum

Students spend their first two semesters in the Biosciences Program. The curriculum provides them with an integrated core foundation on modern molecular and cellular biology while giving them flexibility to accommodate their individual interests.

Instead of offering one semester-long core course, the program offers at least six content modules. In consultation with

their advisors, students choose modules at five-week intervals, tailoring their individual study plans to meet their interests. Some modules are intended to be taken as a series; they cover fundamentals of cell structure, intracellular trafficking, signal transduction, and protein structure. Other modules are stand-alone units on more specialized topics, such as biostatistics.

Early in the second semester, Biosciences Program students talk with prospective mentors about thesis projects and laboratory openings for the following summer. In March they submit their choice of the graduate program they wish to join and the faculty member they wish to have as a mentor.

The Biosciences web site contains typical study plans for students interested in specific graduate programs. The student's choice of program determines his or her curriculum for subsequent years.

Students in the Biosciences Program are not required to teach, but most of the graduate programs they enter will require that they take on teaching responsibilities.

During their Biosciences Program year, students are advised on course selection, research rotations, and registration by a faculty member closely related to the student's research and academic interests. As research rotations are assigned, the faculty advisor works in consultation with the student's rotation advisors until the end of the first year.

Students provide a short oral presentation following each research rotation to an audience of their primary advisor, research advisor(s), and other biosciences students. Rotation advisors provide rotation reports, and rotations are evaluated by the student's primary advisor. The student's primary advisor also confers with the student on course grades, subsequent rotations, and the student's selection of a department or program and lab for thesis research.

All biosciences students take 156:265 Biosciences Critical Thinking and Communication, which dovetails with research rotations and seminar series offered by the University's biosciences research departments and programs. The course involves weekly discussions of selected papers and oral and written presentations tied to the student's research rotations.

Each student's overall progress is monitored by his or her primary advisor, rotation advisor(s), and program director, who meet at the end of each semester to review the student's work. At the end of the second semester, the primary advisor, in cooperation with the rotation advisor(s), makes a recommendation to the Biosciences Program director as to whether or not the student should continue in the Ph.D. program. University guidelines, such as maintaining a cumulative g.p.a. of 3.00 or higher, are considered, along with performance in rotations.

The Biosciences Program's office coordinates students' transfer to their chosen graduate programs. Matriculation is conditional upon satisfactory progress and successful completion of the second semester.

Once students enter their chosen graduate program, it is that program's responsibility to advise them, evaluate their academic performance, and assign them a thesis mentor and laboratory.

Most participating departments and programs require that students take a comprehensive exam at the end of the second year and no later than the third year. Following successful completion of the exam, students advance to Ph.D. candidacy.

## **REQUIRED COURSES**

All Biosciences Program students must complete the following course work. Students earn at least 12 s.h. each semester.

### **Fall Semester**

156:265 Biosciences Critical Thinking and Communication	2 s.h.
156:302 Biosciences Research (10-week research rotations)	arr.
Electives	

### **Spring Semester**

156:265 Biosciences Critical Thinking and Communication	2 s.h.
156:302 Biosciences Research (10-week research rotations)	arr.
650:270 Principles of Scholarly Integrity	1 s.h.
Electives	

## Admission

The program accepts students with a variety of backgrounds in the biological and physical sciences. Entering students must hold a baccalaureate degree from an accredited college or university and should have completed courses in biology, chemistry, physics, and calculus consistent with requirements for a baccalaureate degree in the sciences. An undergraduate g.p.a. of at least 3.00 is required.

Applicants must submit their scores on the Graduate Record Examination; a combined verbal and quantitative score of 1200 and an analytical writing score of 4.5 or higher are preferred. Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Other indicators of academic accomplishments, such as research experience and letters of recommendation, are considered.

Information about graduate training and application materials are available from the Biosciences Program office.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

Graduate students receive stipend and tuition support from The University of Iowa and other sources. Students promoted to the second year in the program receive support from their graduate departments and programs. The Biosciences Program also helps some students apply for competitive national awards for outstanding academic and research achievement.

## Facilities

The Carver College of Medicine provides state-of-the-art facilities for students, researchers, and instructors. The Medical Education and Research Facility, completed in 2002, provides 220,000 square feet of modern laboratories, lecture halls, clinical examination rooms, and study and meeting space for students. The Carver Biomedical Research building opened in 2005. The 135,000 square-foot building is devoted to research, with five floors of specialized laboratories and new technology. In addition to its new buildings, the college offers recently renovated laboratories and classrooms.

The health sciences campus provides parking, food service, and enjoyable outdoor common areas and pedestrian routes. Most of the University's health sciences colleges and clinical facilities are located there.

The basic science and clinical departments of the Carver College of Medicine are housed primarily in the Bowen Science Building, Carver Biomedical Research Building, Eckstein Medical Research Building, Medical Education and Research Facility, Medical Laboratories, and University of Iowa Hospitals and Clinics. Nearby are the Hardin Library for the Health Sciences and the Iowa City Veterans Affairs Medical Center.

The Departments of Anatomy and Cell Biology, Biochemistry, Microbiology, Molecular Physiology and Biophysics, and Pharmacology are housed in the Bowen Science Building. Laboratories of clinical departments are located primarily in the Medical Laboratories and the Medical Research Center.

The Eckstein Medical Research Building houses major core facilities for microscopy, image analysis, flow cytometry, protein structure, and monoclonal antibody production, as well as research laboratories for basic investigators with interdisciplinary approaches to cancer, molecular biology, genetics, and immunology. The geographic proximity of these facilities promotes interchange among clinical and basic science faculty members and students and maximizes use of the University's extensive core facilities for biomedical research.

Integral to the University's research environment are the Carver Family Center for Macular Degeneration, Center for Auditory Regeneration and Deafness, Center for Bioinformatics and Computational Biology, Center for Emerging Infectious Diseases, Center for Functional Genomics of Hypertension, Center for Gene Therapy, Center for Research in the Implementation of Innovative Strategies in Practice, Center on Aging, Craniofacial Center Collaboratory, Cystic Fibrosis Research Center, Clinical Research Unit, Holden Comprehensive Cancer Center, Huntington's Disease Center for Excellence, Iowa Cardiovascular Center, Iowa Comprehensive Lung Imaging Center, Helen C. Levitt Center for Viral Pathogenesis, George M. O'Brien Kidney Research Center, Specialized Center for Research in Osteoarthritis, and the Senator Paul D. Wellstone Muscular Dystrophy Cooperative Research Center.

In addition to the University's extensive facilities for research support, the Carver College of Medicine and the College of Liberal Arts and Sciences operate a variety of research support facilities. Tissue culture, autoclaving, purified water, darkrooms, counters, and a variety of general-use equipment and services are available on a shared basis.

## Biosciences Courses

- 156:201 Fundamentals of Gene Expression** 1 s.h.  
DNA and RNA structure, nuclear organization, DNA replication, RNA production and processing, small RNAs, RNAi, and genetic and epigenetic regulation; didactic and small group sessions, discussion of primary research publications.
- 156:202 Fundamentals of Protein Regulation** 1 s.h.  
Protein structure, purification, analysis, production, post-translation modification and cellular trafficking; didactic and small group sessions, discussion of primary research publications.
- 156:203 Fundamentals of Dynamic Cell Processes** 1 s.h.  
Overview of actin, microtubules, motors, intermediate filaments, cell-cell junctions, G-coupled signaling, wnt-jak/stat signaling, ion channels, cell cycle, stem cells.
- 156:204 Biostatistics for Biomedical Research** 1 s.h.  
Application of statistical techniques to biological data analysis; normal distribution, sampling distribution of the mean, variance, nonparametric methods, linear regression, power, and sample size. Same as 171:151.
- 156:205 Practical Bioinformatics** 1 s.h.  
Formal instruction on the use and application of bioinformatics for bench scientists; bioinformatics, resources, genome annotations, sequence analysis, comparative genomics, expression analysis, and systems biology. Requirements: biostatistics.
- 156:265 Biosciences Critical Thinking and Communication** 2 s.h.  
Selected papers and oral and written presentations tied to students' research rotations; introductory seminar. Repeatable. Same as 002:270, 072:342.
- 156:302 Biosciences Research** arr.  
Research experience in the lab of a biosciences program faculty member. Repeatable.

## Center for the Book

**Director:** Matthew P. Brown (English/Center for the Book)

**Professors:** Timothy Barrett, Ed Folsom (English/Center for the Book), Robert Glasgow (Art and Art History/Center for the Book), Judith Pascoe (English/Center for the Book), James Snitzer (Art and Art History/Center for the Book), Katherine Tachau (History/Center for the Book), Jonathan Wilcox (English/Center for the Book)

**Associate professor:** Matthew P. Brown (English/Center for the Book)

**Adjunct assistant professors:** Gary Frost, Cheryl Jacobsen, Penny McKean, Emily Martin, Sara Sauers

**Adjunct instructors:** Craig Kelchen (Division of Performing Arts), Julie Smith

**Lecturers:** Kathleen Kamerick (History/Center for the Book), Sara Langworthy, Julia Leonard (Center for the Book/Art and Art History)

**Graduate nondegree program:** Certificate in Book Studies/Book Arts and Technologies

**Web site:** <http://www.uiowa.edu/~ctrbook>

The University of Iowa Center for the Book represents a community of faculty, staff, students, and local book specialists with interests in all facets of book production, distribution, and use. Some members of the center actively research the history and circulation of the book, examining books' role in cultural and historical processes. They also look at how changes in book production affect the way books are viewed as artifacts. Specialists in book arts and technologies study the history and technique of book crafts, including letterpress and offset printing, typography, calligraphy, papermaking, and bookbinding. Others engage in the conservation or production of books, including artists' books and literary fine press publications.

The center offers classes; sponsors lectures, seminars, and workshops; and encourages the exchange of ideas among individuals with interests in the book. A wide range of perspectives on the book as an aesthetic, cultural, and historical artifact is provided by associated faculty, staff, and graduate students in the Schools of Art and Art History and Library and Information Science; the Departments of History, English, and Computer Science; University of Iowa Libraries; the Iowa Writers' Workshop; and other areas. This interdisciplinary membership and the center's facilities combine to provide an exceptional environment for studying the history of the book, its evolution, and its future.

The center collaborates with the Graduate College to offer a graduate-level certificate program. Undergraduate students can add dimension to their majors in English, art, journalism, history, and other disciplines by taking Center for the Book courses in book crafts and book studies. They also may include an emphasis on book arts or on cultural and historical aspects of the book in the interdepartmental studies major.

### Certificate

The Certificate in Book Studies/Book Arts and Technologies requires 24 s.h. of course work. It is offered by the Center for the Book through the Graduate College.

The program's principal objectives are to:

- place the interdisciplinary study of book history, arts, and technologies in academic and aesthetic contexts;
- provide a structured program in art, English, history, library and information science, and other departments for graduate students who are seriously interested in book studies; and
- give nondegree, graduate-level students who wish to study the book a framework for their study.

Students have two options in pursuing the certificate. Graduate students enrolled in a degree program at Iowa may work concurrently toward the certificate and an M.A., M.F.A., or Ph.D. Students who wish to pursue the certificate but not a graduate degree may do so with nondegree status in the Graduate College.

Of the required 24 s.h. of course work, at least 6 s.h. must be taken from the academic course list and 6 s.h. from the arts and technologies course list. Required course work also includes a final project—a substantial work supervised by a committee chosen by the student (see the center's publication Final Project Guidelines). For more information, contact the Center for the Book or visit its web site.

### Admission

Admission requires active standing in the Graduate College. Applicants submit a statement of purpose and evidence of scholarly or creative work to the center. For more information about admission, contact the Center for the Book.

### Financial Support

Students may secure support from University of Iowa sources (contact the Office of Student Financial Aid) or from outside funding agencies. Working assistantships are available at the center's professional production workshops. Internships and part-time work are available to qualified student and nonstudent professionals, especially in the areas of bookbinding, papermaking, and letterpress printing.

## Center for the Book Courses

### 108:029 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, fieldtrips). Requirements: first- or second-semester standing.

**108:100 Special Project for Undergraduates** arr.  
Independent study.

**108:110 Papermaking** 3 s.h.  
History, fundamental techniques of Western and Eastern hand papermaking; projects in traditional sheet forming, basic paper chemistry, paper coloring. Offered spring semesters. Same as 01X:110.

**108:112 Studies in Papermaking** arr.  
Topics in the history and technique of papermaking.

**108:130 Paperworks** 3 s.h.  
Conceptual and methodological approaches to 2-D and 3-D paper works; students create a body of works that couple the unique properties of paper-pulp medium with personal visual ideas and clarity of intent; contemporary issues in paper pulp and the medium's relationship to larger art and craft contexts. Same as 01X:130.

**108:132 Papermaking History and Technique** 3 s.h.  
Traditional Eastern and Western sheet forming techniques, history, aesthetics; emphasis on fiber selection and preparation. Offered fall semesters. Same as 01X:120.

**108:135 Religious Readers and Their Books** 3 s.h.  
Close study of content and form of religious books and their interplay with individual and communal reading habits; examination of the way written and printed matter circulate in religious contexts; analysis of the meaning of sacred texts in various settings. Same as 032:135.

**108:142 History of Western Letterforms** 3 s.h.  
History of Western letterforms, with focus on tools, materials, techniques; the major hands, their place in history, their influence on modern times; creation of letterforms using appropriate tools; hands-on approach with emphasis on understanding rather than mastery. Same as 01Z:142.

**108:143 Calligraphy: Foundational Hands** 3 s.h.  
Fundamental calligraphic skills using Roman majuscule, Humanistic minuscule, Italic; basic layout and color theory incorporated into letter practice. Same as 01Z:143.

**108:144 Calligraphy: Italic and Script Hands** 3 s.h.  
Hands-on instruction in italic and pressure pen scripts; historical relationships, effects on modern letterforms. Same as 01Z:144.

**108:145 Calligraphy: Blackletter Hands** 3 s.h.  
Development of proficiency in various hands, from vertical Textura to floridly gothic cursive; blackletter's historical connections with other disciplines.

**108:146 Studies in Letter Arts** 3 s.h.  
Special topics and advanced projects in calligraphy and letter arts. Prerequisites: 108:140 or 108:141 or 108:142 or 108:143. Same as 01Z:146.

**108:150 Bookbinding I: Materials and Techniques** 3 s.h.  
Hands-on introduction to materials and techniques commonly used in bookbinding. Same as 01Y:150.

**108:151 Bookbinding II** 3 s.h.  
Build on skills acquired in 108:150; projects to complete six bindings based on historical and contemporary models; sewing styles, board attachments, endband types; nonadhesive and case-bound structures, varied materials and binding styles, their effects on structure, aesthetic considerations, further development of solid binding skills; historical development of particular binding practices. Prerequisites: 108:150. Same as 01Y:151.

**108:152 Bookbinding III** 3 s.h.

Bookbinding structures based on historical and contemporary models; differences in various binding practices, how these differences affect function, why the styles developed; experience choosing appropriate structures for particular uses; emphasis on fine tuning skills and techniques required for advanced binding practices; sewn endbands, rounding and backing, sewing on varied supports, board attachments, and covering methods. Requirements: (for 108:152) 108:150 and 108:151; (for 01Y:152) 01Y:150 or 01Y:151 or 108:150 or 108:151. Same as 01Y:152.

**108:153 Studies in Bookbinding**

3 s.h.

Topics related to hand bookbinding. Same as 01Y:153.

**108:154 Artists' Books**

3 s.h.

Exploration of the book as a form for artistic expression; emphasis on conceptual development; relationship between content, form, and structure; how a book's structure and design can enhance and integrate part of the work's meaning. Prerequisites: 01Y:150 or 108:150. Same as 01Y:154.

**108:155 Historical Book Structures**

3 s.h.

Historical development of book structures examined through surviving examples, construction of historical models. Prerequisites: 01Y:150 or 108:150.

**108:156 Boxes and Enclosures**

3 s.h.

Hands-on techniques for a variety of book enclosures; appropriateness, aesthetic issues concerning box design; Japanese wraparound case, drop-spine box, hinged and lidded boxes, slipcase; technical skill development. Prerequisites: 108:150. Same as 01Y:156.

**108:157 Moveable/Sculptural Books**

3 s.h.

Varied formats for moveable and/or sculptural books; history; readings, hands-on model making. Same as 01Y:157.

**108:158 Pop-Up Book Structures**

3 s.h.

Hands-on exploration of varied aspects of paper engineering for bookmaking; historical and modern models studied and executed. Prerequisites: 108:150. Same as 01Y:158.

**108:160 Introduction to Letterpress Printing**

3 s.h.

Mechanics of letterpress printing, basic elements of typographic design as applied to letterpress edition printing; hand setting and printing from metal type on Vandercook proof presses; printing text and illustration from photopolymer plates; historical aspects of printing, early development of printing technologies, evolution of letterpress printing through 20th century. Same as 01P:160.

**108:161 Handprinted Book: Design and Production**

3 s.h.

Exploration of problems in hand-printing books--choice of manuscript, editing, design, typesetting, proofreading, printing and binding; histories of printing and of the book, emphasis on 20th- and 21st-century book design and literature. Same as 01P:161.

**108:162 Digital Book Design**

3 s.h.

Students plan, design, and produce a book using Adobe Creative Suite; page layout software, typography, page layout and design, book formatting, handling of image files, preparation of materials for print and other contemporary book media; history of book design, book design in contemporary publishing; visit to University of Iowa Libraries Special Collections. Prerequisites: 01D:125 or 108:160. Same as 01P:162.

**108:163 Digital to Letterpress Book Design**

3 s.h.

Digital typesetting and book design; chapbook production using photopolymer plates and Vandercook presses; text and content, book typography, practical and aesthetic considerations. Same as 01P:163.

**108:164 Digital Design for Artists' Books**

3 s.h.

Introduction to concepts, techniques, and technologies used to design and produce artists' books with personal computers and graphic design software. Same as 01P:164.

**108:165 Innovative Letterpress**

3 s.h.

Creation of the visual book using letterpress printing; narrative, serialization, type as graphic, physical structure of the book; traditional letterpress printing, monoprinting, nontraditional letterpress techniques using technology ranging from metal to digital. Same as 01P:165.



- 108:166 Studies in Printing** 3 s.h.  
Special topics and advanced projects in printing.
- 108:170 Studies in Book Technologies** arr.  
Topics such as book design, printing, paper arts, letterforms, typography.
- 108:181 Literature and the Book** 3 s.h.  
English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Early Literatures through 17th-Century, 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:130.
- 108:182 The Book in the Middle Ages** 3 s.h.  
Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Prerequisites: 01H:005 or 16E:110. Same as 16E:120.
- 108:183 The Transition from Manuscript to Print** 3 s.h.  
Western manuscripts and books 1200-1600; changes in production and distribution methods and in how texts were used, in cultural context. Same as 021:258, 16E:118.
- 108:185 Introduction to Book Studies** 3 s.h.  
Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:134.
- 108:186 Topics in Book History** 3 s.h.  
Authorship, publishing, and so forth within specific historical and cultural contexts. English majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Early Literatures Through 17th Century, 18th- and/or 19th-Century Literature, or 20th- and/or 21st-Century Literature. Same as 008:190.
- 108:200 Special Project for Graduate Students** arr.  
Independent study.
- 108:201 Book Studies Workshop** 1 s.h.  
Discussion of issues central to book studies; workshop approach to current projects.
- 108:205 Final Project** arr.  
Project for graduate certificate.
- 108:210 Individual Instruction in Papermaking/Paperworks** arr.  
Traditional papermaking or creation of works of art using paper pulp as the medium; independent projects.
- 108:214 Individual Instruction in Calligraphy** arr.
- 108:215 Individual Instruction in Bookbinding/Structure** arr.  
Bookbinding and artists' book works; independent projects.
- 108:216 Individual Instruction in Printing** arr.
- 108:220 History of Readers and Reading** 3 s.h.  
Cultural nature of reading practices in historic and contemporary contexts of reading; reading communities; dimensions of gender, age, class, religion, race, ethnicity; examples of recent scholarship; use of primary resources; seminar. Prerequisites: 021:101. Same as 021:256.
- 108:224 Electronic Publishing** 3 s.h.  
Modes and methods for building electronic journals, books, thematic collections; new genres for publishing, including blogs, wikis, comics, short stories on the web; social, political, and economic forces that shape electronic publishing; XML-based project. Prerequisites: 021:120. Same as 021:224.

**108:230 Topics in Book Studies**

1-3 s.h.

Topics relevant to book studies and special collections. Prerequisites: 021:101. Requirements: admission to library and information science. Same as 021:249.

**108:299 Book Studies Proseminar**

1 s.h.

## Genetics

**Chair:** Daniel Eberl (Biology)

**Affiliated faculty:** Christopher Adams (Internal Medicine), Michael Anderson (Molecular Physiology and Biophysics), Alexander Bassuk (Pediatrics), Jackie Bickenbach (Anatomy and Cell Biology), Terry Braun (Electrical and Computer Engineering), Charles M Brenner (Biochemistry), Thomas Casavant (Electrical and Computer Engineering), Chi-Lien Cheng (Biology), Josep Comeron (Biology), Robert Cornell (Anatomy and Cell Biology), Beverly Davidson (Internal Medicine), Deborah Dawson (Preventive and Community Dentistry), Adam Dupuy (Anatomy and Cell Biology), Daniel Eberl (Biology), Craig D. Ellermeier (Microbiology), Jan Fassler (Biology), John Fingert (Ophthalmology and Visual Sciences), C. Andrew Frank (Anatomy and Cell Biology), Joseph Frankel (Biology), Pamela Geyer (Biochemistry), Pedro Gonzalez-Alegre (Neurology), Doug Houston (Biology), Erin Irish (Biology), Wayne Johnson (Molecular Physiology and Biophysics), Bradley Jones (Microbiology), John Kirby (Microbiology), Toshihiro Kitamoto (Anesthesiology), Al Klingelutz (Microbiology), Markus H. Kuehn (Ophthalmology and Visual Sciences), Anne Kwitek (Internal Medicine), Dana Levasseur (Internal Medicine), Andrew Lidral (Orthodontics), Fang Lin (Anatomy and Cell Biology), Jim J Lin (Biology), Ana Llopert (Biology), John Logsdon (Biology), Robert Malone (Biology), John Manak (Biology), Bryant McAllister (Biology), Anton McCaffery (Internal Medicine), Paul McCray (Pediatrics), John Menninger (Biology), W. Scott Moye-Rowley (Molecular Physiology and Biophysics), Jeff Murray (Pediatrics), Shivanand Patil (Pediatrics), Robert Philibert (Psychiatry), Bryan T. Phillips (Biology), Robert Piper (Molecular Physiology and Biophysics), Andrew Russo (Molecular Physiology and Biophysics), Todd Scheetz (Ophthalmology and Visual Sciences), Alberto Segre (Computer Science), Val Sheffield (Pediatrics), Curt Sigmund (Internal Medicine), Diane Slusarski (Biology), Richard Smith (Otolaryngology--Head and Neck Surgery), Sarit Smolikove (Biology), Edwin Stone (Ophthalmology and Visual Sciences), Kai Tan (Internal Medicine), Nelson Ting (Anthropology), Tina L Tootle (Anatomy and Cell Biology), Lori Wallrath (Biochemistry), Thomas Wassink (Psychiatry), David Weiss (Microbiology), Michael Welsh (Internal Medicine/Molecular Physiology and Biophysics), Mary Wilson (Internal Medicine), Chun-Fang Wu (Biology), Xing Yi (Internal Medicine)

**Graduate degree:** Ph.D. in Genetics

**Web site:** <http://genetics.grad.uiowa.edu>

## Graduate Program

The program offers a Doctor of Philosophy in genetics.

### Doctor of Philosophy

The Doctor of Philosophy in genetics requires a minimum of 72 s.h. of graduate credit. The Ph.D. program is designed to promote collaborative investigation and intellectual interaction among students and faculty participants affiliated with several different departments.

Students who enroll in the program are encouraged to obtain a broad background in genetics, including molecular, population, and human genetics. Within this context, course requirements are flexible enough to permit students to tailor their formal course work to their individual needs.

Students have the option to declare a Ph.D. emphasis in computational genetics.

All students enrolled in the program are required to take the following courses.

All of these:

127:150 Genetic Analysis of Biological Systems	3 s.h.
127:200 Special Topics in Genetics (seminar)	1 s.h.
156:201 Fundamentals of Gene Expression	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.

One of these:

002:131 Evolution	4 s.h.
002:168 Genes and Development	3 s.h.
127:191 Human Molecular Genetics	3 s.h.

All of these:

650:270 Principles of Scholarly Integrity	1 s.h.
Elective course work in molecular and microbial genetics, cell and development genetics, human genetics, or computational genetics	8 s.h.
Seminar courses approved by the program	5 s.h.

Even more important than formal course work is the opportunity to do significant research in genetics. Research interests of the participating faculty include virtually all areas of genetics, ranging from bacteriophage genetics to human medical genetics. In each area of genetics, there is a group of faculty members who have closely related interests.

The University is also strong in several related disciplines, including microbial physiology, enzymology, virology, protein biochemistry, computational genetics, and developmental and cell biology, all of which contribute significantly to the overall training program.

In addition to completing research and course work, students must pass a comprehensive examination, usually at the

end of their second year in the program.

### **Ph.D. and Medical Scientist Training Program**

Students may combine study toward an M.D. and a Ph.D. in genetics. See Medical Scientist Training Program (Carver College of Medicine) in the Catalog.

### **Ph.D. and Dental Scientist Training Program**

Students with a D.D.S. degree may be candidates for advanced training programs in dentistry. For information, contact the College of Dentistry.

### **Admission**

Prospective doctoral students in genetics should have a strong undergraduate background in science, including courses in general genetics, organic chemistry, biochemistry, introductory physics, and mathematics, as well as a strong commitment to genetic research and teaching. Students can make up deficiencies in a particular area during their first year of graduate study.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Admission to the program is based on assessment of applicants' undergraduate academic records, performance on the Graduate Record Examination (GRE) General Test, and letters of recommendation. Admission requirements are not rigid. Most students working toward a Ph.D. in genetics at the University have an undergraduate g.p.a. above 3.50, and a combined verbal and quantitative score above 1250 on the GRE General Test. Students with lower grade-point averages or GRE scores may be admitted, depending on prior research experience and other indications of academic potential.

Students generally begin graduate work in the fall semester.

### **Financial Support**

All genetics graduate students receive a financial stipend of \$25,000 (academic year 20109-11) plus tuition.

Financial support comes from training grants, research assistantships, teaching assistantships, scholarships, individual research grants, or other departmental or college funds. All students are required to do some teaching as part of their development as future scientists and faculty members.

### **Associated Courses**

The following courses provide credit toward the Ph.D. in genetics. Not all courses are offered every year.

002:131 Evolution	4 s.h.
002:168 Genes and Development	3 s.h.
002:171 Molecular Genetics	4 s.h.
033:153 Hard Cases: Science Policy and Values (Implications of the Human Genome Project)	3 s.h.
051:123 Bioinformatics Techniques	3 s.h.
060:230 Molecular Basis Vertebrate Development	2 s.h.
061:268 Biology and Pathogenesis of Viruses	2 s.h.
070:110 Medical Genetics	2 s.h.
099:237 Topics in Biochemistry and Molecular Biology	1 s.h.
127:170 Bioinformatics	3 s.h.
127:173 Computational Genomics	3 s.h.
132:184 Developmental Neurobiology	3 s.h.
142:210 Advance Prokaryotic Molecular Biology	3 s.h.
142:215 Transcription and Multifunctional Regulation by RNA	1 s.h.
142:220 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System	1 s.h.
142:225 Growth Factor Receptor Signaling	1 s.h.
185:274 Theory of Statistical Genetics	3 s.h.
185:276 Statistical Genetics Laboratory	3 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.

## Genetics Courses

**127:150 Genetic Analysis of Biological Systems**

3 s.h.

Genetic techniques and approaches for analysis of biological processes; comparison of strengths, weaknesses of a variety of experimental systems.

**127:170 Bioinformatics**

3 s.h.

Overview of bioinformatics and genomics; requires working knowledge of basic concepts in genetics and molecular biology. Requirements: (for 002:170) grade of B+ or higher in 002:128; (for 127:170) grade of B+ or higher in 002:128 and working knowledge of basic genetics and molecular biology concepts. Same as 002:170.

**127:173 Computational Genomics**

3 s.h.

Same as 002:174, 051:122, 055:122.

**127:176 Microarray Data Analysis**

3 s.h.

Basic statistical principles and techniques used in bioinformatics, including analyzing microarray gene expression data. Offered spring semesters. Prerequisites: 22S:030 or 22S:101 or 171:161. Same as 002:176, 171:185.

**127:191 Human Molecular Genetics**

3 s.h.

Molecular genetic approaches to human disease; the human genome project, linkage analysis, candidate gene screening, special features of inbred populations, triplet repeat expansions, mitochondrial genetics, genetics of complex traits. Requirements: fundamental genetics and molecular biology.

**127:200 Special Topics in Genetics**

1 s.h.

Current research in a selected field of genetics; different topic each year. Companion to a genetics seminar series. Same as 060:200.

**127:280 Directed Study in Genetics**

arr.

**127:301 Graduate Research in Genetics**

arr.

# Human Toxicology

**Director:** Larry W. Robertson (Occupational and Environmental Health)

**Associate director:** Peter Thorne (Occupational and Environmental Health/Civil and Environmental Engineering)

**Director of Graduate Studies:** Gabriele Ludewig (Occupational and Environmental Health)

**Affiliated faculty:** Garry Buetner (Free Radical and Radiation Biology/Radiation Oncology), A. Brent Carter (Internal Medicine), Frederick Domann (Free Radical and Radiation Biology/Radiation Oncology), Jonathan Doorn (Pharmacy), Michael Duffel (Pharmacy), R. William Field (Occupational and Environmental Health/Epidemiology), Laurence Fuortes (Occupational and Environmental Health), Frederic Gerr (Occupational and Environmental Health), Prabhat Goswami (Free Radical and Radiation Biology/Radiation Oncology), Vicki Grassian (Chemistry/ Chemical and Biochemical Engineering/Occupational and Environmental Health), Keri Hornbuckle (Civil and Environmental Engineering), Joel Kline (Immunology/Internal Medicine), Hans-Joachim Lehmler (Occupational and Environmental Health), Gabriele Ludewig (Occupational and Environmental Health), Paul McCray (Pediatrics/Genetics), David Murhammer (Chemical and Biochemical Engineering), Daryl Murry (Clinical and Administrative Pharmacy), Aliasger Salem (Pharmacy), Jerald Schnoor (Civil and Environmental Engineering), Douglas Spitz (Free Radical and Radiation Biology/Radiation Oncology), Jerrold Weiss (Immunology/Internal Medicine/Microbiology), Dale Wurster (Pharmacy)

**Graduate degrees:** M.S., Ph.D. in Human Toxicology

**Web site:** <http://toxicology.grad.uiowa.edu/>

Toxicology is the study of how biological, chemical, physical, and radiological agents affect living organisms and the ecosystem, and how to prevent or lessen the adverse effects of those agents. The Human Toxicology Program prepares toxicologists to identify and assess environmental exposures, identify mechanisms by which toxicants affect homeostasis or induce disease, identify interventions to prevent adverse effects, and estimate acceptable levels of exposure to protect public health.

The program is interdisciplinary, involving the Graduate College, the Carver College of Medicine, and the Colleges of Engineering, Liberal Arts and Sciences, Pharmacy, and Public Health.

The Human Toxicology Program is supported by an Iowa Superfund basic research program grant that supports six research projects and seven support cores, including a training core. Human toxicology faculty members are supported by the Environmental Health Sciences Research Center, a National Institute of Environmental Health Center of Excellence.

## Graduate Programs

The Human Toxicology Program offers a Master of Science and a Doctor of Philosophy in human toxicology.

### Master of Science

The Master of Science in human toxicology requires a minimum of 39 s.h. of graduate credit; a thesis is required. The program is designed for students who wish to pursue a master's degree as a second degree or through part-time study, particularly those who perform toxicologists' functions in their jobs and who need additional training.

Entering students should have backgrounds in the biological, engineering, and physical sciences and should have completed courses in introductory chemistry and biology, and organic chemistry.

After entering the program, students work with their assigned mentors to choose an advisory committee, which meets at least once a semester to help the student explore his or her research interests. The committee also provides consultation on course work and research activities and serves as the committee for the final examination (thesis defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

All M.S. students must successfully complete a first course in toxicology, 175:260 Environmental Toxicology (3 s.h.) or 046:214 Pharmaceutical and Chemical Toxicology (3 s.h.); and an advanced course, 175:265 Advanced Toxicology (4 s.h.).

All toxicology graduate students are required to register for 198:180 Toxicology Research Seminar each semester of their enrollment in the program.

Upon successful completion of all requirements, including the thesis and its oral defense, students are awarded a Master of Science.

### Doctor of Philosophy

The Doctor of Philosophy in human toxicology requires a minimum of 72 s.h. of graduate credit. The program is designed for students with backgrounds in the biological, engineering, and physical sciences. Entering students should have solid training in science, including courses in introductory chemistry and biology, and organic chemistry; knowledge of biochemistry and molecular biology is also useful. Students may remedy deficiencies by taking appropriate courses during their first year of graduate study.

Students begin the program with three 2-month rotations in the laboratories of participating faculty members, in order to identify a mentor. After the first year, the mentor assumes financial responsibility for the student. With advice from

their mentors, students choose an advisory committee, which meets at least once a semester to help the student explore his or her research interests. The committee also provides consultation on course work and research activities and serves as the committee for the comprehensive examination and the final examination (dissertation defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

All Ph.D. students must successfully complete a first course in toxicology, 175:260 Environmental Toxicology (3 s.h.) or 046:214 Pharmaceutical and Chemical Toxicology (3 s.h.); and an advanced course, 175:265 Advanced Toxicology (4 s.h.).

All toxicology graduate students are required to register for 198:180 Toxicology Research Seminar each semester of their enrollment in the program and to successfully complete 650:270 Principles of Scholarly Integrity within the first two years of graduate study.

After successfully completing the comprehensive examination, usually at the end of the second year of graduate study, students advance to Ph.D. candidacy. They devote all of their time to dissertation research and writing. Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded a Doctor of Philosophy.

## Admission

Prospective students may apply to the program via a centralized application system; see Admissions Information on the Human Toxicology Program web site.

Completed applications should be submitted by January 15; applications submitted after that date are reviewed as they are received and are considered for any remaining openings.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

Doctoral students in human toxicology receive stipends and tuition support from University of Iowa sources, including the Presidential Graduate Fellowship and graduate research assistantships, and from non-University sources, such as training grants from the National Institutes of Health.

## Facilities

Training is conducted primarily in laboratories and teaching facilities of the departments and colleges of Human Toxicology Program faculty members. These are among the best-equipped laboratories on campus. Together with the University's central research facilities, they provide access to the most up-to-date research equipment and expertise.

## Associated Courses

For course descriptions and prerequisite information, see the course listings in the College of Pharmacy (prefix 046) and Department of Occupational and Environmental Health (prefix 175) sections of the Catalog.

046:214 Pharmaceutical and Chemical Toxicology	3 s.h.
175:260 Environmental Toxicology	3 s.h.
175:265 Advanced Toxicology	4 s.h.

## Human Toxicology Courses

**198:171 Special Problems in Toxicology** arr.  
Didactic material that may include tutorial, seminar, or faculty-directed research work; or a special topic.

**198:173 Toxicology Journal Club** arr.  
Current topics in toxicology literature.

**198:180 Toxicology Research Seminar** 0-1 s.h.

Contemporary research topics.

**198:201 Toxicology Research**

Research that constitutes part of the thesis.

arr.

**198:300 Thesis/Dissertation**

Thesis or dissertation research; seminar preparation.

arr.



# Immunology

**Director:** Gail Bishop (Microbiology)

**Affiliated faculty:** Michael Apicella (Microbiology), Vladimir Badovinac (Pathology), Zuhair Ballas (Internal Medicine), Gail Bishop (Microbiology), John Butler (Microbiology), John Colgan (Internal Medicine), Morris Dailey (Pathology), Elizabeth Field (Internal Medicine), George Giudice (Dermatology), Thomas Griffith (Urology), John Harty (Microbiology), Jonathan Heusel (Pathology), Jon Houtman (Microbiology), Siegfried Janz (Pathology), Joel Kline (Internal Medicine), Kevin Legge (Pathology), David Lubaroff (Urology), Craig Morita (Internal Medicine), William Nauseef (Internal Medicine), Stanley Perlman (Microbiology), Frederick Quelle (Pharmacology), Paul Rothman (Internal Medicine), Annette Schlueter (Pathology), Fayyaz Sutterwala (Internal Medicine), Steven Varga (Microbiology), Thomas Waldschmidt (Pathology), George Weiner (Internal Medicine), Jerrold Weiss (Internal Medicine), Mary Wilson (Internal Medicine), Hui-Hui Xue (Microbiology), Nicholas Zavazava (Internal Medicine)

**Graduate degree:** Ph.D. in Immunology

**Web site:** <http://immuno.grad.uiowa.edu>

The Immunology Program provides interdisciplinary training in the concepts and methodologies of basic and applied immunology. Faculty members are involved in a variety of research projects dealing with the immune system at all levels--structural, functional, cellular, biochemical, and molecular. Students take course work in immunology and related disciplines and are involved directly in laboratory research throughout their study.

## Graduate Program

The Immunology Program offers a Ph.D. in immunology.

### Doctor of Philosophy

The Doctor of Philosophy in immunology requires a minimum of 72 s.h. of graduate credit. The program is quite flexible, accommodating students with a wide range of backgrounds in course work as well as practical experience in the biological and physical sciences. Entering students generally are expected to have strong records in biology, chemistry, biochemistry, microbiology, genetics, and mathematics. An introductory course in immunology is desirable. Deficiencies in specific areas often can be remedied through appropriate course work taken during the first year of graduate studies.

The curriculum consists of a sequence of required and elective courses that provide training in the conceptual and methodological aspects of immunology. There is ample opportunity for study in a variety of fields that interface with immunology.

The Ph.D. in immunology requires the following course work.

148:201 Graduate Immunology	3 s.h.
148:211 Immunology Seminar (taken fall and spring of first year, spring of second year)	1 s.h.
148:221 Advanced Topics in Immunology	3 s.h.
156:204 Biostatistics for Biomedical Research	1 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.
Elective courses (optional)	

Students also complete six of the following (1 s.h. modules).

156:201 Fundamentals of Gene Expression (recommended)	1 s.h.
156:202 Fundamentals of Protein Regulation (recommended)	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes (recommended)	1 s.h.

Molecular biology:

142:215 Transcription and Multifunctional Regulation by RNA	1 s.h.
142:216 Chromatin Structure and Disease	1 s.h.
142:217 Cancer, Epigenetics, and Genetic Manipulations in Mice	1 s.h.

Cell biology:

142:220 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System	1 s.h.
142:221 Control of Subcellular Motility	1 s.h.
142:222 Organelle Biogenesis	1 s.h.
142:225 Growth Factor Receptor Signaling	1 s.h.
142:226 Cell Cycle Control	1 s.h.
142:227 Cell Fate Decisions	1 s.h.

After successfully completing the comprehensive examination, usually by the end of the second year of graduate study, students advance to candidacy for the Ph.D. They devote their time to research and writing their dissertation. Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded a Ph.D. in immunology.

## Admission

For information regarding admission and application procedures, contact the Immunology Program or visit its web site.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

All students in the Immunology Program receive stipends and tuition support, which comes from a variety of sources, including training grants from the National Institutes of Health, University of Iowa fellowships and graduate research assistantships, and individual faculty research grants.

## Facilities

Training is conducted in laboratories and teaching facilities of the Carver College of Medicine Departments of Dermatology, Internal Medicine, Pathology, Microbiology, Pediatrics, Pharmacology, and Urology. Faculty laboratories and central research core facilities provide students with access to state-of-the-art research equipment.

## Immunology Courses

**148:040 Summer Undergraduate IDGP Research** 0 s.h.

**148:201 Graduate Immunology** 3 s.h.

Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Requirements: (for 148:201) college biology, general chemistry, and introductory immunology courses; (for 061:201) courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: (for 148:201) courses in biochemistry and genetics; (for 061:201) biochemistry course. Same as 061:201.

**148:211 Immunology Seminar** 1 s.h.

Requirements: immunology graduate standing.

**148:217 Integrated Topics in Infectious Diseases** 1 s.h.

Clinical cases used to raise questions in host-parasite interactions; case/scientific exposés followed by related journal club discussions at next class session. Same as 061:217.

**148:221 Advanced Topics in Immunology** 3 s.h.

In-depth analysis of selected areas. Requirements: (for 148:221) 148:201 or 148:202; (for 061:207) 061:201 and 061:202, or 148:201 and 148:202. Same as 061:207.

**148:231 Research in Immunology** arr.

Laboratory research. Requirements: immunology graduate standing.

**148:247 Graduate Survey of Immunology** 4 s.h.

Major features of evolutionary, ontogenic, and comparative development of innate and adaptive immune systems; their functions at cellular and molecular levels. Offered fall semesters. Same as 061:247.

**148:251 Principles of Medical Immunology** 2 s.h.

Basic molecules, cells; organs of immune system; mechanics and regulations of immune response; clinical principles of normal and abnormal immunity. Requirements: M.D. enrollment.

**148:301 Directed Study in Immunology** arr.



## Informatics

**Director:** John C. Keller (Graduate College)

**Affiliated faculty:** Michael Apicella (Microbiology), Marc Armstrong (Geography), Jose Assouline (Biomedical Engineering), David Bennett (Geography), Warren Boe (Management Sciences), Terry Braun (Biomedical Engineering/Ophthalmology and Visual Sciences), Jane Brokel (Nursing), John Brooks (Epidemiology), Pat Brophy (Pediatrics), Thomas Casavant (Electrical and Computer Engineering/Genetics/Biomedical Engineering), Josep Comerón (Biology), Thomas Cook (Occupational and Environmental Health), Mary Cowles (Statistics and Actuarial Science), James Cremer (Computer Science), Faiz Currim (Management Sciences), Donna D'Alessandro (Pediatrics), Michael D'Alessandro (Radiology), Peter Damiano (Dentistry), Beverly Davidson (Genetics/Molecular and Cellular Biology), Deborah Dawson (Preventive and Community Dentistry), Franklin Dexter (Anesthesiology), John Donelson (Biochemistry), David Eichmann (Computer Science/Library and Information Science), John Engelhardt (Anatomy and Cell Biology), Jan Fassler (Biology/Genetics), Michael Finkelstein (Oral Pathology, Radiology, and Medicine), Charles Foster (Geoscience), Richard Funderburg (Urban and Regional Planning), Laurence Fuortes (Occupational and Environmental Health), Paul Hanley (Urban and Regional Planning), Juan Pablo Hourcade (Computer Science), Haowei Hsieh (Library and Information Science), David Katz (Internal Medicine), Joseph Kearney (Computer Science), Al Klingelutz (Microbiology), Naresh Kumar (Geography), Andrew Kusiak (Mechanical and Industrial Engineering), Yi Li (Mathematics), Jim Lin (Biology/Genetics), Marc Linderman (Geography), John Logsdon (Biology/Genetics), Der-Fa Lu (Nursing), Michael Mackey (Radiology), George Malanson (Geography), Bryant McAllister (Biology), Paul McCray (Pediatrics/Genetics), Peter Nagy (Pathology), Andrew Norris (Pediatrics), Thomas Peters (Occupational and Environmental Health), Joseph Reinhardt (Biomedical Engineering), Jennifer Robinson (Epidemiology), John Robinson (Electrical and Computer Engineering), Gerard Rushton (Geography), Yutaka Sato (Radiology), Todd Scheetz (Ophthalmology and Visual Sciences/Biomedical Engineering), Jerald L. Schnoor (Civil and Environmental Engineering/Occupational and Environmental Health), Alberto Segre (Computer Science/Public Health Genetics), Val Sheffield (Pediatrics/Genetics), Curt Sigmund (Internal Medicine), Lisa Skemp (Nursing), Richard Smith (Otolaryngology--Head and Neck Surgery/Genetics), Bernard Sroffman (Pharmacy), Padmini Srinivasan (Computer Science/Library and Information Science/Management Sciences/Nursing), Kathleen Stewart (Geography), John Stokes (Internal Medicine), Edwin Stone (Ophthalmology and Visual Sciences/Genetics), Nick Street (Management Sciences/Computer Science), Kai Tan (Biomedical Engineering), Daniel Tranel (Neurology), Kai Wang (Biostatistics), Marcia Ward (Health Management and Policy), George Weiner (Internal Medicine), Michael Welsh (Internal Medicine), Ann Williamson (University of Iowa Hospitals and Clinics), Yi Xing (Biomedical Engineering), Ying Zhang (Biostatistics), You-Kuan Zhang (Geoscience), Dale Zimmerman (Statistics)

**Graduate degrees:** M.S., Ph.D. in Informatics

**Graduate nondegree program:** Certificate in Informatics

**Web site:** <http://informatics.grad.uiowa.edu>

The field of informatics springs from the intersection of computational disciplines related to the humanities, the arts, and the biological, health, natural, and social sciences. As the rapid development of information technology transforms the world of human pursuits, informatics offers ways to solve new problems and to examine existing problems from new perspectives.

The Informatics Program provides graduate students the opportunity to study informatics in the broadest sense. The program is interdisciplinary, involving the Graduate College, the Carver College of Medicine, and the Colleges of Engineering, Liberal Arts and Sciences, Nursing, and Public Health.

## Graduate Programs

The Informatics Program offers a Master of Science and a Doctor of Philosophy in informatics, both with a health informatics subtrack and an information science subtrack. It also offers the Certificate in Informatics with four subtracks: bioinformatics and computational biology, geoinformatics, health informatics, and information science.

### Master of Science

The Master of Science in informatics requires a minimum of 32 s.h. of graduate credit. It is offered with subtracks in health informatics and in information science. Students working toward a Doctor of Philosophy in informatics may be granted a Master of Science upon completion of the M.S. requirements.

The required 32 s.h. includes 9 s.h. in foundations of informatics and at least 9 s.h. in disciplinary applications of informatics.

Students select an advisor from their subtrack's affiliated faculty members. In consultation with their advisors, students prepare a study plan, which is reviewed at least once a year. A final master's degree examination, either oral or written, may be required.

For more information about the Master of Science requirements, visit the Informatics Program web site.

### Doctor of Philosophy

The Doctor of Philosophy in informatics requires a minimum of 72 s.h. of graduate credit. It is offered with subtracks in health informatics and in information science.

The required 72 s.h. includes 9 s.h. in foundations of informatics and at least 9 s.h. in disciplinary applications of informatics.

Students select an advisor from their subtrack's affiliated faculty members. In consultation with their advisors, students prepare a study plan, which is reviewed by their mentors and curricular advisory committees at least once a year. Ph.D. students must pass a comprehensive examination at or near completion of their course work requirements. The exam may be written, oral, or both, depending on the structure of the student's subtrack or the decision of the student's committee.

Students who do not already hold an M.S. from The University of Iowa may request that one be granted to them at the doctoral comprehensive exam. A final master's examination, not related to the Ph.D. comprehensive exam, may be required.

Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded a Doctor of Philosophy.

For more information about the Doctor of Philosophy requirements, visit the Informatics Program web site.

## Certificate

The Certificate in Informatics requires a minimum of 18-21 s.h. of graduate credit, depending on choice of subtrack (the subtracks in bioinformatics and computational biology, health informatics, and information science require a minimum of 18 s.h.; the geoinformatics subtrack requires minimum of 21 s.h.). The program is designed for students who wish to complement their graduate degree programs with knowledge of informatics.

All subtracks require 9 s.h. in the foundations of informatics. In addition, the subtracks in bioinformatics and computational biology, health informatics, and information science require at least 9 s.h. in disciplinary applications of informatics; and the geoinformatics subtrack requires at least 12 s.h. in disciplinary applications of informatics. Work toward the certificate may not be substituted completely for courses or examinations required by the student's graduate degree program.

For more information about certificate requirements, visit the Informatics Program web site.

## Admission

Applicants to the M.S., Ph.D., or certificate program should apply to the degree subtrack of their choice. The subtrack programs make independent admission decisions. Certificate program applicants must be in good academic standing in their graduate degree programs.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They also must meet the admission requirements of the informatics subtrack they want to enter; see Informatics Admission Requirements on the program's web site.

## Informatics Courses

- 200:110 Health Informatics I** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 050:283, 051:187, 056:186, 074:191, 096:283, 174:226.
- 200:120 Health Informatics II** 3 s.h.  
Selected health informatics initiatives, including computer-based patient records, physiologic monitoring, networking, imaging, virtual reality; participation in an interdisciplinary project team focused on an informatics innovation; application and research seminars. Same as 021:280, 051:189, 056:287, 074:192, 096:289.
- 200:199 Research for Master's Thesis** arr.  
Requirements: admission to M.S. program.
- 200:201 Leadership and Management in Complex Health Care Systems** 3 s.h.  
Introduction to complex systems theory in the biological, physical, and social sciences; applications in decision-making processes, change management, organizational effectiveness, and implementation of technology; interdisciplinary approach.
- 200:220 Social Informatics** 3 s.h.  
Study of information and communication tools (ICTs) in cultural or institutional contexts; how ICTs are conceptualized, disseminated, and used in everyday and specialized environments such as libraries, education settings, corporations, local communities, cultural groups, political campaigns, and Web 2.0. Prerequisites: 021:101. Same as 021:210.
- 200:296 Topics in Informatics** arr.  
Current topics in informatics.
- 200:297 Readings in Informatics** arr.  
Topics not covered in other courses; individual study.
- 200:298 Independent Study** arr.

**200:299 Research for Dissertation**

Requirements: Ph.D. candidacy.

arr.

## International Writing Program

**Director:** Christopher Merrill  
**Instructors:** Natasa Durovicova, Hugh Ferrer  
**Web site:** <http://iwp.uiowa.edu/>

The International Writing Program is a unique residency program for established writers from outside the United States. IWP participants range from emerging talents to writers who are among their countries' leading literary figures and writers of world stature.

Each fall the International Writing Program assembles a community of poets, fiction writers, essayists, playwrights, and journalists. For most of them, the IWP is their first, or their first extended, stay in the United States. At the University they live and interact with each other while working on writing and translation projects. Throughout their residency, they participate in 181:191 International Literature Today and in 181:205 International Translation Workshop. They also interact with the public through readings, panel discussions, and other presentations.

Since 1967, more than 1,000 writers from 115 countries have participated in the program.

International Writing Program participants are supported by the U.S. Department of State, through bilateral agreements with many countries, by grants from cultural institutions and governments abroad, and by private funds. The program does not provide grants for writers.

For more information, contact the International Writing Program or visit the program's web site.

## International Writing Program Courses

- 181:001 Readings for Writers** 1 s.h.  
 Introduction to the Iowa City writing community; attendance at readings by professional, faculty, and student writers; students keep journals about readings.
- 181:101 Independent Studies** arr.  
 Directed readings in contemporary world literature.
- 181:110 Comparative Arts** 3 s.h.  
 Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Same as 033:110, 048:110.
- 181:152 America in Other Words** 1-3 s.h.  
 Current idea of America in its imaginary form: post-1989 world fiction, poetry, and film in original language, in translation, and via online translation resources. Same as 048:152.
- 181:191 International Literature Today** 1-3 s.h.  
 English majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th- and/or 21st-Century Literature. Same as 008:191.
- 181:205 International Translation Workshop** 1-3 s.h.  
 International writers pair with University of Iowa translators to write new works of poetry and fiction in English; second-language fluency not required for international writers. Same as 048:205.
- 181:247 Crossing Borders Seminar** 2-3 s.h.  
 Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 035:273, 044:286, 048:247, 113:247, 129:231, 160:247.
- 181:260 Translation Workshop** 3 s.h.  
 Requirements: at least one foreign language. Same as 048:260, 08W:260.

# Library and Information Science

**Director:** James Elmborg  
**Professor emerita:** Velva Jeanne Osborn  
**Adjunct professor:** Nancy L. Baker  
**Associate professors:** David Eichmann, James Elmborg  
**Associate professor emeritus:** Carl Orgren  
**Assistant professors:** André Brock, Haowei Hsieh, Patricia Katopol, Jennifer Burek Pierce, Joan Bessman Taylor  
**Graduate degree:** M.A. in Library and Information Science  
**Web site:** <http://slis.grad.uiowa.edu/>

Today's age is defined by the intersection of information, technology, and human creativity. In this context, library and information science is dedicated to understanding the nature of information, the interaction between information and communication technologies, the relationship between information and knowledge, the cognitive and affective aspects of knowledge acquisition, and the interface between people and information. It offers new knowledge, technological benefits, and professional expertise for every dimension of human affairs.

Library and information professionals take on many challenges in serving the needs of their constituencies--children and teachers, members of academic communities, employees of profit and nonprofit organizations, and the public at large--constituencies that range from information poor to information rich. They work in the contexts of issues such as information and communication technology, public and private information policy, managerial policy, and regional, national, and international economics.

The School of Library and Information Science prepares professionals to meet these diverse challenges. It offers a graduate-level program of preparation for careers in all types of libraries and information centers, providing students with a strong, well-rounded education in an environment that supports individuals from all segments of a multicultural, multiethnic, and multilingual society. Its curriculum reflects the profession's immediate and long-range needs and prepares students to be leaders in a changing field.

By promoting excellence in research, the school contributes to the base of theoretical and practical knowledge in library and information science and helps develop an understanding of how to meet the varied and changing information needs of individuals and society. It also provides public service through continuing education programs, selective consulting services for library and information centers, and participation in professional organizations.

The school strongly encourages its students, faculty members, and alumni to shape the future of the profession by filling key roles in organizations involved in all aspects of the information cycle.

## Graduate Programs

The school offers a Master of Arts in library and information science. It offers the joint J.D./M.A. with the College of Law, the joint M.B.A./M.A. with the Tippie College of Business, and the joint M.A./Certificate in Book Studies/Book Arts and Technologies with the Center for the Book. Library and information science students also may earn the Certificate in Informatics.

The Master of Arts in library and information science has held continuous accreditation from the American Library Association since 1971.

Library science graduates have many options for employment. Alumni hold positions in public, school, special, and academic libraries as well as other information settings. They serve in varied roles, such as information consultant, database manager, library administrator, webmaster, network coordinator, cataloger, children's librarian, school library media specialist, and archivist.

### Master of Arts

The Master of Arts in library and information science requires 36 s.h. of graduate credit. A thesis option is available for students who seek additional research experience.

Students pursuing the master's degree gain an understanding of the foundations of the library and information profession, including the history of the field, ethical and philosophical concerns, the information cycle, principles and procedures for dealing with a variety of information carriers, and the theory and practice of strategic management. They examine future trends, with emphasis on cutting-edge technological concerns. They study the discipline's research base, gaining heightened awareness of the synergism between library and information science and other disciplines, as well as the close relationship between research and practice. Finally, students become knowledgeable about the factors that underlie users' information needs and appropriate strategies to satisfy those needs.

Students typically complete the program in a year and one-half to two years. The maximum allowable load for graduate students is 15 s.h. during regular semesters and 8 s.h. during summer sessions, but most full-time students carry fewer semester hours than the maximum. It also is possible to complete the program on a part-time basis.



Work for the degree includes 9 s.h. in three required, introductory-level courses; 12 s.h. in secondary-level courses; 15 s.h. in electives; and the successful completion of a poster presentation. Students must maintain a g.p.a. of at least 3.00.

Students may apply a maximum of 9 s.h. of graduate transfer credit in library and information science or related areas toward the degree, subject to the approval of the transfer credit committee. Approval is given course-by-course and is determined by the course's content, currency, and applicability to the student's program.

The curriculum has three tiers. The first tier consists of three required courses that provide a solid grounding for all successive course work: 021:101 Cultural Foundations, 021:120 Computing Foundations, and 021:122 Conceptual Foundations. The second tier includes 10 courses; students must take at least four of them and may include 021:260 Organizational Management or 021:262 School Library Media Administration, but not both. Courses in the third tier are electives. This three-tier arrangement allows each student to concentrate in an area that most closely matches his or her professional goals.

#### **TIER I**

All of these:

021:101 Cultural Foundations	3 s.h.
021:120 Computing Foundations	3 s.h.
021:122 Conceptual Foundations	3 s.h.

#### **TIER II**

Both of these:

021:242 Search and Discovery	3 s.h.
021:260 Organizational Management	3 s.h.

Two of these:

021:124 Database Systems	3 s.h.
021:202 Research Methods	3 s.h.
021:205 Literacy and Learning	3 s.h.
021:210 Social Informatics	3 s.h.
021:226 Digital Environments	3 s.h.
021:236 Use and Users	3 s.h.
021:262 School Library Media Administration	3 s.h.
021:278 Information Policy	3 s.h.
021:260 Organizational Management	3 s.h.
or	
021:262 School Library Media Administration	3 s.h.

#### **TIER III**

Students choose electives from the following courses.

021:123 User Education: Multimedia	3 s.h.
021:141 Reference and Information Services	3 s.h.
021:143 Resources for Children	3 s.h.
021:144 Resources for Young Adults	3 s.h.
021:145 Resources for Adults	3 s.h.
021:222 Beginning Cataloging and Classification	3 s.h.
021:223 Advanced Cataloging and Classification	3 s.h.
021:224 Electronic Publishing	3 s.h.
021:228 Hypertext Systems	3 s.h.
021:234 Information and Knowledge Management	3 s.h.
021:239 Topics: Conceptual Structures/Systems	1-3 s.h.
021:240 Collection Management	3 s.h.
021:244 Government Information Resources	3 s.h.
021:248 Information Literacy	3 s.h.

021:249 Topics in Book Studies	1-3 s.h.
021:252 Human Computer Interaction	3 s.h.
021:254 Analysis of Scholarly Domains	3 s.h.
021:256 History of Readers and Reading	3 s.h.
021:258 The Transition from Manuscript to Print	3 s.h.
021:259 Topics: Resources/Services	1-3 s.h.
021:261 Strategic Management	3 s.h.
021:263 Nonprofit Organizational Effectiveness I	3 s.h.
021:265 Nonprofit Organizational Effectiveness II	3 s.h.
021:270 Public Libraries	3 s.h.
021:271 College and University Libraries	3 s.h.
021:272 Special Libraries	3 s.h.
021:275 Health Informatics I	3 s.h.
021:279 Topics: Policy/Planning	1-3 s.h.
021:280 Health Informatics II	3 s.h.
021:282 Practicum in Libraries and Information Centers	2-3 s.h.
021:284 School Library Media Practicum	3 s.h.
021:289 Seminar in Library and Information Science	3 s.h.
021:290 Capstone	1 s.h.
021:292 Independent Study	1-3 s.h.
021:299 Thesis	0-3 s.h.

## **Specializations**

Students earn 15 s.h. in elective courses selected with the guidance of their advisors. Students' programs often are designed around particular career goals. Following are examples of possible specializations.

### **PUBLIC LIBRARIES**

Public libraries provide informational, educational, and recreational materials and a wide range of services for a diverse clientele. Although public libraries receive the bulk of their funding from local taxes, they also may be organized on a regional or statewide cooperative basis. The variety of uses, services, materials, and organizational structures of public libraries makes this a challenging area of librarianship. Public librarians need to develop skills in analyzing the communities they serve, designing comprehensive marketing plans to meet their needs, implementing the plans in a cost-effective way, and evaluating the success of their efforts.

### **ACADEMIC LIBRARIES**

The academic library, whether in a community college, a four-year college, or a university, provides information services in support of the parent institution's teaching, research, and public service missions. These services include instruction in the use of the library and its resources. Management skills and subject or language competence often are required. Since librarians in this setting usually are considered academic faculty members, a second master's or other advanced degree is desirable.

### **SPECIAL LIBRARIES AND INFORMATION CENTERS**

Special libraries serve corporations, private companies, government agencies, technical and academic institutions, museums, medical facilities, and information management consulting firms. They are organized to anticipate and quickly respond to the specific information needs of their users. Special librarians are information resource experts who collect, analyze, evaluate, package, and disseminate information to facilitate accurate decision making. Knowledge of information technology and the ability to design services suitable to the parent organization are professional necessities. In addition, substantial subject expertise may be required.

### **SCHOOL LIBRARY MEDIA CENTERS**

The school library media center makes available to students and teachers a wide range of library and instructional materials in a variety of formats. The work of the library media specialist includes providing instruction to students in accessing, evaluating, and using information; collaborating with teachers on the use of resources in instruction; providing leadership in the use of instructional and information technologies; offering reading guidance; providing reference service; and managing the library media center. The University of Iowa offers a state-approved program leading to endorsement as school media specialist K-12. In order to fulfill state requirements for this endorsement, students must hold or be eligible for a teaching license and must complete a designated sequence of courses that

leads both to certification and to the M.A. degree.

## **INFORMATION SCIENCE**

The multidisciplinary field of information science is influenced by the rapid growth in digital information collections and technologies. This specialization offers expertise in retrieval, dissemination, and use of information. In addition to libraries and information centers, many for-profit organizations are finding that information is a valuable commodity in today's competitive world and are employing information management personnel. The curriculum offers opportunities to study information science aspects, such as digital libraries, electronic publishing, and automated systems design.

### **Joint Master's Degrees**

The School of Library and Information Science offers a joint Master of Arts/Master of Business Administration with the Tippie College of Business and a joint Juris Doctor/Master of Arts with the College of Law. The primary goal of the joint programs is integration of the two areas of study.

Students in the joint programs may apply a limited amount of credit toward both degrees. Up to 9 s.h. in business or law may be applied toward the M.A. in library and information science; up to 9 s.h. in library and information science may be applied toward the M.B.A., and 12 s.h. may be applied to the J.D.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. For more information, see College of Law or Master of Business Administration Program in the Catalog.

In addition to the joint M.A./M.B.A. and J.D./M.A., joint programs may be arranged between departments on an ad hoc basis. A minimum of 60 s.h. of graduate work is required for a joint master's degree program.

### **Joint M.A./Book Studies Certificate**

Students interested in special collections, book arts, or museum librarianship may pursue an M.A. in library and information science in conjunction with a graduate Certificate in Book Studies/Book Arts and Technologies. The joint program also may be appropriate for students interested in book studies scholarship and those seeking careers in publishing, graphic arts, or book-related industries that require a similar blend of subject and technical knowledge.

The joint program requires a total of 51 s.h. At least 27 s.h. must be earned in the M.A. program, at least 15 s.h. must be earned in the certificate program, and the remaining 9 s.h. may be earned in either program.

To enroll in the joint program, students must be admitted both to the School of Library and Information Science and to the Center for the Book, and must fulfill the basic requirements of each program.

### **Informatics Certificate**

Students interested in careers involving health science libraries or hospital information centers may earn a Certificate in Informatics with the optional health informatics subtrack. The certificate is offered by the Graduate College together with several other University colleges and departments. Its health informatics subtrack emphasizes the organization, management, and use of health care information; health care research, education, and practice; and information technology developments in the socioeconomic context of health care.

The certificate requires at least 18 s.h. of course work, including 021:275 Health Informatics I, 021:280 Health Informatics II, and approved electives. Students may earn the Certificate in Informatics with the health informatics subtrack in conjunction with their M.A. in library and information science. To learn more, visit the Health Informatics web site.

### **Honor Society**

The Beta Beta Theta Chapter of Beta Phi Mu, the international honor society for library and information science, is located at The University of Iowa. Each year new members are chosen from the top 25 percent of the preceding year's graduating classes. To be eligible for membership, graduates must achieve a g.p.a. of at least 3.75, demonstrate professional promise, and be recommended by the faculty.

### **Student Organizations and Activities**

All students in the program are automatically members of LISSO, the Library and Information Science Student Organization, which also serves as the student chapter of the American Library Association. In addition, there are student chapters of the American Society for Information Science and Technology and Special Libraries Association. These student-run organizations sponsor various activities such as speaker series, a journal club, workshops, brown bag lunches, and picnics. The associations provide students with significant opportunities for professional and

extracurricular growth. Students also are encouraged to join other state and national professional organizations.

## **Admission**

Applicants for admission to the M.A. program are required to have a g.p.a. of at least 3.00 on a 4.00 scale and are required to have a verbal and quantitative score of at least 1000 and an analytical writing score of at least 4 on the Graduate Record Examination. The admissions committee also considers each applicant's letters of recommendation, statement of purpose, and other appropriate criteria. Each entering class is selected on a competitive basis.

Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). In place of TOEFL, the school accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0. Applicants who submit IELTS scores are required to take an on-campus English proficiency evaluation.

Applicants begin the admission process by contacting the School of Library and Information Science. The process requires a completed application form, transcripts of all academic work, a written statement of purpose and goals, and three letters of recommendation.

Completed applications should be received by the school by February 1 for consideration for fall admission. Decisions of the admissions committee are announced four to six weeks after the deadline. Late applications are considered if places are still available. Financial aid often is not available for late applicants. Admitted students are assigned a faculty advisor for program planning during their first semester.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## **Financial Support**

The School of Library and Information Science awards partial-tuition scholarships and one-quarter-time graduate assistantships. To be considered for scholarships, applicants should have an undergraduate g.p.a. of at least 3.00 and a combined score (verbal, quantitative, and analytical) of 1700 on the old Graduate Record Examination (GRE) General Test, or 1100 (verbal and quantitative) and 4.5 (analytical writing) on the new GRE. Prospective students are urged to apply for scholarships before February 1. Graduate assistantships are advertised as they become available; students should apply for specific assistantships.

For information on student loans, work-study eligibility, or other financial assistance, contact the Office of Student Financial Aid. For information on national scholarships, contact the School of Library and Information Science or visit its web site. Part-time employment usually is available in the University Libraries and other campus units.

## **Job Placement**

The school provides active placement assistance to its graduates through printed and electronic announcements, seminars on Internet job searching, résumé writing and interviewing, and personal counseling. The University's Educational Placement Office issues a regular listing of job openings and provides a credential file service.

## **Facilities, Resources**

The School of Library and Information Science is housed in the south wing of the University's Main Library, in a setting that promotes community among students, faculty, and staff. Facilities are provided for the varied instructional and research activities of the school.

### **Technology Laboratory**

The school houses a state-of-the-art technology laboratory with current Windows and Macintosh computers. The computers are networked to the campus backbone and provide access to a rich variety of relevant software. The laboratory is used primarily by students for course assignments and to gain experience with specialized software. In addition, the classrooms are equipped with networked machines that benefit students through use of the latest teaching technologies. Wireless service is provided in the building by the University of Iowa Libraries.

### **University of Iowa Libraries**

All of the resources of the University of Iowa Libraries are available to the school's students and faculty. The system contains more than 4 million volumes in the Main Library and 11 departmental libraries.

The web-based catalog provides access to books and periodicals, electronic indexes, and full-text databases held by University Libraries. In addition, the InfoHawk Catalog to online resources provides access to selected Internet and CD-ROM resources arranged by subject and academic discipline. Wireless Internet access is available in many areas of the Main Library.

The third floor of the Main Library houses the map collection and Special Collections & University Archives, including the Iowa Women's Archives.

### Other Libraries

Students have access to a variety of libraries through field trips, practicum experience, and personal use: the State Historical Society of Iowa library in Iowa City; the Iowa City, Coralville, and Cedar Rapids public and school libraries; the Augustana, Coe, Cornell, Mount Mercy, and Grinnell College libraries; and the Herbert Hoover Presidential Library and Museum in West Branch.

### Other Resources

Lindquist Center houses the instructional services and campus services departments of the University's Information Technology Services. It provides instructional and research computing facilities and services for the University community. All University students, staff, and faculty may use the center's computers for University-related research, thesis preparation, and class work. Instructional Technology Centers provide campuswide access to the University's academic computing resources and the Internet.

## Library and Information Science Courses

### 021:090 Information Handling 3 s.h.

Gathering, evaluating, and employing information from library and nonlibrary sources, including multimedia and electronic systems. Requirements: undergraduate standing.

### 021:101 Cultural Foundations 1-3 s.h.

The role of libraries and information agencies in society; major issues, including information policy, professional ethics, literacy, diversity, technology, pedagogy. Requirements: admission to library and information science.

### 021:120 Computing Foundations 3 s.h.

Introduction to analysis, specification, and design of automated systems; review of the software life cycle; testing, deployment, and evaluation of large, computer-based software. Requirements: admission to library and information science.

### 021:122 Conceptual Foundations 3 s.h.

Theory, principles, and standards in organization of information; function of catalogs, indexes, bibliographic networks; introduction to metadata descriptions, name and title access, subject analysis, controlled vocabularies, classification systems. Requirements: admission to library and information science.

### 021:123 User Education: Multimedia 3 s.h.

Learning theory as it relates to design of multimedia products for user education; presentation of information using multimedia technology in a Macintosh environment; development of user education products in linear and nonlinear forms.

### 021:124 Database Systems 3 s.h.

Design and development of a database-driven information system, including interfaces, database schema, and essential database operations; focus on widely used relational database model. Prerequisites: 021:120.

### 021:139 Topics: Conceptual Structures and Systems 1-3 s.h.

Service-learning course for graduate students and undergraduate students at the junior and senior level; hands-on library work under supervision of professional librarian with a final project presentation.

### 021:141 Reference and Information Services 3 s.h.

Resources and services; essential reference services and experience using a variety of print and electronic resources to answer specific reference questions. Prerequisites: 021:101.

### 021:143 Resources for Children 3 s.h.

Evaluation and use of books, magazines, electronic media, and other sources of information and recreation in relation to youth development. Prerequisites: 021:101.

### 021:144 Resources for Young Adults 3 s.h.

Topics related to populations served by youth services departments (e.g., societal issues, informational needs); seminar. Prerequisites: 021:101.

**021:145 Resources for Adults** 3 s.h.

Role of libraries in meeting adults' informational and recreational needs; popular culture materials, Reader's Advisory services, lifelong learning. Prerequisites: 021:101.

**021:150 Preservation and Conservation** 3 s.h.

Overview of responsible stewardship of library and archival collections; principles and practice of book conservation with focus on prototypes for conservation rebinding; appropriate care of books, papers, photographs (traditional and digital), film, and other non-print items; fundamental instruction in methods of page repair, investigation of eight historical prototypes, construction of related conservation binding models; lecture, discussion, student presentation, and hands-on activities. Prerequisite: 021:101.

**021:202 Research Methods** 3 s.h.

Concepts and methods for research in library and information science; emphasis on design of qualitative and quantitative research; data collection techniques appropriate to information professions; examination and evaluation of research in the professional literature.

**021:205 Literacy and Learning** 3 s.h.

Learning and literacy theory relevant to work in information services; how librarians can help people process information and use it to form understanding and create new knowledge. Prerequisites: 021:101.

**021:210 Social Informatics** 3 s.h.

Study of information and communication tools (ICTs) in cultural or institutional contexts; how ICTs are conceptualized, disseminated, and used in everyday and specialized environments such as libraries, education settings, corporations, local communities, cultural groups, political campaigns, and Web 2.0. Prerequisites: 021:101. Same as 200:220.

**021:222 Beginning Cataloging and Classification** 3 s.h.

Systems for describing materials and information in catalogs and organizing them for effective retrieval in libraries, museums, and other information centers; AACR2 descriptive principles, Dewey and Library of Congress classifications, Sears and LC subject headings, cataloging networks and services. Prerequisites: 021:122.

**021:223 Advanced Cataloging and Classification** 3 s.h.

Special problems in description of materials; authority work; file structures; serials, other nonmonographic materials; Library of Congress, other classifications; subject retrieval; reclassification, other administrative issues; international bibliographic criteria; online cataloging experience. Prerequisites: 021:222.

**021:224 Electronic Publishing** 3 s.h.

Modes and methods for building electronic journals, books, thematic collections; new genres for publishing, including blogs, wikis, comics, short stories on the web; social, political, and economic forces that shape electronic publishing; XML-based project. Prerequisites: 021:120. Same as 108:224.

**021:226 Digital Environments** 3 s.h.

Methods and models for building digital libraries; organization with metadata; standards such as those for object identifiers, open access, building cross-linkages between collections; automatic harvesting of content. Prerequisites: 021:120.

**021:228 Hypertext Systems** 3 s.h.

Theory, design, and implementation of hypertext-based information systems; access mechanisms, including navigation, browsing, search; issues in representation of information, user interfaces; case studies of representative systems, including the World Wide Web. Prerequisites: 021:120.

**021:232 Race, Gender, and Technology** 3 s.h.

Brief, critical look at the ways race and gender shape the uses and design of information and communication technologies (ICTs); ICTs as a part of our social infrastructure; how the integration of ICTs into Western culture has affected, transformed, or been transformed by interactions with racial groups, men, and women; interrogate assumptions behind technology's promises of efficiency and progress--what are the norms and values embodied within the artifacts we use every day? Same as 160:232.

- 021:234 Information and Knowledge Management** 3 s.h.  
How organizations acquire, manage, and use information; knowledge management and competitive intelligence, information from inside and outside the organization; organization types, including library, corporate, and nonprofit. Corequisites: 06K:230. Same as 06K:234.
- 021:236 Use and Users** 3 s.h.  
Information needs and uses; theories and models of information seeking and use, formal and informal information channels, barriers to information. Prerequisites: 021:101.
- 021:239 Topics: Conceptual Structures/Systems** 1-3 s.h.  
Special topics relevant to conceptual structures (e.g., knowledge, representation, manipulation schemes) and systems (e.g., intelligent OPACS, user interface technologies). Repeatable. Prerequisites: 021:122.
- 021:240 Collection Management** 3 s.h.  
Collection management of print and electronic resources; selection and management principles, policies, procedures in various settings; production and distribution of resources; intellectual freedom. Prerequisites: 021:101 and 021:122.
- 021:242 Search and Discovery** 3 s.h.  
Search system architecture; information needs and queries; search models; concepts in relevance and repositories, archives, web-based systems; information quality measures.
- 021:244 Government Information Resources** 3 s.h.  
Emphasis on federal documents as an information resource; state, local, foreign, international materials; special concerns of organizing and administering document collections. Prerequisites: 021:141.
- 021:248 Information Literacy** 3 s.h.  
Design of information literacy curriculum and teaching strategies relevant to libraries; theory and research in learning and cognitive development; practice teaching strategies in library settings. Prerequisites: 021:101.
- 021:249 Topics in Book Studies** 1-3 s.h.  
Topics relevant to book studies and special collections. Prerequisites: 021:101. Requirements: admission to library and information science. Same as 108:230.
- 021:252 Human Computer Interaction** 3 s.h.  
Design user interfaces for interacting with information, emphasis on system design and evaluation (as opposed to system implementation); construct interface prototypes, conduct evaluations of design. Prerequisites: 021:120.
- 021:254 Analysis of Scholarly Domains** 3 s.h.  
Information transfer in academic disciplines; scientific method, other means of knowledge construction, resulting literatures; reference tools used to control literature for a variety of audiences; emphasis on humanities, social sciences, or sciences. Requirements: (for 021:254) 021:141. Same as 160:230.
- 021:256 History of Readers and Reading** 3 s.h.  
Cultural nature of reading practices in historic and contemporary contexts of reading; reading communities; dimensions of gender, age, class, religion, race, ethnicity; examples of recent scholarship; use of primary resources; seminar. Prerequisites: 021:101. Same as 108:220.
- 021:258 The Transition from Manuscript to Print** 3 s.h.  
Western manuscripts and books 1200-1600; changes in production and distribution methods and in how texts were used, in cultural context. Same as 108:183, 16E:118.
- 021:259 Topics: Resources/Services** 1-3 s.h.  
Current topics in types of information resources and services.
- 021:260 Organizational Management** 3 s.h.  
Survey of management issues common to all information environments--understanding organizations, decision making, hiring and personnel, grant writing, and marketing. Prerequisites: 021:101.
- 021:261 Strategic Management** 3 s.h.

Management and administration of all types of libraries; basics of leadership and teamwork, management issues, and skills in context of the organization.

**021:262 School Library Media Administration** 3 s.h.

Design of library media programs for the major functions of teaching and learning, information access, and program administration; focus on curricular and teaching responsibilities of school librarians and media specialists, development of philosophy, examination of roles and responsibilities, and program evaluation. Prerequisites: 021:101.

**021:263 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 024:247, 028:257, 032:227, 042:247, 06J:247, 091:320, 102:278, 174:247.

**021:265 Nonprofit Organizational Effectiveness II** 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 024:248, 028:258, 032:228, 042:248, 06J:248, 091:322, 102:279, 174:248.

**021:270 Public Libraries** 3 s.h.

Historical development of public libraries; current issues in public library management and policy making, including intellectual freedom; readers advisory service and genres of popular materials for adults. Prerequisites: 021:101.

**021:271 College and University Libraries** 3 s.h.

Objectives, organization, unique functions and services of academic libraries; educational environment in which academic libraries function; examination of issues and problems affecting academic libraries. Prerequisites: 021:101.

**021:272 Special Libraries** 3 s.h.

Management, organizational structures, collections, client services in special libraries; site visits to a variety of special libraries, information centers; projects that apply theoretical principles.

**021:275 Health Informatics I** 3 s.h.

Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 050:283, 051:187, 056:186, 074:191, 096:283, 174:226, 200:110.

**021:278 Information Policy** 3 s.h.

Development of policy based on ethical and legal issues in library and information professions; intellectual freedom, intellectual property, privacy, equity.

**021:279 Topics: Policy/Planning** 1-3 s.h.

Current topics in national and international policies, their impact on planning. Repeatable.

**021:280 Health Informatics II** 3 s.h.

Selected health informatics initiatives, including computer-based patient records, physiologic monitoring, networking, imaging, virtual reality; participation in an interdisciplinary project team focused on an informatics innovation; application and research seminars. Same as 051:189, 056:287, 074:192, 096:289, 200:120.

**021:282 Practicum in Libraries and Information Centers** 2-3 s.h.

Supervised field experience in selected libraries and information centers; emphasis on application of theory to practice; at least 80 hours of fieldwork.

**021:284 School Library Media Practicum** 3 s.h.

Supervised field experience in library media centers at elementary and secondary school levels; emphasis on application of theory to practice; at least 80 hours of fieldwork. Prerequisites: 021:262.

**021:289 Seminar in Library and Information Science** 3 s.h.

Contemporary issues in library and information science; student presentations, guest speakers.

**021:290 Capstone** 1 s.h.



Opportunity for students to synthesize their learning in the program, to reflect on their professional education as they prepare for graduation, and to form goals. Requirements: 27 s.h. earned in library and information science.

**021:292 Independent Study**

1-3 s.h.

Formal contract between student and faculty member. Requirements: formal proposal.

**021:299 Thesis**

0-6 s.h.

Prerequisites: 021:101, 021:120, 021:122, 021:202, and 021:260.

# Molecular and Cellular Biology

**Director:** Jackie Bickenbach (Anatomy and Cell Biology)

**Affiliated faculty:** Christopher Adams (Internal Medicine), Lee-Ann Allen (Internal Medicine), Michael Apicella (Microbiology), Nikolai Artemyev (Molecular Physiology and Biophysics), Alexander Bassuk (Pediatrics), Jackie Bickenbach (Anatomy and Cell Biology), Gail Bishop (Microbiology), Daniel Bonthius (Pediatrics), Charles Brenner (Biochemistry), Amit Choudhury (Anatomy and Cell Biology), Michael Cohen (Pathology), John Colgan (Internal Medicine), Beverly Davidson (Internal Medicine), Kris DeMali (Biochemistry), Frederick Domann (Radiation Oncology), Adam Dupuy (Anatomy and Cell Biology), John Engelhardt (Anatomy and Cell Biology), Sarah England (Molecular Physiology and Biophysics), Rory Fisher (Pharmacology), Ernesto Fuentes (Biochemistry), Minnetta Gardinier (Pharmacology), Pamela Geyer (Biochemistry), Paloma Giangrande (Internal Medicine), Pedro Gonzalez-Alegre (Neurology), Prabhat Goswami (Radiation Oncology), Steven Green (Biology), Hasem Habelhah (Pathology), Raymond Hohl (Internal Medicine), Jon Houtman (Microbiology), Aloysius Klingelutz (Microbiology), J. Stacey Klutts (Pathology), C. Michael Knudson (Pathology), Amnon Kohen (Chemistry), John Koland (Pharmacology), Tomomi Kuwana (Pathology), Gloria Lee (Internal Medicine), Steven Lentz (Internal Medicine), Kimberly Leslie (Obstetrics and Gynecology), Dana Levasseur (Internal Medicine), Andrew Lidral (Orthodontics), Fang Lin (Anatomy and Cell Biology), Jim Jung-Ching Lin (Biology), John Logsdon (Biology), Wendy Maury (Microbiology), Stephen McGowan (Internal Medicine), Jeffery Meier (Internal Medicine), Jessica Moreland (Pediatrics), Craig Morita (Internal Medicine), David Motto (Internal Medicine), Scott Moye-Rowley (Molecular Physiology and Biophysics), Jeffrey Murray (Pediatrics), William Nauseef (Internal Medicine), David Price (Biochemistry), Dawn Quelle (Pharmacology), Kamal Rahmouni (Internal Medicine), Richard Roller (Microbiology), Peter Rubenstein (Biochemistry), Andrew Russo (Molecular Physiology and Biophysics), Thomas Rutkowski (Anatomy and Cell Biology), David Sheff (Pharmacology), Curt Sigmund (Internal Medicine), Mark Stamnes (Molecular Physiology and Biophysics), Jack Stapleton (Internal Medicine), C. Martin Stoltzfus (Microbiology), Stefen Strack (Pharmacology), Fayyaz Sutterwala (Internal Medicine), Christie Thomas (Internal Medicine), Tina Tootle (Anatomy and Cell Biology), Lubomir Turek (Pathology), Lori Wallrath (Biochemistry), Todd Washington (Biochemistry), Daniel Weeks (Biochemistry), Michael Welsh (Internal Medicine), Mary Wilson (Internal Medicine), Marc Wold (Biochemistry), Charles Yeaman (Anatomy and Cell Biology), Joseph Zabner (Internal Medicine)

**Graduate degree:** Ph.D. in Molecular and Cellular Biology

**Web site:** <http://molcellbio.grad.uiowa.edu>

The Molecular and Cellular Biology Program provides interdisciplinary training in the concepts and methodologies fundamental to the investigation of biological mechanisms at the molecular level. Faculty members are involved in a variety of research projects related to gene expression and regulation.

## Graduate Program

The Molecular and Cellular Biology Program offers a Doctor of Philosophy in molecular and cellular biology.

### Doctor of Philosophy

The Doctor of Philosophy in molecular and cellular biology requires a minimum of 72 s.h. of graduate credit. The program is sufficiently flexible to accommodate students with a wide range of backgrounds in the biological and physical sciences. Entering students are expected to have a solid background in science, including introductory biology and chemistry, organic chemistry, physical chemistry, calculus, genetics, and biochemistry. Students can remedy deficiencies in particular areas by taking appropriate courses during the first year of graduate study.

The curriculum consists of a sequence of required, core, and elective courses that provide didactic training in molecular and cellular biology and that ensure comprehensive exposure to concepts and experimental methodologies in the field. Students engage in laboratory research immediately upon enrollment and progress rapidly to original thesis projects that lead to a Ph.D.

Because of the diversity of biological research problems that can be pursued by employing molecular and cellular approaches, the program provides options for specialization in particular areas of interest.

The Ph.D. in molecular and cellular biology requires the following course work.

All of these, if recommended by advisor; if not, students substitute elective courses;

156:201 Fundamentals of Gene Expression	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.

All of these:

156:204 Biostatistics for Biomedical Research	1 s.h.
Approved cross-training course(s)	3-4 s.h.
142:290 Seminars in Molecular and Cellular Biology (taken each semester)	1 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.
Approved electives	6 s.h.

One or three of these (total of 3 s.h.):

142:210 Advance Prokaryotic Molecular Biology	3 s.h.
Or all of these:	
142:215 Transcription and Multifunctional Regulation by RNA	1 s.h.
142:216 Chromatin Structure and Disease	1 s.h.
142:217 Cancer, Epigenetics, and Genetic Manipulations in Mice	1 s.h.

Three of these (3 s.h.):

142:220 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System	1 s.h.
142:221 Control of Subcellular Motility	1 s.h.
142:222 Organelle Biogenesis	1 s.h.
142:225 Growth Factor Receptor Signaling	1 s.h.
142:226 Cell Cycle Control	1 s.h.
142:227 Cell Fate Decisions	1 s.h.
142:230 Cell Migration from Development to Metastasis	1 s.h.

One of these:

142:280 Topics in Molecular and Cellular Biology (precomprehensive students; taken each semester)	1 s.h.
Journal club of student's choice (postcomprehensive students; taken each semester)	

After successfully completing the comprehensive examination, usually at the end of the second year of graduate study, students advance to candidacy for the Ph.D. degree. They devote their time to completing thesis research and writing their Ph.D. dissertation. Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded a Ph.D. in molecular and cellular biology.

## Admission

For application materials and information about graduate training in molecular and cellular biology, contact the Molecular and Cellular Biology Program or visit its web site.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

Graduate students in the Molecular and Cellular Biology Program receive stipends and tuition support from institutional and extramural sources, including University of Iowa fellowships and graduate research assistantships, and training grants from the National Institutes of Health.

## Facilities

Training is conducted primarily in laboratories and teaching facilities of the Carver College of Medicine Departments of Anatomy and Cell Biology, Biochemistry, Internal Medicine, Microbiology, Molecular Physiology and Biophysics, Neurology, Obstetrics and Gynecology, Pathology, Pediatrics, Pharmacology, and Radiation Oncology; the College of Dentistry Department of Orthodontics; and in the College of Liberal Arts and Sciences Departments of Biology and Chemistry. Faculty laboratories and central research facilities available to students provide access to the most up-to-date research equipment.

## Molecular and Cellular Biology Courses

<b>142:210 Advance Prokaryotic Molecular Biology</b>	3 s.h.
Mechanism and regulation of DNA, RNA, and protein synthesis in bacteria. Requirements: (for 142:210) 156:201, or 002:128 and 099:130; (for 061:210) 002:128 and 099:130. Same as 061:210.	
<b>142:215 Transcription and Multifunctional Regulation by RNA</b>	1 s.h.
Principles and techniques for investigating mechanisms of controlling eukaryotic gene expression; basic genome organization, chromatin structure, transcription, RNA processing, translation; cloning methods, use of electronic sequence databases, footprinting, chromatin immunoprecipitation, in vivo and in vitro transcription assays, DNA microarray analysis, information retrieval. Prerequisites: 156:201.	
<b>142:216 Chromatin Structure and Disease</b>	1 s.h.
Transcriptional control by chromatin, emphasis on human disease; based on research publications. Prerequisites: 156:201.	
<b>142:217 Cancer, Epigenetics, and Genetic Manipulations in Mice</b>	1 s.h.
Epigenetic mechanisms of transcriptional control, mouse models for understanding the molecular basis for human disease; based on research publications. Prerequisites: 156:201.	

- 142:220 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System** 1 s.h.  
Models for translocation across the ER membrane, quality control/protein folding in the ER lumen, ER associated degradation; mechanisms of vesicle biogenesis, cargo selection, vesicle fusion, regulation of Golgi and trans-Golgi Network biogenesis; protein internalization from the cell surface. Prerequisites: 099:130. Same as 060:216, 072:220.
- 142:221 Control of Subcellular Motility** 1 s.h.  
Actin filaments and microtubules in terms of their assembly dynamics and regulation; how motor proteins are controlled and adapted for movement of specific proteins and vesicles within cells; signaling through GTPases; cell motility; biogenesis, regulation of cilia and flagella. Prerequisites: 099:130. Same as 060:221, 072:221.
- 142:222 Organelle Biogenesis** 1 s.h.  
Biogenesis of mitochondria, peroxisomes, nucleus, and phagosomes; membrane trafficking; mitochondrial division, mitosis and cell division, entry into lysosomes via autophagy and endocytic pathways; host/pathogen interactions, function of macrophages and neutrophils. Prerequisites: 099:130. Same as 060:222, 072:222.
- 142:225 Growth Factor Receptor Signaling** 1 s.h.  
Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Recommendations: 156:201, 156:202, and 156:203. Same as 060:225, 072:225.
- 142:226 Cell Cycle Control** 1 s.h.  
Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Recommendations: 156:201, 156:202, and 156:203. Same as 060:226, 072:226.
- 142:227 Cell Fate Decisions** 1 s.h.  
Cellular fate decisions, including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Recommendations: 156:201, 156:202, and 156:203. Same as 060:223, 072:227.
- 142:230 Cell Migration from Development to Metastasis** 1 s.h.  
Introduction to major cell migration events during development, culminating in how such principles of migration are reutilized during cancer metastasis; emphasis on utilizing current literature in the field to understand how to study cell migration, questions that can be asked, and what remains to be determined.
- 142:280 Topics in Molecular and Cellular Biology** 1 s.h.  
Opportunity to work closely with participating faculty to gain skill in critical reading of research literature and facility in presenting the material to an audience. Repeatable. Requirements: advanced graduate standing.
- 142:290 Seminars in Molecular and Cellular Biology** 1 s.h.  
Research findings in molecular biology. Requirements: molecular and cellular biology graduate standing.
- 142:299 Mechanisms of Parasitism Journal Club** 1 s.h.  
Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students. Same as 061:299.
- 142:301 Directed Study in Molecular and Cellular Biology** arr.
- 142:305 Molecular and Cellular Biology Research** arr.  
Requirements: molecular and cellular biology graduate standing.

# Neuroscience

**Chair:** Daniel Tranel (Neurology)

**Affiliated faculty:** Paul J. Abbas (Communication Sciences and Disorders), Francois Abboud (Internal Medicine), Michael Anderson (Molecular Physiology and Biophysics), Steven Anderson (Neurology), Nancy C. Andreasen (Psychiatry), Alexander Bassuk (Pediatrics), Christopher Benson (Internal Medicine), Mark Blumberg (Psychology), Daniel Bonthius (Pediatrics), Timothy Brennan (Anesthesiology), Martin Cassell (Anatomy and Cell Biology), Mark Chapleau (Internal Medicine), Kelly J. Cole (Integrative Physiology), Robert A. Cornell (Anatomy and Cell Biology), Michael E. Dailey (Biology), Beverly Davidson (Internal Medicine), Natalie Denburg (Neurology), Melissa Duff (Communication Disorders and Sciences), Daniel Eberl (Biology), John Freeman (Psychology), Minnetta Gardinier (Pharmacology), Pedro Gonzalez-Alegre (Neurology), Jean Gordon (Communication Sciences and Disorders), Steven Green (Biology), Jeremy Greenlee (Neurosurgery), Donna Hammond (Anesthesiology), N. Charles Harata (Molecular Physiology and Biophysics), Eliot Hazeltine (Psychology), Douglas Houston (Biology), Matthew Howard III (Neurosurgery), Richard R. Hurtig (Communication Sciences and Disorders), Jean Y. Jew (Anatomy and Cell Biology), Alan Kim Johnson (Psychology), Wayne Johnson (Molecular Physiology and Biophysics), Alan Kay (Biology), Toshihiro Kitamoto (Anesthesiology), Gloria Lee (Internal Medicine), Vince Magnotta (Radiology), Laurie M. McCormick (Psychiatry), Durga P. Mohapatra (Pharmacology), Steven Moore (Pathology), David Moser (Psychiatry), Peggy Nopoulos (Psychiatry), M. Sue O'Dorisio (Pediatrics), Daniel O'Leary (Psychiatry), Sergio Paradiso (Psychiatry), Jane Paulsen (Psychiatry), Stanley Perlman (Microbiology), Robert Philibert (Psychiatry), Amy Poremba (Psychology), Kamal Rahmouni (Internal Medicine), Matthew Rizzo (Neurology), David Rudrauf (Neurology), Andrew Russo (Molecular Physiology and Biophysics), Curt Sigmund (Internal Medicine), Kathleen Sluka (Physical Therapy and Rehabilitation Science), Long-Sheng Song (Internal Medicine), Steven F. Stasheff, Christopher Stipp (Biology), Stefan Strack (Pharmacology), William Talman (Neurology), Daniel Tranel (Neurology), Christopher Turner (Communication Sciences and Disorders), Ergun Uc (Neurology), Yuriy M. Usachev (Pharmacology), Shaun Vecera (Psychology), Edward Wasserman (Psychology), Joshua Weiner (Biology), Michael Welsh (Internal Medicine), John Wemmie (Psychiatry), Chun-Fang Wu (Biology)

**Graduate degree:** Ph.D. in Neuroscience

**Web site:** <http://neuroscience.grad.uiowa.edu>

The Neuroscience Program provides an interdisciplinary and interdepartmental approach to graduate education and research training in the structure, function, and development of the nervous system and its role in cognition and behavior. Students obtain training at all levels of the nervous system, from cellular/molecular to behavioral/cognitive.

## Graduate Program

The Neuroscience Program offers a Ph.D. in neuroscience.

### Doctor of Philosophy

The Doctor of Philosophy in neuroscience requires a minimum of 72 s.h. of graduate credit. The program's curriculum is designed around three tracks: molecular/cellular, developmental/systems, and cognitive/behavioral. Following broad-based instruction in a core curriculum, students specialize in one of the tracks.

Within a framework of core, track-specific, and elective courses, each student pursues a program of study individually designed according to his or her undergraduate training and graduate research goals. After enrolling in the Neuroscience Program, entering students consult with the advisory committee regarding their level of preparation for the program's required courses.

The Student Advisory Committee meets with all first- and second-year graduate students once each semester, helping each student explore his or her research interests and select faculty mentors for the required laboratory rotations. Each student is expected to complete three rotations in faculty laboratories before selecting a thesis advisor. Rotations ordinarily last 12 weeks but may last from 8 to 16 weeks. Under special circumstances, two rotations may be in the same laboratory, an arrangement that permits the student to learn a variety of techniques and approaches before settling down to work on the dissertation project. Students usually choose a dissertation lab at the end of their first year.

### BACKGROUND REQUIREMENTS

Students are expected to demonstrate competency, through prerequisites or course work, in each of four fields: biochemistry, general physiology, cell biology, and statistics. These requirements ordinarily should be fulfilled by the end of the first year of graduate study. Waivers of background course requirements may be requested by students who have taken equivalent courses before entering the Neuroscience Program.

### NEUROSCIENCE CORE

The following courses form the core of the neuroscience graduate curriculum.

031:278 Principles of Neuropsychology	3 s.h.
132:180 Fundamental Neurobiology	4 s.h.
132:181 Neurophysiology	3-4 s.h.
132:184 Developmental Neurobiology	3 s.h.
132:234 Medical Neuroscience	4 s.h.
132:235 Neurobiology of Disease	3 s.h.
156:201 Fundamentals of Gene Expression (molecular track)	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.
One statistics course	3-4 s.h.

In addition, students register for the following two courses each semester.

132:265 Neuroscience Seminar  
132:305 Neuroscience Research

0-1 s.h.  
arr.

## ELECTIVES

Elective requirements may be met with three or more courses from a list of courses offered by the Departments of Anatomy and Cell Biology, Biology, Molecular Physiology and Biophysics, Pharmacology, Psychology, and other departments as appropriate. Students must take electives in at least two of the program's three tracks, ensuring that they receive advanced training both in their area of specialization and in related areas of neuroscience. With permission of the Student Advisory Committee, students may satisfy the elective requirement wholly or in part by registration in 132:301 Directed Study in Neuroscience.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

For information about predoctoral training opportunities in neuroscience, contact the Neuroscience Program or visit its web site.

## Financial Support

Full-time Neuroscience Program students receive stipends and full tuition scholarships through fellowships and research assistantships. Awards are renewed annually, based on continued satisfactory progress and availability of funds. The standard stipend for graduate students is \$25,000 for 2010-11.

The Neuroscience Program is committed to supporting its graduate students for their entire training period. Students normally are supported in the first year by the program. After that, support is expected to come from the student's primary research mentor. Occasionally, advanced students are supported through teaching assistantships. Tuition is paid for all students.

## NIH TRAINING GRANT

The Neuroscience Program is supported by a training grant from the National Institutes of Health. The grant provides stipend and tuition support for a select group of first- and second-year graduate students.

## Facilities

Training is conducted primarily in the laboratories and teaching facilities of the Carver College of Medicine graduate Departments of Anatomy and Cell Biology, Biochemistry, Molecular Physiology and Biophysics, and Pharmacology; clinical Departments of Internal Medicine, Neurology, and Psychiatry; and the College of Liberal Arts and Sciences graduate Departments of Biology, Communication Sciences and Disorders, Health and Human Physiology, and Psychology. Students use faculty laboratories and central research facilities for ultrastructural analysis; histochemistry and immunocytochemistry; electrophysiology; fluorescence-activated cell sorting; cellular and subcellular biochemistry; cell, tissue, and organ culture; operant and classical conditioning; molecular biology; behavioral genetics; neural substrates of complex behavior; brain-behavior relationships in humans; neuropsychology; and functional neuroimaging (PET, fMRI).

## Neuroscience Courses

**132:161 Undergraduate Research in Neuroscience**  
Experimental research under faculty supervision.

arr.

**132:180 Fundamental Neurobiology**

4 s.h.

Neuronal function, plasticity, and development at the molecular and cellular levels. Prerequisites: 002:145. Recommendations: 002:114 and 099:110. Same as 002:180.

**132:181 Neurophysiology**

3-4 s.h.

Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: 002:180, 22M:025, and 029:012 or 029:082. Same as 002:181.

**132:184 Developmental Neurobiology** 3 s.h.

Neural induction and nervous system patterning; neurogenesis, axon and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Requirements: grade of B- or higher in 002:180 or graduate standing. Same as 002:184, 072:184.

**132:209 Steroid Receptor Signaling** 1 s.h.

Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters. Same as 071:209, 072:209.

**132:234 Medical Neuroscience** 4 s.h.

Basic principles of neurophysiology, neuroanatomy; emphasis on human central nervous system; laboratory emphasis on anatomical study of spinal cord, brain. Offered spring semesters. Requirements: (for 060:234) M.D. or Physical Therapy and Rehabilitation Science Program enrollment. Same as 060:234.

**132:235 Neurobiology of Disease** 3 s.h.

Broad, thematic understanding of disease mechanisms in neurobiological disorders.

**132:240 Topics in Cognitive Neuroscience** 3 s.h.

Key topics in the neural basis of human cognition; research literature. Recommendations: graduate courses in basic neuroscience and cognitive psychology. Same as 064:240.

**132:241 Fundamentals of Behavioral Neuroscience** 3 s.h.

Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of neuroscience, sensation, motivation, emotion. Same as 031:241.

**132:242 Fundamentals of Learning and Behavior** 3 s.h.

Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of comparative psychology, motor control, learning. Same as 031:242.

**132:245 Applied Statistics for Cognitive Neuroscience** 2 s.h.

Talks by neuroscience researchers on types of statistics they regularly use in their research.

**132:250 Functional Magnetic Resonance Imaging** 2-3 s.h.

Basic physics principles of functional magnetic resonance imaging and approaches to data acquisition, including BOLD imaging, arterial spin labeling, and magnetic source imaging; data analysis strategies; paradigm design and development. Same as 051:280.

**132:265 Neuroscience Seminar** 0-1 s.h.

Research presentations. Offered fall and spring semesters. Same as 002:265, 031:265, 060:265, 072:265.

**132:277 Mechanisms of Pain Transmission** 3 s.h.

Anatomical, physiological, and pharmacological mechanisms underlying peripheral and central neuronal processing of pain; emphasis on neuronal changes that occur during pathological conditions such as inflammation/arthritis, peripheral neuropathy. Offered fall semesters of even years. Same as 071:277, 101:277.

**132:301 Directed Study in Neuroscience** arr.

**132:305 Neuroscience Research** arr.

Requirements: neuroscience graduate standing.

**132:365 Seminar: Neuropsychology and Neuroscience** arr.

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as 031:365, 064:365.

## Rhetorics of Inquiry (POROI)

**Director:** David Depew  
**Graduate nondegree program:** Certificate in Rhetorics of Inquiry  
**Web site:** <http://poroi.grad.uiowa.edu>

The Project on Rhetorics of Inquiry (POROI) is an interdisciplinary program whose aim is to improve academic inquiry and scholarly writing in the arts, humanities, sciences, and professions, especially at the intersections between disciplines. POROI explores how scholarship and professional discourse are conducted through argument, how paradigms of knowledge are sensitive to social-political contexts, and how the presentation of scholarly and professional findings is an audience-sensitive process. The program offers classes, seminars, workshops, conferences, and a peer-reviewed online journal, *Poroi: An Interdisciplinary Journal of Rhetorical Analysis and Invention*.

POROI also collaborates with the Graduate College to offer a certificate for graduate students.

### Certificate

The Certificate in Rhetorics of Inquiry requires completion of four POROI courses (normally a minimum of 12 s.h.). Students may pursue the certificate in conjunction with a graduate degree in any field. The interdisciplinary program helps students hone their skills for arguing in oral, written, and multimedia forms within their own disciplines, and broaden their understanding of the similarities and differences among various fields.

The certificate program's objectives are to:

- help students cultivate habits of interdisciplinary study and research through reading, writing, and conversation;
- encourage students to cross conceptual and institutional boundaries that often appear to separate the arts, humanities, and professions from each other and from the social, natural, and formal sciences;
- improve students' awareness of the rhetorical dimensions of argumentation and inquiry; and
- certify that students who have completed the program are prepared to do rhetorical and cross-disciplinary work after they graduate.

All certificate students must complete 160:200 Introduction to Rhetorics of Inquiry and three additional POROI courses of their choice. See "Courses" below.

### Admission

Master's and doctoral candidates in good standing are eligible to enter the certificate program. To enroll, contact the Project on Rhetorics of Inquiry.

## Rhetorics of Inquiry (POROI) Courses

POROI courses are open to certificate students and to those not enrolled in the certificate program.

**160:110 Undergraduate Independent Study on Rhetoric of Inquiry** arr.  
 Independent study on the rhetoric of inquiry; connections between discourses that at first may not seem connected. Requirements: undergraduate standing.

**160:130 Performing Culture, Language, and Literature** 3 s.h.  
 Performance of self in everyday life; performance in/of literature; performance as an aesthetic act; performance as a way to understand and represent identities, languages and cultures; students participate in performance as a mode of literary and rhetorical interpretation, cultural and political intervention, and artistic-embodied public presentation. Requirements: (for 036:130) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:130, 036:130, 049:160.

**160:160 Issues in Rhetoric and Culture** 3 s.h.  
 Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Communication studies majors may apply this course to the following area requirement. AREA: Context. Requirements: (for 036:146) g.p.a. of at least 2.50, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work. Same as 010:160, 036:146, 048:160.

**160:161 Rhetorical Issues in Health Care** 3 s.h.



Role of rhetoric in health care practice, decisions, and ethics; rhetorical production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge.

Requirements: satisfactory completion of rhetoric General Education requirement. Same as 010:161, 153:161.

**160:165 Feminism and Philosophy** 3 s.h.

Classical and contemporary Western philosophies concerning questions about the nature of justice, knowledge, value, truth, personal identity; feminist philosophers who develop them. Prerequisites: 131:010. Same as 131:155.

**160:170 Philosophy of the Body** 3 s.h.

Philosophical treatment of the body; perspectives from classical, modern, and contemporary texts from Western philosophy, and texts from feminist theory, critical race theory, cultural studies, and disability studies. Prerequisites: 131:010. Same as 131:170.

**160:180 Literature and Translation** 3 s.h.

Translation in the broadest sense; originality, authority, authorship, accuracy, ownership, audience; issues problematizing differences between medium and message. Same as 041:180, 048:180.

**160:182 Honors Seminar on Political Theory** 3 s.h.

**160:183 Invention** 3 s.h.

How to get writing going, keep it going, and write in an authentic meaningful way. English majors may apply this course to the following area and/or period requirement. PERIOD: 20th- and/or 21st-Century Literature. Same as 08N:183.

**160:200 Introduction to Rhetorics of Inquiry** 2-4 s.h.

How connections between discourses that don't seem connected suggest innovative arguments and ways of crossing boundaries between disciplines. Same as 036:210.

**160:210 Independent Study Rhetorics of Inquiry** arr.

Repeatable.

**160:216 Conflict, Negotiation, and Planning** 3 s.h.

Conflict within communities, and planners' responses; networking, negotiating, mediating, coalition building, consensus building; case studies, role playing. Requirements: (for 102:216) 102:203. Same as 102:216.

**160:223 Deliberation, Advocacy, Civic Engagement** 3 s.h.

Practices of public deliberation in governance and civil society; counterpublic sphere discourses. Same as 036:223.

**160:230 Analysis of Scholarly Domains** 3 s.h.

Information transfer in academic disciplines; scientific method, other means of knowledge construction, resulting literatures; reference tools used to control literature for a variety of audiences; emphasis on humanities, social sciences, or sciences. Requirements: (for 021:254) 021:141. Same as 021:254.

**160:232 Race, Gender, and Technology** 3 s.h.

Brief, critical look at the ways race and gender shape the uses and design of information and communication technologies (ICTs); ICTs as a part of our social infrastructure; how the integration of ICTs into Western culture has affected, transformed, or been transformed by interactions with racial groups, men, and women; interrogate assumptions behind technology's promises of efficiency and progress--what are the norms and values embodied within the artifacts we use every day? Same as 021:232.

**160:239 Topics** 3 s.h.

Topics vary.

**160:243 Feminist Cultural Studies** 3 s.h.

Same as 008:243, 010:243, 036:222, 131:243.

**160:247 Crossing Borders Seminar** 2-3 s.h.

Repeatable. Same as 008:231, 013:262, 016:247, 01H:247, 030:242, 035:273, 044:286, 048:247, 113:247, 129:231, 181:247.

- 160:250 Introduction to Rhetoric of Science** 3 s.h.  
How science is related to social and political practices, examined by placing philosophical and pedagogical controversies about scientific method into their historical and rhetorical contexts. Same as 036:250.
- 160:258 Feminist Critical Theory** 3 s.h.  
Questions of difference, the body, agency, identity politics, gender performativity, power as both productive and oppressive; perspectives from texts in poststructuralist and feminist philosophy. Same as 131:258.
- 160:262 Readings in Nonfiction** 3 s.h.  
Same as 08N:262.
- 160:280 Postcolonial Feminist Theory** 3 s.h.  
Role of colonial histories and postcolonial legacies on past and contemporary relations of power in varied geographical contexts, through interdisciplinary feminist perspective; processes of gender and racialization relative to uneven global flows of media, capital, people. Requirements: 131:151 or cultural studies course. Same as 010:264, 131:264.
- 160:300 Writing for Learned Journals** 1-4 s.h.  
Help for graduate students in bringing written work to publishable form; analysis of target journals' audiences and interests; submission, response to criticism. Same as 08N:340, 650:300.
- 160:302 Writing Political Science** 2-4 s.h.  
Practice in planning and completing political inquiries; emphasis on writing for scholarly publication. Requirements: political science Ph.D. enrollment.
- 160:311 Modern Rhetoric** 2-4 s.h.  
History of modernist rhetorical theory in the 20th century; relationships with philosophy, social and physical sciences, cultural change. Same as 036:311.
- 160:313 Digital Rhetoric** 3 s.h.  
Current discourse (utopic, dystopic, other strands) about the Internet as it shapes and is shaped by competing forces. Repeatable. Same as 008:313, 650:313.
- 160:325 Rhetorics of the Body** 3 s.h.  
The body as a shifting signifier: gendered, raced, classed, sexualized, discursively constructed, materially impacted; multiple and constantly shifting dimensions and interpretations; exploration of ways the body is inscribed in culture via various theories of the body--biological, postmodern, virtual.
- 160:331 Studies in Language Theory** 2-4 s.h.  
Semiotics, speech acts, philosophy of language; emphasis on their relationship to rhetoric. Same as 036:331.
- 160:332 Critical Ethnography** 3 s.h.  
How power relations constitute the work of ethnographic research; ethnography as a rhetorical form--how ethnographic inscription renders self, other, culture, and the world intelligible in ways that reinscribe and/or challenge dominant social relations; axes of power such as race, class, gender, sexuality, and nation within postcolonial, feminist, and antiracist approaches to ethnographic/autoethnographic theory and praxis; negotiating researcher privilege and epistemic violence; crisis of representation. Same as 010:332, 036:378.
- 160:335 Proseminar: Contemporary Rhetorical Studies** 2-4 s.h.  
Problems in contemporary rhetorical studies; may include works of Kenneth Burke, Wayne Booth, deconstructionists, feminist theorists and critics, critics of communication technologies. Same as 036:335.
- 160:338 Colloquium in Political Theory** 1-4 s.h.
- 160:340 Current Issues in Rhetoric** 3 s.h.  
Ethical, social, or cultural issues; rhetoric's role in their contemporary significance; traditional aspects of rhetoric, their pertinence to present concerns. Same as 010:340, 036:317.
- 160:353 Seminar: Intellectual Property** 3 s.h.

Areas of cultural production that have been affected by intellectual property law; notions of authorship and ownership that lie at the heart of intellectual property law, how they affect varied areas of cultural production. Same as 036:353.

**160:360 Issues in Rhetoric and Culture**

3 s.h.

Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Repeatable. Same as 010:360.

**160:370 Medical Writing and Publishing**

3 s.h.

Current state of medical writing; varied industries involving medical writing; styles and techniques for honing writing skills.

**160:400 Writing Dissertations**

3-4 s.h.

Peer criticism of draft dissertation chapters and prospectuses; associated activities, such as construction of the curriculum vitae, letters of application, interview strategies, presentations at campus visits.

## Second Language Acquisition

**Directors:** Judith E. Liskin-Gasparro (Spanish and Portuguese), Roumyana Slabakova (Linguistics)

**Affiliated faculty:** Stephen M. Alessi (Psychological and Quantitative Foundations), Jill N. Beckman (Linguistics), William D. Davies (Linguistics), Michael E. Everson (Teaching and Learning), Elena Gavrusheva (Linguistics), Richard Hurtig (Communication Sciences and Disorders), Chuanren Ke (Asian and Slavic Languages and Literatures), Paula Kempchinsky (Spanish and Portuguese), Judith E. Liskin-Gasparro (Spanish and Portuguese), Sue K. Otto (Spanish and Portuguese), Jason Rothman (Spanish and Portuguese), Leslie Schrier (Teaching and Learning), Kathy L. Schuh (Psychological and Quantitative Foundations), Carol Severino (Rhetoric), Helen Shen (Asian and Slavic Languages and Literatures), Roumyana Slabakova (Linguistics), Bruce H. Spencer (German), Ikuko Yuasa (Asian and Slavic Languages and Literatures)

**Graduate degree:** Ph.D. in Second Language Acquisition

**Web site:** <http://international.uiowa.edu/centers/flare/default.asp>

Second language acquisition (SLA) is a multidisciplinary field whose goal is to understand the processes that underlie non-native language learning. The Second Language Acquisition Program draws from varied academic disciplines, among them linguistics, psychology, psycholinguistics, sociology, sociolinguistics, discourse analysis, conversation analysis, and education.

## Graduate Program

The Second Language Acquisition Program offers a Ph.D. in second language acquisition.

### Doctor of Philosophy

The Ph.D. in second language acquisition requires 72 s.h., including a maximum of 33 s.h. earned in work toward the master's degree. The program is interdisciplinary and focuses on languages other than English. Students interested in pursuing the Ph.D. must hold a master's degree in an appropriate field (e.g., linguistics, foreign language education, English as a second language) or have equivalent academic experience. Students begin the program in fall.

Doctoral students may specialize in one of three areas: linguistics, language program direction, or technology. They may pursue their interdisciplinary interests in courses offered by the College of Liberal Arts and Sciences Departments of Asian and Slavic Languages and Literatures, Communication Sciences and Disorders, French and Italian, German, Linguistics, Rhetoric, and Spanish and Portuguese, and the College of Education Departments of Psychological and Quantitative Foundations, and Teaching and Learning.

The program is divided into foundation courses (13 courses, or 39 s.h.); specialization courses (5 courses, or 15 s.h.), and dissertation work (18 s.h.). A course may be used to fulfill only one requirement.

### FOUNDATION COURSES

All of these:

164:201 Second Language Acquisition Research and Theory I	3 s.h.
164:202 Second Language Acquisition Research and Theory II	3 s.h.
164:211 Multimedia and Second Language Acquisition	3 s.h.

Two of these:

07S:184 Reading in a Second Language (or 164:226, but not both)	3 s.h.
164:221 Topics in Second Language Acquisition: Speaking	3 s.h.
164:223 Topics in Second Language Acquisition: Listening	3 s.h.
164:225/013:259 Grammar in Second Language Teaching/Learning	3 s.h.
164:226 Reading in Non-Roman Scripts (or 07S:184, but not both)	3 s.h.
164:227 Topics in Second Language Acquisition: Writing	3 s.h.
164:229 Cultural Curriculum	3 s.h.

To complete the foundation requirement, students select one course from each of the following eight areas, in consultation with their advisor. With the advisor's approval, students may use courses not listed here to fulfill the requirement.

### Curriculum

07E:300 Design and Organization of Curriculum	3 s.h.
07S:186 Curriculum Foundations	2-3 s.h.
07S:197 Principles of Course Design for Second Language Instruction	3 s.h.

07S:208 Designing Materials for Second Language Instruction 3 s.h.

#### **Quantitative Research Tools**

07P:220 Quantitative Educational Research Methodologies 3 s.h.  
 07P:243 Intermediate Statistical Methods 4 s.h.  
 07P:244 Correlation and Regression 4 s.h.  
 07P:246 Design of Experiments 4 s.h.  
 08N:355 Nonfiction Writing Workshop arr.  
 039:209 Teaching Chinese as a Foreign Language V 3 s.h.

#### **Qualitative Research Tools**

07B:373 Qualitative Research Design and Methods 3 s.h.  
 07S:310 Mixed Methods Research 3 s.h.  
 07S:370 Introduction to Qualitative Methods in Literacy Research 3 s.h.  
 164:205 Analysis of L1 and L2 Data 3 s.h.

#### **Testing, Evaluation, Measurement**

07P:150 Introduction to Educational Measurement 3-4 s.h.  
 07P:165 Introduction to Program and Project Evaluation 3 s.h.  
 07P:255 Construction and Use of Evaluation Instruments 3 s.h.  
 07P:257 Educational Measurement and Evaluation 3 s.h.  
 07P:258 Theory and Technique in Educational Measurement 3 s.h.  
 07P:265 Program Evaluation 3 s.h.  
 07S:200 Fundamentals of Second Language Assessment 3 s.h.

#### **Methodology**

009:234/013:221/039:234/041:234 Principles of Teaching and Learning Foreign Languages 3 s.h.  
 035:200 Foreign Language Teaching Methods 3 s.h.  
 039:202 Teaching Chinese as a Foreign Language I: Theories/Research 3 s.h.  
 039:203 Teaching Chinese as a Foreign Language II 3 s.h.  
 039:204 Teaching Chinese as a Foreign Language III 3 s.h.  
 39J:202 Japanese as a Foreign Language: Practical Applications 3 s.h.  
 103:145 Methods of Teaching English as a Second Language 3 s.h.  
 164:222 Advanced Japanese Pedagogy 3 s.h.

#### **Phonetics, Phonology**

013:258 Modern German Phonetics and Phonology 3 s.h.  
 035:189 Introduction to Spanish Phonology 3 s.h.  
 035:209 Spanish Phonology 3 s.h.  
 103:110 Articulatory and Acoustic Phonetics 3 s.h.  
 103:112 Phonological Analysis 3 s.h.  
 103:203 Introduction to Phonology 3 s.h.  
 103:204 Phonological Theory 3 s.h.  
 103:214 Advanced Phonological Theory 3 s.h.

**Morphology, Syntax**

013:256 Modern German Syntax	3 s.h.
013:257 Morphology	3 s.h.
035:186 Introduction to Spanish Syntax	3 s.h.
035:207 Topics in Comparative Romance Linguistics	3 s.h.
035:210 Spanish Syntax	3 s.h.
103:111 Syntactic Analysis	3 s.h.
103:201 Introduction to Syntax	3 s.h.
103:202 Syntactic Theory	3 s.h.
103:212 Advanced Syntactic Theory	3 s.h.

**General Linguistics**

003:218 Psycholinguistics	3 s.h.
013:255 Semantics	3 s.h.
013:299 Special Topics in German Linguistics	3 s.h.
035:206 Spanish Language Acquisition	3 s.h.
039:202 Teaching Chinese as a Foreign Language I: Theories/Research	3 s.h.
039:144 Introduction to Chinese Linguistics	3 s.h.
103:176 Language Development	1-3 s.h.
103:206 First Language Acquisition	3 s.h.
103:211 Generative Second Language Acquisition	3 s.h.
103:216 Topics in Second Language Acquisition	3 s.h.
103:312 Seminar: Problems in Linguistics	2-3 s.h.
164:157 Linguistic Theory and Second Language Acquisition	3 s.h.
164:207 Sociolinguistics	3 s.h.
164:228 Special Topics in Japanese Linguistics	3 s.h.

**SPECIALIZATION COURSES**

Each student selects one of three specialization areas--linguistics, language program direction, or technology--and takes five courses (total of 15 s.h.) in that area.

**Linguistics Specialization**

Requirements for the linguistics specialization are as follows.

One of the following three-course sequences (Group 1 or Group 2):

**Group 1**

103:203 Introduction to Phonology	3 s.h.
103:204 Phonological Theory	3 s.h.
103:214 Advanced Phonological Theory	3 s.h.

**Group 2**

103:201 Introduction to Syntax	3 s.h.
103:202 Syntactic Theory	3 s.h.
103:212 Advanced Syntactic Theory	3 s.h.

One of these:

103:211 Generative Second Language Acquisition	3 s.h.
An alternate course on linguistic theory and second language acquisition	

One of these:

031:122 Language Development	3 s.h.
031:218 Cognitive Development	3 s.h.
An alternate course on parsing/psycholinguistic mechanisms	

#### Language Program Direction Specialization

Students who choose the language program direction specialization take five of the following courses (chosen from those not taken to satisfy the foundation requirements).

07P:205 Design of Instruction	3 s.h.
07P:215 Web-Based Learning	3 s.h.
07S:180 Issues in Foreign Language Education	3 s.h.
07S:183 Second Language Classroom Learning	3 s.h.
07S:184 Reading in a Second Language	3 s.h.
07S:197 Principles of Course Design for Second Language Instruction	3 s.h.
07S:202 Second Language Program Management	3 s.h.
07S:203 Second Language Planning in Education	3 s.h.
07S:208 Designing Materials for Second Language Instruction	3 s.h.
07S:415 Ph.D. Seminar in Language, Literacy, and Culture	arr.
039:204 Teaching Chinese as a Foreign Language III	3 s.h.
164:205 Analysis of L1 and L2 Data	3 s.h.
164:221 Topics in Second Language Acquisition: Speaking	3 s.h.
164:222 Advanced Japanese Pedagogy	3 s.h.
164:223 Topics in Second Language Acquisition: Listening	3 s.h.
164:225 Grammar in Second Language Teaching/Learning	3 s.h.
164:226 Reading in Non-Roman Scripts	3 s.h.
164:227 Topics in Second Language Acquisition: Writing	3 s.h.
164:228 Special Topics in Japanese Linguistics	3 s.h.
164:229 Cultural Curriculum	3 s.h.

Some students may include an internship experience as part of the specialization.

164:230 Internship	arr.
--------------------	------

#### Technology Specialization

Requirements for the technology specialization are as follows.

A three-course sequence in psychological and quantitative foundations:

One of these:

07P:205 Design of Instruction	3 s.h.
07P:275 Constructivism and Design of Instruction	3 s.h.

Both of these:

07P:208 Designing Educational Multimedia	3 s.h.
07P:215 Web-Based Learning	3 s.h.

Students choose their remaining specialization course work from the following (others may be approved by the student's advisor).

07P:203 Learning, Technology, and Effective Teaching	3 s.h.
021:120 Computing Foundations	3 s.h.
22C:104 Introduction to Informatics	3 s.h.

103:157 Linguistic Theory and Second Language Acquisition	3 s.h.
164:212 Practicum in CALL Software Development	1-4 s.h.
164:214 Advanced CALL Curriculum Development	3 s.h.
A practicum course	3 s.h.

Either of these (if not taken for the three-course sequence in psychological and quantitative foundations, above):

07P:205 Design of Instruction	3 s.h.
07P:275 Constructivism and Design of Instruction	3 s.h.

\*Either of these:

07P:293 Individual Instruction in Psychological and Quantitative Foundations	3 s.h.
164:302 Special Projects in Second Language Acquisition	3 s.h.

\*May be taken after students have completed the core design and technology courses (07P:205 Design of Instruction or 07P:275 Constructivism and Design of Instruction, 07P:208 Designing Educational Multimedia, 07P:215 Web-Based Learning).

### THESIS

All candidates must complete a thesis (164:303 Ph.D. Thesis), for which they may earn up to 18 s.h.

### OPTIONAL COURSE WORK

Students may include the following optional course work in their degree programs.

164:300 Special Topics in Second Language Acquisition	arr.
164:301 Readings in Second Language Acquisition	arr.
164:302 Special Projects in Second Language Acquisition	arr.

## Admission

Admission is for fall semester; students are admitted only for full-time study. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Strong applicants hold a master's degree in a related area, have a cumulative g.p.a. of at least 3.50 in master's degree work, and speak and write English and another language at a professional level. Applicants must submit a writing sample that demonstrates their ability to synthesize and analyze information using standard academic English.

## Financial Support

Teaching assistantships are available through the Foreign Language Acquisition Research and Education Program (FLARE). Assistantships usually involve teaching elementary or intermediate language courses. FLARE also offers a limited number of research assistantships. Visit the FLARE web site for details.

## Second Language Acquisition Courses

### 164:081 Autonomous Language Learning 1-3 s.h.

The art and science of self-directed language study in conjunction with work on a less-commonly-taught language; independent study; for experienced language learners. Same as 187:081.

### 164:101 Intensive Less-Commonly-Taught Languages 4-6 s.h.

Intensive study in varied less-commonly-taught languages; emphasis on speaking, listening, and reading in preparation for academic study or research abroad. Requirements: completion of GE foreign language component. Same as 187:101.

### 164:111 Conversation in Less Commonly Taught Languages arr.

Foreign languages not commonly taught on campus; beyond elementary level; content adapted to enrolled students. Requirements: previous study of the language indicated for the section. Same as 187:111.



- 164:120 Elementary Indonesian I** 4 s.h.  
Bahasa Indonesian language for those with no prior study of the language; emphasis on functional communication skills (listening, speaking, reading, writing). Same as 187:120.
- 164:121 Elementary Indonesian II** 4 s.h.  
Continuation of 164:120; emphasis on functional communication skills (listening, speaking, reading, writing). Same as 187:121.
- 164:125 Conversational Indonesian** 1 s.h.  
Open conversation in Indonesian language; active participation. Prerequisites: 164:121. Same as 187:125.
- 164:130 Elementary Turkish I** 4 s.h.  
Turkish language for those with no prior study of the language; emphasis on functional communication skills (listening, speaking, reading, writing). Same as 187:130.
- 164:131 Elementary Turkish II** 4 s.h.  
Continuation of 164:130; emphasis on functional communication skills (listening, speaking, reading, writing). Prerequisites: 164:130 or 187:130. Same as 187:131.
- 164:135 Conversational Turkish** 1 s.h.  
Open conversation in Turkish language; active participation. Prerequisites: 164:131. Same as 187:135.
- 164:140 Language Development** 3 s.h.  
Introduction to first language acquisition, with focus on infancy through five years; sound discrimination abilities, word learning, babbling and speech production, acquisition of grammar; perspectives from psychology, audiology, linguistics, speech pathology. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:014 or 031:016. Same as 031:122.
- 164:157 Linguistic Theory and Second Language Acquisition** 3 s.h.  
Introduction of research results obtained by generative second language acquisition framework and their implications for classroom teaching methods; current views of language architecture; focus on inflectional morphology and linguistic interfaces, which have been proposed to be severe bottlenecks for acquisition; research findings on acquisition of syntax, phonology, semantics, linguistic pragmatics; pedagogical implications of these findings. Prerequisites: 103:111 and 103:112. Same as 103:157.
- 164:160 Articulatory and Acoustic Phonetics** 3 s.h.  
Production and transcription of sounds in human languages; physics of sound, computer analysis of speech sounds. Offered fall semesters. Same as 103:110.
- 164:163 Methods of Teaching English as a Second Language** 3 s.h.  
Observations of ESL and intensive English classes at the University; design and presentation of short lessons, text evaluation, demonstrations of innovative approaches of the last decade; materials. Offered spring semesters. Prerequisites: 103:110 and 103:141. Same as 103:145.
- 164:170 Issues in Foreign Language Education** 3 s.h.  
Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as 07S:180.
- 164:171 Second Language Classroom Learning** 3 s.h.  
Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as 039:177, 07S:183.
- 164:172 Reading in a Second Language** 3 s.h.  
Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as 07S:184.
- 164:173 Curriculum Foundations** 2-3 s.h.

Elementary and secondary background developments in curriculum; definitions, historical perspective, philosophies, theories of knowledge, models, learning theories, directions of development and shaping forces; emphasis on development of a curriculum project. Same as 07S:186.

**164:174 Principles of Course Design for Second Language Instruction** 3 s.h.

Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as 07S:197.

**164:181 Introduction to Chinese Linguistics** 3 s.h.

Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as 039:144, 103:144.

**164:186 Introduction to Spanish Syntax** 3 s.h.

Basic principles of generative syntax as applied to analysis of Spanish syntactic structure; extensive syntactic analysis. Prerequisites: 035:121. Same as 035:186.

**164:189 Introduction to Spanish Phonology** 3 s.h.

Sound patterns of Spanish; how various theoretical approaches solve basic problems in Spanish phonology; identification of linguistic universals, how they are manifested in the sound structure of Spanish. Prerequisites: 035:121 or 035:122. Same as 035:189.

**164:201 Second Language Acquisition Research and Theory I** 3 s.h.

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as 009:237, 035:201, 039:200, 39J:201.

**164:202 Second Language Acquisition Research and Theory II** 3 s.h.

Continuation of 164:201. Prerequisites: 164:201. Same as 035:202, 039:201.

**164:203 Introduction to Phonology** 3 s.h.

Analysis of sound systems, focus on early generative phonological theory; extensive practice in analysis using data from a variety of languages; linguistic argumentation. Prerequisites: 103:110. Same as 103:203.

**164:205 Analysis of L1 and L2 Data** 3 s.h.

Issues in qualitative and quantitative analysis of first- and second-language data; data collection, analytical frameworks and approaches. Prerequisites: 164:201. Same as 039:205.

**164:207 Sociolinguistics** 3 s.h.

Topics such as discourse and conversation analyses, linguistic pragmatics, linguistic variations, issues of language and gender. Prerequisites: 103:100. Same as 039:207.

**164:211 Multimedia and Second Language Acquisition** 3 s.h.

Foreign language multimedia in the context of current second language acquisition theories and research; readings on interactivity, interface design, feedback, learner control, and acquisition of vocabulary, grammar, and culture; multimedia development project. Requirements: foreign language teaching methodology course. Same as 009:238, 013:253, 035:212.

**164:212 Practicum in CALL Software Development** 1-4 s.h.

Supervised experience in an applied setting involving development of computer-assisted language learning (CALL) software. Repeatable. Prerequisites: 164:211. Requirements: faculty sponsor.

**164:214 Advanced CALL Curriculum Development** 3 s.h.

Advanced instruction in a variety of software and hardware tools for development of multimedia computer-assisted language learning (CALL) courseware; students develop software for a General Education Program or third-year language course in collaboration with course supervisor. Prerequisites: 164:212. Same as 009:239, 013:254, 035:214.

**164:221 Topics in Second Language Acquisition: Speaking** 3 s.h.

Theory, pedagogy, research, and assessment in second language speaking. Same as 009:236, 035:228.

**164:222 Advanced Japanese Pedagogy** 3 s.h.

Instructional methods and management issues relevant to teaching Japanese language at advanced levels.

Prerequisites: 39J:202. Same as 39J:203.

**164:223 Topics in Second Language Acquisition: Listening**

3 s.h.

Theory, pedagogy, research, and assessment in second language listening. Same as 039:223.

**164:225 Grammar in Second Language Teaching/Learning**

3 s.h.

Grammar, second language acquisition, and teaching. Taught in English, projects in varied languages. Same as 013:259.

**164:226 Reading in Non-Roman Scripts**

3 s.h.

Theory and practice of reading in languages that use non-Roman alphabets, syllabary, logographic systems; reading in first and second language contexts; instructional and literacy development issues. Prerequisites: 07E:171 or 07P:270 or 07S:184. Same as 07S:207.

**164:227 Topics in Second Language Acquisition: Writing**

3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as 010:275, 035:227.

**164:228 Special Topics in Japanese Linguistics**

3 s.h.

Topics in applied linguistics and language pedagogy related to Japanese language. Same as 39J:239.

**164:229 Cultural Curriculum**

3 s.h.

Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as 07S:209.

**164:230 Internship**

arr.

**164:240 Cognitive Development**

3 s.h.

Theoretical and empirical analyses of children's cognitive development; spatial and numerical concepts, causal reasoning, categorization, metacognition, memory. Same as 031:218.

**164:241 Introduction to Syntax**

3 s.h.

Methods and argumentation for formal analysis of sentence structure through induction from language data of central concepts and relations; hypothesis testing, empirical bases of theoretical concepts. Corequisites: 103:200. Same as 103:201.

**164:242 Syntactic Theory**

3 s.h.

Current syntactic theory examined through analysis of data sets, readings in recent research; emphasis on argument construction, statement of formal principles. Offered spring semesters. Prerequisites: 103:201. Same as 103:202.

**164:244 Phonological Theory**

3 s.h.

Post-SPE phonological theory, including autosegmental phonology, feature geometry, the syllable, optimality theory. Prerequisites: 103:203. Same as 103:204.

**164:245 First Language Acquisition**

3 s.h.

Child language from a crosslinguistic perspective. Prerequisites: 103:110, and 103:141 or 103:201. Same as 103:206.

**164:246 Generative Second Language Acquisition**

3 s.h.

Overview of current second-language acquisition research in the generative linguistic framework; focus on characterizing second language learners' linguistic competence and how it is constrained by principles of universal grammar. Offered fall semesters. Prerequisites: 103:111 or 103:201, and 103:112 or 103:203. Same as 103:211.

**164:247 Advanced Syntactic Theory**

2-3 s.h.

Recent developments in syntax; comparison of theories, argumentation, and uses of data. Repeatable. Same as 103:212.

**164:248 Advanced Phonological Theory**

2-3 s.h.

Current issues. Repeatable. Prerequisites: 103:204. Same as 103:214.

- 164:249 Topics in Second Language Acquisition** 3 s.h.  
Recent developments of selected issues in second language acquisition. Repeatable. Prerequisites: 103:211. Same as 103:216.
- 164:260 Foreign Language Teaching Methods** 3 s.h.  
Readings in pedagogical theory and practice and second language acquisition; experience designing activities for teaching and assessment, with critiques based on current theories and approaches; development of reflective practices toward one's own language teaching. Same as 035:200.
- 164:261 Spanish Language Acquisition** 3 s.h.  
Theoretical linguistic approaches to monolingual, bilingual, and second language acquisition of Spanish and Portuguese; varied topics. Prerequisites: 035:204. Same as 035:206.
- 164:262 Topics in Comparative Romance Linguistics** 3 s.h.  
Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Repeatable. Prerequisites: 035:204. Recommendations: additional graduate course work in linguistics. Same as 035:207, 103:262, 20E:201.
- 164:263 Spanish Phonology** 3 s.h.  
Modern approaches to synchronic phonology as applied to Spanish; focus on traditional descriptive problems, recent generative analyses. Requirements: phonology or linguistics course. Same as 035:209.
- 164:264 Spanish Syntax** 3 s.h.  
Spanish syntactic constructions examined in framework of selected syntactic theory; emphasis on development of syntactic argumentation. Requirements: one course in syntax. Same as 035:210.
- 164:270 Fundamentals of Second Language Assessment** 3 s.h.  
How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as 07S:200.
- 164:271 Second Language Program Management** 3 s.h.  
Preparation for supervising, administering foreign language programs at all levels; for precollegiate language teachers and graduate students. Same as 07S:202.
- 164:272 Designing Materials for Second Language Instruction** 3 s.h.  
Critical perspective on creating and using media for second language learning and teaching; research on materials design, development of media. Prerequisites: 07S:183. Same as 07S:208.
- 164:274 Teaching Chinese as a Foreign Language IV** 3 s.h.  
Overview of goals, concepts, principles, research, and issues in assessment and testing of Chinese as a foreign language. Same as 039:208.
- 164:275 Teaching Chinese as a Foreign Language V** 3 s.h.  
Seminar on research design; for M.A. students planning to write a thesis or project, or graduate students seeking knowledge in designing qualitative or quantitative studies. Prerequisites: 07P:143 and 039:202. Same as 039:209.
- 164:276 Japanese as a Foreign Language: Practical Applications** 3 s.h.  
Instructional methodology, curriculum, and material design; hands-on experience. Prerequisites: 39J:122. Same as 39J:202.
- 164:281 Teaching Chinese as a Foreign Language I: Theories/Research** 3 s.h.  
Research, theory on acquisition of Chinese as a non-native language. Same as 039:202.
- 164:282 Teaching Chinese as a Foreign Language II** 3 s.h.  
Multiple levels of major Chinese textbooks, curricular organizational schemes, language programs, communicative language instruction; development of supplementary materials for a University of Iowa Chinese course. Same as 039:203.
- 164:298 Semantics** 3 s.h.

Meaning in natural language, with focus on German; lexical semantics (sense relations, semantic fields, componential analysis), modality, temporal and spatial deixis, aspect. Same as 013:255.

**164:299 Special Topics in German Linguistics**

3 s.h.

Repeatable. Same as 013:299, 103:232.

**164:300 Special Topics in Second Language Acquisition**

arr.

Repeatable.

**164:301 Readings in Second Language Acquisition**

arr.

Repeatable.

**164:302 Special Projects in Second Language Acquisition**

arr.

Repeatable.

**164:303 Ph.D. Thesis**

arr.

**164:342 Seminar: Problems in Linguistics**

2-3 s.h.

Intensive study of theoretical and practical problems. Same as 103:312.

## Translational Biomedicine

**Interim chair:** Gary Rosenthal (Internal Medicine)

**Executive committee:** Nancy Andreasen (Psychiatry), David Eichmann (Library and Information Science/Computer Science), Sarah England (Physiology), Janet Fairley (Dermatology), Vicki Grassian (Chemistry), William Haynes (Internal Medicine), Steven Maravetz (Health Science Relations), Jeff Murray (Pediatrics/Biology/Pediatric Dentistry/Epidemiology), Michael O'Hara (Psychology), Gary Rosenthal (Internal Medicine), James Torner (Epidemiology), Donald Yarbrough (Psychological and Quantitative Foundations/Educational Policy and Leadership Studies)

**Affiliated faculty:** Francois M. Abboud (Internal Medicine/Molecular Physiology and Biophysics), Nancy Andreasen (Psychiatry), Michael A. Apicella (Microbiology), Gale A. Bishop (Microbiology/Internal Medicine), Joseph A. Buckwalter (Orthopaedics and Rehabilitation), Garry R. Buettner (Free Radical and Radiation Biology), Trudy L. Burns (Biostatistics), John J. Callaghan (Orthopaedics and Rehabilitation/Biomedical Engineering), Kevin P. Campbell (Molecular Physiology and Biophysics), Barry Carter (Pharmacy), Thomas L. Casavant (Electrical and Computer Engineering/Biomedical Engineering/Ophthalmology and Visual Sciences), Michael B. Cohen (Pathology), Elizabeth Chrischilles (Epidemiology), Beverley L. Davidson (Internal Medicine), David Eichmann (Library and Information Science/Computer Science), Bruce Gantz (Otolaryngology--Head and Neck Surgery), Gerald F. Gebhart (Pharmacology), E. Peter Greenberg (Microbiology), Gregory S. Hageman (Ophthalmology and Visual Sciences), William Haynes (Internal Medicine), Donald D. Heistad (Internal Medicine/Pharmacology), Eric A. Hoffman (Radiology/Biomedical Engineering), Matthew A. Howard III (Neurosurgery), Gary Hunninghake (Internal Medicine), Joel Kline (Internal Medicine), Ronald M. Lauer (Pediatrics), Steven R. Lentz (Internal Medicine), Steven M. Levy (Dentistry), Charles F. Lynch (Epidemiology), Allyn L. Mark (Internal Medicine), Paul B. McCray (Pediatrics), Geoffrey McLennan (Internal Medicine), Jeff Murray (Pediatrics/Biology/Pediatric Dentistry/Epidemiology), Larry W. Oberley (Free Radical and Radiation Biology), M. Sue O'Dorisio (Pediatrics), Michael O'Hara (Psychology), Stanley Perlman (Pediatrics/Microbiology), Timothy L. Ratliff (Urology), Matthew Rizzo (Neurology/Industrial Engineering), Robert G. Robinson (Psychiatry), Gary Rosenthal (Internal Medicine), Andrew F. Russo (Molecular Physiology and Biophysics), D. Michael Shasby (Internal Medicine), Curt D. Sigmund (Internal Medicine/Molecular Physiology and Biophysics), Richard J.H. Smith (Otolaryngology--Head and Neck Surgery), Arthur A. Spector (Biochemistry/Internal Medicine), Clark M. Stanford (Dentistry), Jack T. Stapleton (Internal Medicine), John B. Stokes III (Internal Medicine), Edwin M. Stone (Ophthalmology and Visual Sciences), William T. Talman (Neurology), Marita G. Tittler (Nursing), Veronica Vieland (Biostatistics/Psychiatry), Robert B. Wallace (Epidemiology/Internal Medicine), George J. Weiner (Internal Medicine), Joel V. Weinstock (Internal Medicine), Jerrold P. Weiss (Internal Medicine), Michael J. Welsh (Internal Medicine/Molecular Physiology and Biophysics), Mary E. Wilson (Internal Medicine/Microbiology), Fred Wolinsky (Health Management and Policy), Joseph Zabner (Internal Medicine)

**Graduate degrees:** M.S., Ph.D. in Translational Biomedicine

**Web site:** <http://icts.uiowa.edu>

The Translational Biomedicine Program prepares skilled clinicians to pursue new knowledge about health and disease through patient-based research. The program's goal is to support the medical research enterprise in its efforts to advance the prevention, treatment, and cure of disease.

Students in the program are trained to conduct rigorous, original clinical investigations using basic biological and physiological principles. They receive didactic training and engage in substantial mentored research opportunities in the areas of disease mechanisms, or etiology; new clinical insights into diagnosis or natural history of disease; objective assessment and outcome of therapeutic intervention; medical informatics; and development of new approaches to therapeutics.

## Graduate Programs

The program offers a Master of Science and a Doctor of Philosophy in translational biomedicine.

### Master of Science

The Master of Science in translational biomedicine requires course work and research equivalent to 54 s.h. of graduate credit. Each student's plan of study for the three-year program is based on his or her chosen discipline.

All students take background courses in epidemiology, study design, and statistics as well as advanced courses in basic sciences relevant to their individual research areas.

Students also must write a proposal for a K23 Mentored Patient-Oriented Research Career Development Award from the National Institutes of Health. For M.S. students, the K23 proposal replaces the thesis. A draft of the K23 proposal must pass an internal review by the end of the student's second year.

Students may choose to pursue research areas in any of the health sciences disciplines, and they enjoy considerable flexibility in scheduling course work and beginning research.

The following courses are required. All students must register for 163:225 Translational Biomedical Research and 173:163 Seminar in Clinical and Translational Research each semester in the program.

173:140 Epidemiology I: Principles	3 s.h.
173:150 Introduction to Clinical Epidemiology	2-3 s.h.
173:152 Clinical Research Career Development	1 s.h.
171:161 Introduction to Biostatistics	3 s.h.
173:161 Patient-Oriented Research Data Analysis	3 s.h.
173:163 Seminar in Clinical and Translational Research	1 s.h.
173:211 Grant Writing for Clinical Investigators	1 s.h.
163:225 Translational Biomedical Research	arr.
173:240 Epidemiology II: Advanced Methods	4 s.h.
173:290 Intervention and Clinical Trials	3 s.h.
173:295 Clinical Research Ethics	2 s.h.

The following is a sample schedule for the Master of Science.

**FIRST YEAR****Summer Session**

173:140 Epidemiology I: Principles	3 s.h.
173:152 Clinical Research Career Development	1 s.h.
171:161 Introduction to Biostatistics	3 s.h.

**Fall Semester**

051:121 Introduction to Bioinformatics	4 s.h.
173:150 Introduction to Clinical Epidemiology	2-3 s.h.
173:290 Intervention and Clinical Trials	3 s.h.
173:163 Seminar in Clinical and Translational Research	1 s.h.
163:225 Translational Biomedical Research	arr.

**Spring Semester**

173:161 Patient-Oriented Research Data Analysis	3 s.h.
173:240 Epidemiology II: Advanced Methods	4 s.h.
173:295 Clinical Research Ethics	2 s.h.
173:163 Seminar in Clinical and Translational Research	1 s.h.
163:225 Translational Biomedical Research	arr.

**SECOND YEAR****Summer Session**

173:211 Grant Writing for Clinical Investigators	1 s.h.
--	--------

**Fall Semester**

Elective	3 s.h.
Elective	3 s.h.
Elective	3 s.h.
173:163 Seminar in Clinical and Translational Research	1 s.h.
163:225 Translational Biomedical Research	arr.

**Spring Semester**

163:225 Translational Biomedical Research	arr.
173:163 Seminar in Clinical and Translational Research	1 s.h.

**THIRD YEAR****Summer Session**

163:225 Translational Biomedical Research	arr.
---	------

**Fall Semester**

173:163 Seminar in Clinical and Translational Research 1 s.h.  
163:225 Translational Biomedical Research arr.

**Spring Semester**

173:163 Seminar in Clinical and Translational Research 1 s.h.  
163:225 Translational Biomedical Research arr.

**Doctor of Philosophy**

The Doctor of Philosophy in translational biomedicine requires a minimum of 72 s.h. of graduate credit. Ph.D. students build on their M.S. study plan with more advanced work. For information about the Ph.D., contact the Translational Biomedicine Program.

**Admission**

The Translational Biomedicine Program welcomes students with diverse educational and scientific backgrounds and varied research interests. Applicants to the program should have a strong interest and background in a health science profession and knowledge of basic sciences and medicine. They should hold an advanced degree in one of the health sciences (e.g., M.D., D.O., D.D.S., D.V.M., M.S.N., Pharm.D., Ph.D.).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Admission is based on applicants' undergraduate and graduate academic achievement, performance on the Graduate Record Examination (GRE) General Test, and letters of recommendation. Applicants whose first language is not English must take the Test of English as a Foreign Language (TOEFL).

The program helps applicants find suitable mentors. All prospective students, and their mentors, must guarantee that once they are accepted as students in the program, they will be able to devote essentially all of their time over a three-year period to training. For instance, a fellow in the Carver College of Medicine could spend no more than two months each year working on clinical assignments (e.g., two months of inpatient assignments or one month of inpatient assignments and one-half day per week in a clinic).

**Financial Support**

Funding of tuition and salaries or stipends is available from a number of sources. Contact the Translational Biomedicine Program for information.

**Facilities**

Training is conducted mainly in the laboratories and teaching facilities of the Carver College of Medicine and the College of Public Health. The University of Iowa Institute for Clinical and Translational Science Clinical Research Unit is available for research training. The program also is linked with the Carver College of Medicine's graduate training program in clinical research.

**Associated Courses**

173:163 Seminar in Clinical and Translational Research 1 s.h.

**Translational Biomedicine Courses**

**163:225 Translational Biomedical Research** arr.  
Student research guided by mentor.



## Transportation Studies

**Director:** Paul F. Hanley

**Affiliated faculty:** Marc P. Armstrong (Geography), M. Asghar Bhatti (Civil and Environmental Engineering), John W. Fuller (Urban and Regional Planning/Economics), Paul F. Hanley (Urban and Regional Planning), Jon G. Kuhl (Electrical and Computer Engineering), Hosin David Lee (Civil and Environmental Engineering), Miwa Matsuo (Urban and Regional Planning), Wilfrid A. Nixon (Civil and Environmental Engineering), Gerard Rushton (Geography/Health Management and Policy), Thomas Schnell (Mechanical and Industrial Engineering), James W. Stoner (Civil and Environmental Engineering/Urban and Regional Planning)

**Graduate nondegree program:** Certificate in Transportation Studies

**Web site:** <http://ppc.uiowa.edu>

Transportation is vital to modern society. The United States, like other nations, faces many critical transportation problems and issues. The highway system is reaching an advanced stage of its life cycle, public transit operating deficits are growing, the quality of transportation available to many citizens is unacceptably low, serious inequities exist between transportation modes, and extensive changes are called for in traditional transportation institutions. New approaches to financing the nation's road system are badly needed.

Transportation engineers and planners draw on a number of skills to respond to the challenges they face. They must analyze and forecast the movement of people and goods within and between cities; identify effective and efficient means for providing desired transportation services; price these services properly; and evaluate the impact that transportation changes have on land use, environmental quality, the local or regional economy, and various subgroups within society.

No single academic discipline can supply all of the theories, principles, or methods needed to address the varied and complex problems in transportation. Recognizing this, the Department of Civil and Environmental Engineering and the Urban and Regional Planning Program participate in the interdisciplinary Transportation Studies Program, through which students in the participating units can earn the Certificate in Transportation along with their graduate degrees.

The Department of Mechanical and Industrial Engineering also participates in the transportation certificate program, offering courses in human factors and safety issues in transportation, and the Department of Geography offers courses in geographic information systems (GIS), location theory, and other related areas.

### Certificate

The Certificate in Transportation Studies requires 18 s.h. of graduate credit. Students may earn the certificate in conjunction with an M.S. or Ph.D. in civil and environmental engineering, or with an M.A. or M.S. in urban and regional planning.

The Certificate in Transportation Studies is coordinated by the Public Policy Center in conjunction with the Graduate College. Completion of the certificate requirements is noted on the student's transcript. The certificate is awarded in conjunction with the established degree requirements of the individual academic units.

Students who enroll in a course of study leading to the certificate also may wish to participate in faculty-led transportation research, which may explore topics such as system planning, traffic operations and engineering, spatial data systems and analysis, simulation applications, and policy issues.

### Certificate with M.S. or Ph.D. in Civil and Environmental Engineering

The Department of Civil and Environmental Engineering offers a subtrack in transportation at both the Master of Science and Doctor of Philosophy levels. The M.S. requires a minimum of 30 s.h. of graduate credit and may be earned either with or without thesis. Thesis students may count up to 6 s.h. of credit for thesis research toward the 30 s.h. required for the degree. Nonthesis students usually are required to complete a research paper based on independent study and to defend the paper in an oral examination.

Students who wish to complete the M.S. in a single academic year must complete 15 s.h. during both the fall and spring semesters.

The Ph.D. degree requires a minimum of 72 s.h. of graduate credit; up to 18 s.h. may be earned for dissertation research. A minimum of one year of campus residency is required. For detailed information on the residency requirement, see section XII.C of the Manual of Rules and Regulations of the Graduate College.

Individuals with degrees in other transportation-related disciplines are encouraged to apply to the Transportation Studies Program. Depending on a student's background, additional course work in statistics, computer programming, simulation, mathematics, and operations research may be required for the certificate. Credit earned in these courses may not be applicable to the student's degree program.

Students pursuing an M.S. or Ph.D. in civil and environmental engineering must complete 18 s.h. from the following courses in order to earn the Certificate in Transportation Studies. Not all courses are offered every semester; consult ISIS to determine when specific courses are offered.

### Fall Semester

053:163 Traffic Engineering	3 s.h.
053:164 Winter Highway Maintenance	3 s.h.
053:165 Pavement Analysis and Design	3 s.h.
102:266 Transportation and Land Use Planning	3 s.h.

#### Spring Semester

053:162 Design of Transportation Systems	3 s.h.
053:163 Traffic Engineering	3 s.h.
053:167 Public Transit Operations and Planning	3 s.h.
053:262 Transportation Demand Analysis	3 s.h.

Engineering students may apply to the certificate program through the Graduate College and the Department of Civil and Environmental Engineering.

#### Certificate with M.A. or M.S. in Urban and Regional Planning

The graduate Urban and Regional Planning Program offers Master of Arts and Master of Science degrees with a transportation concentration. Both degrees require 50 s.h. of graduate credit. During the first year, students complete an integrated core curriculum (21 s.h.) consisting of courses in planning economics and public finance, analytic methods, planning theory, and law. Beginning in the second semester, students take courses in an area of concentration (minimum of 9 s.h.), such as transportation, where core concepts are applied to a selected specialization. The planning curriculum is intended to provide students with the capability to examine policy in transportation, devise workable options, evaluate these optional courses of action, and work toward the implementation of policy solutions.

Electives complete the remaining credit. Students who select the thesis option may register for up to 6 s.h. of thesis credit and 8 s.h. of readings. Students may apply 3 s.h. of readings to the area of concentration requirement and substitute the thesis for the portfolio.

Students pursuing an M.A. or M.S. in urban and regional planning must complete 18 s.h. from the following courses in order to earn the Certificate in Transportation Studies. Not all courses are offered every semester; consult ISIS to determine when specific courses are offered.

#### Fall Semester

102:263 Application Simulation to Transportation	3 s.h.
102:265 Planning Sustainable Transportation	1-3 s.h.
102:266 Transportation and Land Use Planning	3 s.h.
102:268 Freight Transportation Planning	3 s.h.
102:269 Transportation Program Seminar	1 s.h.

#### Spring Semester

102:133 Transportation Economics	3 s.h.
102:195 Public Transit Operations and Planning	3 s.h.
102:260 Transportation Policy and Planning	2 s.h.
102:262 Transportation Demand Analysis	3 s.h.
102:264 Transportation Planning Process	2-3 s.h.

Urban and regional planning students may apply to the certificate program through the Graduate College and the Urban and Regional Planning Program.

# Urban and Regional Planning

**Director:** Charles E. Connerly

**Professors:** Charles E. Connerly, John W. Fuller

**Professors emeriti:** Peter S. Fisher, James A. Throgmorton

**Associate professors:** Jerry A. Anthony, Paul F. Hanley, Lucie Laurian, James W. Stoner

**Assistant professors:** Richard Funderburg, Miwa Matsuo, Phuong Nguyen, Aaron Strong

**Adjunct lecturers:** Leslie Beck, Josh Busard, Hilary Copeland, Bart Cramer, Rick Havel, Christina Kuecker, Ron Mirr, Jeffrey Schott, Jim Schwab, Dan Swartzendruber, David Swenson

**Graduate degrees:** M.A., M.S. in Urban and Regional Planning

**Web site:** <http://www.urban.uiowa.edu>

Urban and regional planning encompasses the development and implementation of public policies that improve the quality of life in cities and regions. Today's planners find themselves in demand for such diverse jobs as transport planner, zoning administrator, environmental analyst with a natural resources agency, economic development planner, regional solid waste management coordinator, state public health planner, neighborhood planner, state legislative analyst, and transportation consultant.

## Graduate Programs

The Urban and Regional Planning Program offers a Master of Arts and a Master of Science in urban and regional planning. It also offers several joint degree programs with other academic units: B.S.E./M.A. or M.S. with the College of Engineering; J.D./M.A. or M.S. with the College of Law; M.H.A./M.A. or M.S. and M.S./M.A. or M.S. with the College of Public Health; and M.S.W./M.A. or M.S. with the School of Social Work. Students also may pursue the Certificate in Transportation Studies in conjunction with an M.A. or M.S. in planning. Joint programs and the certificate are described later in this section.

The Master of Arts and Master of Science are two-year degree programs fully accredited by the Planning Accreditation Board. Each is built on the premise that planners must be educated in methods of policy analysis and that there is a common body of knowledge, represented in the core curriculum, that provides a solid foundation for all specializations in the field.

A wide range of educational backgrounds provide good preparation for graduate study in urban and regional planning. Students with undergraduate majors such as geography, economics, English, political science, engineering, architecture, sociology, urban studies, and history currently study in the program. Usually up to 60 full-time and a few part-time students are enrolled. About half of them are women, and about 10 percent are international students.

The common core of courses and the design of the facilities allow students to get to know each other quickly. Students interact closely with faculty members in the classroom, in informal conversation, and while working on research projects.

Recent graduates of the program have taken positions with city, metropolitan, and regional planning agencies, state and federal government, nonprofit organizations, and private consulting firms. They work in all geographic regions of the United States and in several countries around the world.

### Master of Arts, Master of Science

The Master of Arts and Master of Science require 50 s.h. of graduate credit, including 23 s.h. of core courses, 9 s.h. of courses in an area of concentration, and 18 s.h. of electives. A final examination is required for both degrees. A thesis is not required, although students may petition to write one; see "Thesis" below.

Students may choose to earn 2 s.h. by completing an approved internship with a planning agency during summer or the academic year. They also may elect to complete a practicum consisting of at least five months of employment in a planning-related organization, for 5 s.h. of credit. See "Internship" and "Practicum" below.

All students, including those in joint degree programs, must complete a minimum of 35 s.h. of planning courses (prefix 102). Students must earn a grade of B-minus or higher in all core and concentration area courses and must maintain an overall graduate g.p.a. of at least 3.00.

The curriculum is based on the philosophy that planners must develop the theoretical and analytic skills that will permit them to analyze social problems and evaluate public policies. Planners also must cultivate professional skills such as report writing, oral presentation, computer use, and team management in order to work effectively in various organizational and political environments.

### CORE CURRICULUM

The core curriculum helps students develop an understanding of the institutions--social, economic, political, administrative, and legal systems--that provide the context for policy analysis and that constrain public choices. It also promotes development of the ability to identify social goals and normative criteria for evaluating public policies, as well

as the analytic skills to perform such investigations.

The core requires a total of 23 s.h. (14 s.h. in the first fall semester, 3 s.h. in the spring semester, and 6 s.h. in the second year). First-semester courses are drawn primarily from traditional disciplines, particularly economics and statistics, and include an introduction to land use planning and to theories and practice of planning. As students proceed through the curriculum, increasing emphasis is placed on the development of critical judgment and insight, achieved through the application of theory and methods to realistic planning problems and case studies.

Students may request a waiver of selected core courses on the basis of previous course work.

Core courses and required semester hours are noted in the following typical class schedule.

#### **First Semester**

102:200 Analytic Methods in Planning I	3 s.h.
102:202 Land Use Planning: Law and Practice	4 s.h.
102:203 History and Theories of Planning	3 s.h.
102:205 Economics for Policy Analysis	3 s.h.
102:208 Program Seminar in Planning Practice	1 s.h.

#### **Second Semester**

102:201 Analytic Methods in Planning II	3 s.h.
Electives and area of concentration courses	9 s.h.

#### **Third Semester**

102:209 Field Problems in Planning I	3 s.h.
Electives and area of concentration courses	7 s.h.
Internship	2 s.h.

#### **Fourth Semester**

102:210 Field Problems in Planning II	3 s.h.
Electives and area of concentration courses	9 s.h.

#### **CONCENTRATION AREA**

Beginning in the second semester of the program, students develop an area of concentration by applying the concepts and skills developed in the core to a specific field of planning. Currently, there are five concentration areas supported by faculty and course offerings in the planning program: transportation planning, housing and community development, economic development, land use and environmental planning, and geographic information systems.

Students complete at least 9 s.h. of courses in their concentration area. Courses offered by other University departments may supplement those offered by the planning program.

Students may combine two concentration areas. Examples of combined areas are environmental and economic development planning, and transportation and community development planning. Students also may design other concentration areas, subject to faculty approval. For example, students can specialize in health services planning with appropriate course work in the Department of Health Management and Policy or Occupational and Environmental Health, or in human services planning with courses in the School of Social Work.

#### **THESIS**

A thesis is not required, although students may petition to write one. Students may register for up to 6 s.h. of thesis credit. In addition, they may take up to 8 s.h. of readings to develop a thesis topic and prepare a literature review.

#### **INTERNSHIP**

Students are encouraged to complete an internship in a planning agency or related organization. To earn 2 s.h. of credit for the internship, students must submit a brief paper summarizing and evaluating their experience. Internships usually are paid staff positions and are completed during the summer between the first and second years or during the academic year.

### **PRACTICUM**

An extended internship, consisting of at least five months of full-time employment in a planning-related organization, may qualify as a practicum. A practicum generally takes place during the summer and into the fall semester of the second year. It carries 5 s.h. of credit and substitutes for the required field problems courses, 102:209 Field Problems in Planning I and 102:210 Field Problems in Planning II, and the internship.

### **FINAL EXAM**

A final examination is required for all M.A. and M.S. students. An oral exam constitutes the final exam for students who do not write a thesis.

## **Joint Degrees and Certificates**

### **Joint B.S.E./M.A. or M.S. in Urban and Regional Planning**

Students pursuing a B.S.E. in civil and environmental engineering may apply for admission to the joint B.S.E./master's degree program with urban and regional planning, during the second semester of their junior year. Graduates of the joint program with engineering have technical skills and an understanding of policy development and implementation, a combination of skills that prepares them for employment as public works directors, city engineers, transportation engineers, or in public utilities.

For information on B.S.E. requirements, see Bachelor of Science in Engineering (College of Engineering) in the Catalog.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. See Civil and Environmental Engineering (College of Engineering) in the Catalog.

### **Joint J.D./M.A. or M.S. in Urban and Regional Planning**

The Juris Doctor/Master of Arts or Master of Science is the planning program's most popular joint degree. Its graduates typically seek employment as city managers, city attorneys, city planners, planning administrators, or positions as land use or environmental law specialists in legal firms or advocacy organizations.

The joint J.D./M.A. or M.S. requires a minimum of 107 s.h. of graduate credit, including 72 s.h. for the J.D. and 35 s.h. for the M.A. or M.S. It normally is completed in four years. Completion of both programs separately requires a total of 134 s.h. and five years.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. See College of Law in the Catalog.

### **Joint M.H.A./M.A. or M.S. in Urban and Regional Planning**

Students interested in community and health planning may pursue a joint master's degree offered by the Urban and Regional Planning Program and the Department of Health Management and Policy in the College of Public Health. This three-year program requires 75 s.h. of graduate credit and leads to an M.A. or M.S. in planning and an M.H.A. (Master of Health Administration). Completing the joint program takes one year less than completion of the two programs separately. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

The health management and policy degree enables students to strengthen their credentials as health planners or expand their job options to include administrative positions in the health field as well as health planning jobs. Graduates of the joint program typically find employment in hospitals, state departments of health, and other private, nonprofit, or public health agencies. See Health Management and Policy (College of Public Health) in the Catalog.

### **Joint M.S. in Occupational and Environmental Health/M.A. or M.S. in Urban and Regional Planning**

Students interested in environmental health may elect to pursue a joint master's degree offered by the Urban and Regional Planning Program and the College of Public Health. This option results in an M.A. or M.S. in planning and an M.S. in occupational and environmental health. The joint program requires 65 s.h. of credit, including 35 s.h. earned in urban and regional planning and 30 s.h. earned in occupational and environmental health. The program can be completed in five semesters. Separate application to each degree program is required. Applicants must be admitted to

both programs before they can be admitted to the joint degree program.

Graduates of the program typically find employment in the public health field, with state health and human services departments, or as health or environmental planners. See Occupational and Environmental Health (College of Public Health) in the Catalog.

### **Joint M.S.W./M.A. or M.S. in Urban and Regional Planning**

For those interested in a career in social service delivery or human services planning, a joint program is offered by urban and regional planning and the School of Social Work, leading to an M.A. or M.S. in planning and an M.S.W. in social work. Up to 12 s.h. earned in one discipline can be applied to the other. It is possible to complete the program in three years, although some students may require an additional semester. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

Graduates of this joint program find careers as human services planners for local planning agencies, nonprofit social service agencies, and state governments. See Social Work (College of Liberal Arts and Sciences) in the Catalog.

### **M.A. or M.S. in Urban and Regional Planning/Certificate in Transportation Studies**

Urban and regional planning students who satisfactorily complete a prescribed set of transportation courses can earn the Certificate in Transportation Studies. The certificate program includes courses in urban and regional planning, engineering, and economics. Completion of the certificate is noted on the student's transcript.

The Transportation Studies Program is administered through the University's Public Policy Center. See Transportation Studies (Graduate College) in the Catalog.

## **Admission**

Admission to the Urban and Regional Planning Program is open to students from any undergraduate major or concentration area.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Admission is based on Graduate Record Examination (GRE) General Test scores (verbal, quantitative, and analytical writing), letters of recommendation, previous academic performance, and a written statement of purpose. International applicants whose first language is not English are required to submit official TOEFL scores.

Applicants should submit the application form, GRE General Test scores, TOEFL score (for students whose first language is not English), recommendation letters, statement of purpose, and transcripts. For fall admission, applications should be submitted to arrive early in the year (preferably by January 15), although applications are accepted until July 15 (April 15 for international students). Applications for spring admission should be received by October 1 and no later than December 1. Fall admission is strongly preferred. Students applying for financial aid should submit their materials by January 15.

## **Financial Support**

Students in the Urban and Regional Planning Program receive financial support from the program primarily in the form of teaching or research assistantships and contract or grant-funded assistantships. Assistantships typically require 10 hours of work per week under the direction of a faculty member. A few full or partial tuition scholarships also are available.

Students initiate applications for financial support, and awards are made on the basis of merit, experience, and interests. Assistantships may be renewed for a total of up to four semesters. The planning program has been successful in providing support to the majority of its students.

Students applying for financial support are encouraged to submit application materials and requests for support by January 15. Students who apply after that date are considered only as remaining funds permit. Financial support usually is not available for students beginning the program in the spring semester.

## **Urban and Regional Planning Courses**

### **102:050 Cinema in the City**

3 s.h.

Introduction to city issues and how planners help resolve those issues; range of urban issues faced by cities, including congestion, pollution, economic decline, sprawl, affordable housing, lack of sustainability, and equity; films, readings, directed small-group discussion.

**102:055 The Splendor of Cities**

3 s.h.

Evolution of city structure in response to social, cultural, political, and economic forces; cities through time and across continents; varied resource materials, including video, novels, texts. Same as 033:056.

**102:100 Special Topics in Planning: Campus Planning**

3 s.h.

Physical design and planning of a campus, with focus on the University of Iowa campus; origins of campus as an idea, key exemplars (e.g., Universities of Virginia and Chicago), key transitions in the campus planning, especially in relation to the city; the University of Iowa campus, with attention to its neoclassical, Gothic, modernist, and more contemporary design features; the 2008 flood and its implications for UI campus planning.

**102:101 Planning Livable Cities**

3 s.h.

Development of livable cities in the United States; economic, physical, environmental, and political forces that shape their growth; impact of planning, how it shapes the future of cities. Same as 044:136.

**102:125 Environmental Impact Analysis**

4 s.h.

Environmental impact assessment methodologies; emphasis on cost-benefit-risk, cost-effectiveness and incremental analysis, and overlay and graphic techniques; optimal resource use, system simulation; field trips to local environmental control facilities. Prerequisites: 044:019. Same as 044:125.

**102:126 International Perspectives: Xicotepec**

arr.

Introduction to providing service to communities in underdeveloped countries through discipline-specific projects to improve community life in Xicotepec, Mexico; cultural and professional preparation for team work in an international environment; service-learning course in collaboration with Rotary International. Spring break in Xicotepec, Mexico.

**102:128 Design Europe: Spatial Planning and Identity**

3 s.h.

Interaction between physical/spatial design and construction of identity in Europe; how spatial planning helps construct identities at local, national, and continental scales; how diverse communities and their concepts of identity influence spatial planning; what can be learned for planning in the United States, especially regarding city planning and Latino in-migration.

**102:133 Transportation Economics**

3 s.h.

Overview of transportation markets--intercity, rural, urban; transportation modes--rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Prerequisites: 06E:001 and 06E:002. Same as 044:133, 06E:145.

**102:140 Planning for Sustainability**

2-3 s.h.

How planners are pursuing sustainable futures for cities and regions; green building, alternative forms of transportation, sustainable management of natural resources, renewable energy opportunities, urban form, natural hazard mitigation, waste management, smart growth; U.S. and international practice.

**102:195 Public Transit Operations and Planning**

3 s.h.

Bus, light and heavy rail, and paratransit modes; transit operations, planning, modeling and optimization, transit agency economics, transit finance, and evolving transportation policy; skills essential to planners and engineers who intend to work for a either planning agency, transportation provider, or a transportation or planning consulting firm; individual and group projects involving transit operations. Requirements: undergraduate or graduate standing in engineering, or graduate standing in urban and regional planning. Same as 053:167.

**102:199 Readings/Independent Study for Undergraduates**

arr.

**102:200 Analytic Methods in Planning I**

1-3 s.h.

Methods used in planning and policy analysis; emphasis on application of statistical techniques and quantitative reasoning to planning problems; use of computers and data systems in planning analysis.

**102:201 Analytic Methods in Planning II**

2-3 s.h.

Integration of methods with the planning process; application of multiple regression, population estimation and projection, survey methods, time series analysis, industrial growth and change; presentation of results to decision makers and the public.

**102:202 Land Use Planning: Law and Practice**

4 s.h.

Legal, social foundations of land use planning; comprehensive planning, zoning and subdivision review; legal aspects of land use, environmental planning; ordinance drafting; staff report writing; citizen participation.

**102:203 History and Theories of Planning** 3 s.h.

History of urban planning in America as a reflection of social and economic forces; alternative planning philosophies, roles, and ethical choices open to planners.

**102:205 Economics for Policy Analysis** 1-3 s.h.

Principles of economics for planners; concepts and techniques of microeconomic analysis; income inequality; the role of government in the economy; tax and pricing policy; project evaluation; externalities.

**102:208 Program Seminar in Planning Practice** 1 s.h.

Planning process, roles of planners, professional ethics and standards. Repeatable.

**102:209 Field Problems in Planning I** 3 s.h.

Experience working on a two-semester project involving a current planning issue, usually for a client. Requirements: urban and regional planning graduate standing.

**102:210 Field Problems in Planning II** 3 s.h.

Continuation of 102:209. Prerequisites: 102:209. Requirements: urban and regional planning graduate standing.

**102:211 Community Outreach Practicum** 1-3 s.h.

Application of planning skills to community work by non-profit organizations in local area; urban planners contributing to their communities; community outreach.

**102:214 Land Use Policy and Planning** 1-3 s.h.

Environmental preservation, site development concepts, downtown revitalization, historic preservation, brownfields.

**102:215 Applied GIS for Planners** 2-3 s.h.

Analysis of Census of Population data using GIS software; data and analytical needs of urban planners; coverage of GIS topics to plan functions of GIS and spatial analysis, varied GIS software in a planning organization; structure of the Census. Prerequisite: 102:201.

**102:216 Conflict, Negotiation, and Planning** 3 s.h.

Conflict within communities, and planners' responses; networking, negotiating, mediating, coalition building, consensus building; case studies, role playing. Requirements: (for 102:216) 102:203. Same as 160:216.

**102:217 Spatial Analysis in Planning** 2-3 s.h.

Data bases, GIS, planning support systems; spatial model building and use of spatial statistics; applications to substantive problems in transportation, environment, housing, economic development. Prerequisites: 102:215.

**102:218 GIS for Local Government** 1-2 s.h.

Development, maintenance, and operation of an enterprise-wide Geographic Information System (GIS); implementation of a parcel-based data system model common to government entities; practical experience using data for land-use planning analysis.

**102:219 Practicum** 5 s.h.

Full-time internship of at least five months with a planning-related organization. Requirements: urban and regional planning graduate standing.

**102:220 Virtual Reality and Urban Development** 2-3 s.h.

Creation of terrain models from DEMs and CAD-based site plans, panoramas, incorporation of existing and proposed buildings into virtual reality models; use of VRML and presentation strategies, including digital movies.

**102:221 Poverty, Planning, and Public Policy** 1-3 s.h.

Who and where the poor are in the United States; consequences of poverty; competing explanations of poverty; historical survey and critique of antipoverty policies at federal, state, and city levels; role of urban development policies. Prerequisites: 102:200, 102:203, and 102:205.

**102:223 Financing Local Government** 3 s.h.



Financing of local government infrastructure through property taxes, bonding, impact fees, pricing, tax increment financing; institutional alternatives--downtown improvement districts, special districts, homeowners' associations; fiscal disparities and regional finance; case studies. Prerequisites: 102:205.

**102:224 Spatial Patterns, Networks, and Dynamics** 3 s.h.

Basic tools for understanding if, when, and how reliability of information is affected by spatial considerations; examples drawn from the spatial organization of businesses, communities, spatial inequalities, environmental quality, health, and mobility; focus on visualization and applied analysis. Requirements: introductory statistics and geographic information systems.

**102:225 Geodatabases and GIS** 1 s.h.

Geodatabase implementation in the management of large GIS data sets. Prerequisites: 102:215.

**102:227 Shaping Spaces, Making Places** 3 s.h.

Structure of cities from historical and contemporary perspectives; elements that define the built-form character of cities, forces that shape urban spaces, techniques to transform spaces and places; presentations by urban designers; background in architecture or urban design theory not required.

**102:232 Planning and City Administration** 1 s.h.

Relationship of planners and other local government personnel; how planning fits into city management; city management view of local political process, provision of city services, finance and budgeting, human resources, intergovernmental relations, how meetings are run, dealing with the public.

**102:233 The Land Development Process** 2-3 s.h.

How land is developed; analysis of site suitability, preparation of subdivision plan, site plan review, development approval process, infrastructure and site preparation, negotiating local development politics; field trips. Prerequisites: 102:202.

**102:235 Growth Management** 3 s.h.

Causes and consequences of urban sprawl, shortfalls in conventional land use planning; local and state growth management policies, techniques of policy implementation, positive and negative impacts of such policies; Smart Growth; emerging challenges. Prerequisites: 102:202.

**102:242 Planning for Sustainable City--Regions** 3 s.h.

Understanding and improving the practice of urban environmental planning; techniques and politics of planning drinking water supply, sewage treatment, natural areas conservation.

**102:243 Healthy Cities and the Environment** 3 s.h.

Foundations of environmental planning for healthy cities and communities; how urban form, air and water quality, and natural hazards affect environmental planning and health.

**102:244 Global Perspectives on Environmental Planning** 3 s.h.

Environmental issues such as sprawl, loss of open space, metropolitan traffic congestion, inefficient resource management, limited use of renewable energy, natural disaster mitigation and preparedness; solutions drawn from international planning practice.

**102:246 Environmental Policy** 3 s.h.

Environmental policy formation and politics; comparative international perspective on the United States' experience.

**102:247 Environmental Management** 3 s.h.

Environmental best management practices for sustainable management of natural resources; open space and habitat protection, prairie and wetland restoration, water supplies management, natural hazard mitigation, farmland protection.

**102:260 Transportation Policy and Planning** 3 s.h.

Institutional setting for transportation planning, evolution of domestic transportation policy, international influences, transportation modes and markets, current sources of transportation planning information, emerging policy issues.

**102:262 Transportation Demand Analysis** 3 s.h.

City planning procedures and traffic engineering techniques applied to transportation problems; trip generation, distribution, assignment, mode choice models; travel surveys, data collection techniques; arterial flow, intersection performance, parking; transit system analysis. Requirements: (for 053:262) 22S:039. Same as 053:262.

**102:263 Application Simulation to Transportation**

3 s.h.

Transportation system management and traffic engineering; application of real-time simulation and visualization.

Prerequisites: 053:063 or 053:163. Same as 053:263.

**102:264 Transportation Planning Process**

2-3 s.h.

Technical issues, political interface, citizen involvement, intermodal questions, public versus private roles; review and critique of transportation plans.

**102:265 Planning Sustainable Transportation**

1-3 s.h.

Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as 044:265.

**102:266 Transportation and Land Use Planning**

3 s.h.

Policies and interactions between transportation and land use; location theories and practices; transportation infrastructure, land use, travel behavior modeling; current policies that influence travel behavior and urban form.

**102:268 Freight Transportation Planning**

3 s.h.

Freight transportation planning in the United States; surface modes, primarily trucking and rail, as well as trade-offs in bulk movements by inland waterways and pipelines; comparison with recent developments in policy, planning, and practice for surface transportation in other developed economies (e.g., Europe).

**102:269 Transportation Program Seminar**

1 s.h.

Transportation finance, safety and economic regulation, planning processes, management, government policy issues at federal, state, and local levels. Repeatable.

**102:271 Housing Policy**

3 s.h.

Recent housing policy initiatives at federal, state, and local levels.

**102:273 Community Development**

1-3 s.h.

Community Development Corporation involvement in housing and neighborhood revitalization; infill housing development and preservation; comprehensive community development initiatives.

**102:277 Affordable Housing Finance**

3 s.h.

Financing development or rehabilitation of affordable housing; low-income housing tax credits, the housing finance system and current regulatory issues, mortgage discrimination, improving financing for rental housing.

**102:290 Economic Impact Assessment**

2-3 s.h.

Economic impact and growth analysis, including economic base, income expenditure, input-output analysis; use of economic impact analysis in a cost-benefit context; industrial location and mobility theory with statistics applications.

Prerequisites: 102:205.

**102:295 Economic Development Policy**

2-3 s.h.

Analysis of policies and programs at national, regional, state, and local levels that address problems of economic growth, development, decline.

**102:297 Community Development Finance**

2-3 s.h.

Financial statements and small business finance; local revolving loan funds for small businesses; evaluation of loan proposals; community development agency financing of commercial redevelopment; case studies of community development lending. Prerequisites: 102:205.

**102:300 Special Topics in Planning**

0-3 s.h.

**102:301 International Seminar**

1-2 s.h.

**102:305 Readings**

arr.

**102:315 Independent Study in Planning**

1-6 s.h.

Research and analysis of a special planning problem; opportunity for student to apply knowledge in area of specialization.

**102:325 Thesis: Urban and Regional Planning**

arr.

**102:335 Internship**

2 s.h.

Work in a planning or related agency or nonprofit organization.

# College of Law

**Dean:** Gail B. Agrawal

**Associate deans:** Eric G. Andersen, Arthur E. Bonfield, Carin N. Crain, Marcella David, Linda A. McGuire, James J. Tomkovicz

**Executive librarian:** Mary Ann Nelson

**Professors:** Gail B. Agrawal, Eric G. Andersen, David C. Baldus (Joe B. Tye Professor), Patrick B. Bauer, Randall P. Bezanson (David H. Vernon Professor), Christina Bohannon, Arthur E. Bonfield (Allan D. Vestal Chair in Law), Willard L. Boyd (Rawlings-Miller Professor), Steven J. Burton (John F. Murray Professor), William G. Buss (O.K. Patton Professor), Jonathan C. Carlson, Enrique R. Carrasco, Marcella David, Ann Estin (Aliber Family Chair in Law), Thomas Gallanis (N. William Hines Chair), Josephine Gittler (Wiley B. Rutledge Professor), Aya Gruber, N. William Hines Jr. (Dannie and Joseph F. Rosenfield Professor), Herbert J. Hovenkamp (Ben and Dorothy Willie Chair in Jurisprudence), Carolyn C. Jones (F. Wendell Miller Professor of Law), Sheldon F. Kurtz (Percy Bordwell Professor), Marc Linder, Angela Onwuachi-Willig (Charles M. and Marion J. Kierscht Scholar), Mark J. Osiel (Aliber Family Chair in Law), Todd Pettys (H. Blair and Joan V. White Chair in Civil Litigation), Katherine M. Porter, Margaret Raymond, John C. Reitz (Edward L. Carmody Professor), Mark Sidel (Lauridsen Family Fellow), Peggie R. Smith (Murray Family Professor of Law), Alexander Somek (Charles E. Floete Chair in Law), John-Mark Stensvaag (Charlotte and Fred Hubbell Professor), James J. Tomkovicz (Edward F. Howrey Professor), Lea S. VanderVelde (Josephine R. Witte Chair in Law), Larry D. Ward (Orville and Ermina Dykstra Chair in Federal Income Tax Law), Gerald B. Wetlaufer, Adrien Wing (Bessie Dutton Murray Professor)

**Professors emeriti:** Patricia Cain, Charles Davidson, Jean Love, Paul Neuhauser, Burns Weston

**Clinical professors:** Patricia Acton, John S. Allen, Lois K. Cox, Leonard Sandler, Barbara A. Schwartz, John Whiston (Herschel G. Langdon Clinical Professor of Trial Advocacy)

**Associate professor:** Barry D. Matsumoto

**Lecturers:** Dawn Anderson, James Baker, Michael Bandstra, Sean Berry, Jeff Bohm, Gail Brashers-Krug, André Douglas Pond Cummings, Phillip DeLaTorre, Alexander Domrin, Michelle Falkoff, John Ferren, Mark D. Hansing, Rob Hodgson, Randy J. Holland, Ed Hood, Gary W. Howell, Patrick Ingram, John A. Jarvey, Nicholas Johnson, Eileen Kamerick, Linda Kerber, Richard Koontz, Chris Liebig, Barry Lindahl, Linda A. McGuire, Willajeane McLean, Kathryn Moreland, Kevin Mumford, Matthew J. Nagle, Linda Neuman, Gay D. Pelzer, Mike Pitton, Lori Reins-Schweer, William Reisinger, Meredith Rich-Chappell, Aimée Hobby Rhodes, Ann M. Rhodes, Howard Rhodes, Chris Rossi, Mark E. Schantz, Timothy Semelroth, Caroline Sheerin, Leon F. Spies, Serena Stier, George L. Stigler, Pamela White, C.J. Williams, Doris Witt, **Degrees:** J.D., LL.M.

**Web site:** <http://www.law.uiowa.edu>

The University of Iowa College of Law, founded in 1865, is the oldest law school in continuous operation west of the Mississippi River. More than 650 students and a full-time faculty of around 50 are engaged at the college in a cooperative study of law, legal institutions, professional ethics, the role of law in public policy matters, and the intersection of law and other disciplines.

The college's student/faculty ratio of 15-to-1 is one of the best in American legal education.

Through traditional Socratic classes, research seminars, closely supervised writing exercises, ambitious professional skills training programs, and clinical experiences, the college seeks to produce public-spirited leaders who will be rigorous thinkers, trusted advisors, forceful advocates, creative policy makers, and innovative scholars.

The Boyd Law Building, a 200,000-square-foot facility, provides a home for the college and its programs. Its spacious library, three courtrooms, clinic suite, building-wide audiovisual system, and extensive computer technologies are recognized as outstanding features in an educational facility specially designed for modern legal training.

The Iowa Law Library, one of the nation's premier law libraries, has the largest collection of legal volumes and volume equivalents among all public law schools. Its staff numbers 29.5 full-time-equivalent library professionals and other personnel, and it provides comfortable seating for more than 700 patrons, with 441 private study carrels, each equipped with its own data port. The library boasts a fully computerized information retrieval system. The online electronic card catalog provides instant information about all cataloged materials. The library also is on the University's wireless network.

The college celebrates diversity. In 1967 it undertook one of the nation's first and most aggressive affirmative action programs aimed at attracting a more racially and ethnically diverse student body. Its success in this continuing effort has resulted in a minority student population that makes up approximately 18 percent of the law college's current student body (the State of Iowa's minority population is around 5 percent).

The faculty also is diverse. Among the college's full-time professors, seven are from minority backgrounds, including African American, Asian American, and Hispanic American, and 18 are women. There are specialists in many area of the law, and four professors hold Ph.D. degrees in law-related disciplines in addition to their J.D. degrees.

The college offers a challenging curriculum that is carefully balanced between substantive courses, perspective offerings, examination of ethical values and professionalism, and skills-training programs, including a highly active in-house legal clinic. Iowa's writing program—one of the strongest among law schools nationwide—is an integral part of all students' academic experience. During both semesters of their first year, students take one small-section class taught by a full-time professor and one small-section course in legal analysis, writing, and research.

A requirement of four additional writing units at the upper level must be fulfilled with at least two units of faculty-supervised written work. The remaining two units may be completed through a range of options, including writing for one of the school's four law journals, participating in the clinical program, exercises in appellate advocacy, or specific seminars or independent writing projects.

The Writing Resource Center supports and builds upon classroom writing instruction and assists students with a broad range of writing tasks (see "Resources"/"Writing Resource Center" later in this section). The center and the writing program as a whole exemplify the personalized attention and dedication to individual learning for which the college is renowned in legal circles.

The college is proud of its four student-run scholarly journals. The Iowa Law Review has served as a scholarly legal journal since 1915, analyzing developments in the law and recommending new paths for the law to follow. It frequently

is ranked among the top 20 legal periodicals in the country, based on the frequency with which it is cited.

The Journal of Corporation Law is the nation's oldest student-run legal periodical specializing in corporate law. It provides the legal and academic communities with high-quality articles on corporate issues and business law.

Transnational Law & Contemporary Problems addresses legal issues confronting the global community. Since it began publication in 1991, it has earned an excellent reputation based on its symposiums on issues such as world food policy and global environmental regulation.

The Journal of Gender, Race & Justice hosts a symposium at the college each year, attracting nationally renowned legal scholars and practitioners who discuss topics such as criminal justice, education, and critical race feminism. The journal publishes the papers presented at the symposium.

In keeping with its educational mission of encouraging the acquisition of broad social awareness and technical professional competence, the University of Iowa College of Law offers a strong program of study in the rapidly expanding fields of international and comparative law. It does so for three reasons: in an era of global interdependence, an effective lawyer must understand international law and foreign legal systems; as professionals and community leaders, lawyers familiar with international and comparative law are crucial to the formulation of public policy at all levels of society; and the study of international and comparative law provides an essential theoretical foundation for all lawyers by affording unique insight into the nature of law and legal process.

All College of Law students benefit from international exposure through association with students in the college's Master of Laws program in international and comparative law. LL.M. students take most of their classes with J.D. students. In addition, each year foreign-trained law professors and jurists pursue research in the Law Library; they also may audit or speak in classes.

The journal Transnational Law & Contemporary Problems offers students a law review experience dedicated to international issues, and the college fields a team every year in the Philip C. Jessup International Moot Court Competition. Students also have opportunities to get involved with two faculty-run centers, the University of Iowa Center for Human Rights and the University of Iowa Center for International Finance and Development, as well as student groups such as the International Law Society and the Iowa Campaign for Human Rights.

Over the years, the college has enjoyed great success in preparing women and men to be professional and civic leaders. In the 20th century, Iowa graduates served as U.S. senators and representatives, state governors, and presidents of the American Bar Association, of major universities, and of the country's largest corporations. Iowa also has been a leader in preparing American law teachers. The college is resolved to continue its traditional role of training future lawyers for positions of professional and community leadership in the 21st century.

## **Professional Programs (J.D., LL.M.)**

The College of Law offers the Juris Doctor (J.D.), and the Master of Laws (LL.M.) in international and comparative law. It also collaborates with a variety of University of Iowa graduate programs to offer joint J.D./graduate degree programs. See "Joint J.D./Graduate Degrees" later in this section.

### **Full-Time Policy**

The faculty believes that students receive a better legal education when they devote substantially all of their time to educational pursuits. For this reason, students are expected to pursue their law training full time. This policy is consistent with the accreditation standards of the American Bar Association and the Association of American Law Schools.

In extraordinary circumstances, it may be possible for students to enroll for fewer than 10 s.h. per semester. Students who believe they may be unable to attend full time should contact the dean's office before registering for classes.

### **Entrance Date**

Approximately 195 students enroll in late August, at the beginning of the fall semester. All students attend courses full time during fall and spring semesters and may attend the summer term at any point during their academic careers. Entrants can expect to graduate no earlier than 27 months after beginning law study.

### **Admission to the Iowa Bar**

A rule adopted by the Iowa Supreme Court requires all law students who intend to apply for admission to the Iowa Bar to register that intention with the court by November 1 of the year they begin law school. Details are available from the College of Law registrar or the clerk of the Iowa Supreme Court.

### **Juris Doctor**

The Juris Doctor requires 84 s.h., including required and elective courses. All entering students are expected to take

all courses designated as first-year courses and may not register for different courses or fewer semester hours without permission of the associate dean. No student may be enrolled during any fall or spring semester for more than 15 s.h. applicable to the J.D., or for more than 12 s.h. during any two adjacent summer sessions.

To be eligible for the J.D., a student must:

- receive course credit for 84 s.h.;
- take and complete all required courses;
- satisfy the writing requirements;
- complete the course of study required for the degree in no fewer than 27 months after commencing law study at the College of Law or at a law school from which transfer credit has been accepted and no later than 84 months;
- achieve a cumulative g.p.a. of at least 2.10 (a C average); and
- satisfy the requirement of receiving "substantial instruction in other professional skills generally regarded as necessary for effective and responsible participation in the legal profession," as set forth in ABA accreditation Standard 302(a)(4) and ABA Standard Interpretations 302-2 & 302-3.

Receiving credit in a course is dependent upon successful completion of a final examination, or all assigned work, or both. In order to take the final examination, students must satisfy all requirements established by the instructor, including class attendance, written work, special readings, oral reports, and so forth.

### **First-Year Curriculum**

One of the distinctive benefits of law study at Iowa is the College of Law's focus on providing students with a foundation in basic skills that will support more advanced study and professional work. The first-year curriculum emphasizes careful reading, essential writing skills, legal research, and argumentation. Students concentrate on developing analytical skills (for example, reading and understanding judicial opinions), gain a sense of the role of legal institutions in society, and focus on developing good writing and research skills.

All first-year students take 091:130 Legal Analysis Writing and Research I and 091:131 Legal Analysis Writing and Research II (LAWR), a two-semester, 4 s.h. course designed to equip them with effective skills in oral and written communication, legal research, and analysis. LAWR is staffed by full-time faculty members with expertise in teaching legal research and writing. Class size is small, with around 20 students in each section of the course.

LAWR helps students develop legal analysis skills gradually. It teaches the value of critical reading, how to analyze facts and frame legal issues, how to determine which facts are legally significant, and how to extract legal rules from judicial opinions. As the year progresses, students learn how to generate arguments and counter arguments, and how to interpret facts in order to predict the likely outcome of a client's case. They also learn varied methods of legal analysis, including precedential analysis and analysis by analogy.

The first-year program emphasizes writing in small increments, with short assignments, frequent feedback, and revisions of written assignments. Because students will eventually practice in a range of legal settings, the program exposes them to varied forms of written documents, such as memoranda, trial briefs, client letters, motions, and appellate briefs, and provides instruction in appropriate formats for the varied documents (e.g., questions presented, argument headings).

LAWR uses peer review, requiring students to assess, discuss, and critique their peers' writing assignments. This cooperative process helps students gain insight into their own legal writing abilities and learn to appreciate different approaches to the same task. It also prepares them for the experience of collaborating as practicing lawyers.

Students begin to learn about research early in the first year, completing increasingly complex research tasks as the year progresses. LAWR reinforces research techniques covered in the classroom by integrating them into written assignments. It also teaches students the fundamentals of legal research by requiring hands-on library workshops.

First-year courses are as follows. Entering first-year students are expected to take all first-year courses and may not register for different courses or fewer hours without the associate dean's permission.

### **Fall Semester**

091:102 Introduction to Law and Legal Reasoning	1 s.h.
091:120 Contracts and Sales Transactions	4 s.h.
091:130 Legal Analysis Writing and Research I	2 s.h.
091:132 Property	4 s.h.
091:364 Torts	4 s.h.

**Spring Semester**

091:104 Civil Procedure	4 s.h.
091:116 Constitutional Law I	3 s.h.
091:124 Criminal Law	3 s.h.
091:131 Legal Analysis Writing and Research II	2 s.h.
One elective	3 s.h.

A mandatory curve is applied to the grade distribution in all courses.

**Upperclass Curriculum**

In the second and third years, students take courses in a broad array of substantive areas of the law, with focus on fact gathering, interviewing, counseling, drafting, transaction planning, negotiation, and litigation. They also concentrate course work or writing and research opportunities in particular areas of interest.

Very few common requirements exist in the second and third years. All students must take 091:232 Constitutional Law II and a course in professional ethics.

**Writing Requirement**

All students must earn four upper-level writing units in order to graduate. At least two of the four units must be earned under direct faculty supervision, in courses, seminars, research projects, or legal clinical work. The remaining two may be earned through a combination of courses and activities that carry writing credit, including 091:402 Moot Court Board, advanced appellate advocacy activities, and journals, including the Iowa Law Review, The Journal of Corporation Law, The Journal of Gender, Race & Justice, and Transnational Law & Contemporary Problems.

**Concentrated Study Opportunities**

Students may pursue their interest in a particular subject area by selecting appropriate course work and independent research projects. For example, in the intellectual property and competition law focus area, students may take several courses: 091:208 Antitrust Law (3 s.h.), 091:283 Copyrights (3 s.h.), 091:286 Introduction to Intellectual Property Law (3 s.h.), 091:324 Patent Law (2 s.h.), 091:369 Trademarks and Unfair Competition Law (2 s.h.), 091:608 Advanced Topics in Intellectual Property (arr. s.h.), 091:604 Patent Prosecution Seminar (3 s.h.), 091:241 Business Associations (3 s.h.), 091:306 The Law of Electronic Media (2 s.h.), 091:355 Securities Regulation (arr. s.h.), 091:618 Cultural Property/Heritage (arr. s.h.), and 091:624 Cyberspace Law Seminar (arr. s.h.).

**Seminars**

Students should direct questions about a seminar's requirements to the College of Law registrar or the instructor before the seminar begins, because they may not be permitted to drop the class after it meets the first time.

Seminars usually offer up to 4 s.h., including up to two writing units. Seminar formats vary widely; consult the College of Law Guide to Courses and semester registration materials for details. Students are graded on the basis of a research paper, and at the instructor's discretion, for class participation and other seminar requirements.

A common seminar format consists of a class portion for 2 s.h., and a writing portion for 2 s.h. Reduction of credit for seminars requires the instructor's consent. In some seminars, the instructor may permit the student to enroll for the class portion but not the writing portion. The students' performance in the class portion is evaluated on the same basis as for other courses--by examinations, papers, class participation, or other methods at the faculty member's discretion. Students must obtain the instructor's consent before registering.

Papers produced for seminars may be eligible for entry in competitions sponsored by varied groups. Cash prizes frequently are available. Competition announcements are posted on the bulletin boards outside the college's Writing Resource Center.

**Clinical Programs, Internships, Clerkships, Externships**

Students who have completed the equivalent of three semesters toward the J.D. (at least 39 s.h.) are eligible to apply their theoretical knowledge to real cases and projects under the supervision of faculty members and other attorneys through participation in the College of Law's Clinical Law Programs.

Some 30 students participate each semester and summer session in the in-house programs. They may represent individual and organizational clients in a variety of areas including immigration, domestic violence, criminal defense, consumer law, disability, civil rights, employment law, and general civil practice.

Other students may enroll in externships in Iowa City and the surrounding area, where they act as staff attorneys,

assisting in all phases of the legal process. Typical placements include the City Attorney's Office, the Human Rights Commissions, and Student Legal Services in Iowa City; the federal public defender, Iowa Legal Aid, and Kids First in Cedar Rapids, Iowa; and HELP Legal Services and the U.S. Attorney's Office, Davenport, Iowa. A clinical semester also is available, in which students spend an entire semester in the Iowa Attorney General's Office, the U.S. Attorney's Office, the Youth Law Center, or the federal court, all in Des Moines.

Some students find placements in judicial externships, which provide opportunities to work closely with a federal district court judge or state appellate judge. Students register for 091:407 Clinical Law Program--Externship and earn 9 s.h. per semester; in some cases, they may arrange to earn 15 s.h. with an independent writing component. Under the supervision of the judge and the judge's staff, the student researches and drafts a wide variety of legal memoranda, orders, and opinions. The extern also assists in hearings and performs other duties associated with a judicial clerkship. Each judicial extern meets weekly with a faculty supervisor to discuss the externship work in chambers and takes part in biweekly classroom discussions with other externs.

Judicial externs must have strong research and writing skills and must be able to produce acceptable work under tight deadlines. Externs conduct much of their work independently. Only students who are able to meet these requirements should apply for judicial externships.

Students may earn a total of up to 15 s.h. in the Clinical Law Programs and up to 20 s.h. for clinic and non-law courses offered in other University of Iowa colleges.

The College of Law also is involved in programs that do not carry academic credit. Each summer it participates in the County Attorney Internship Program, through which students work as paid employees for county attorneys throughout the state, and in the Poverty Law Internship Program, which places students in Iowa Legal Aid offices. The college also helps place students in a variety of unpaid clerkships and internships nationwide that provide insight into the workings of the legal system.

### Academic Advising

The **associate dean for academic affairs** works with the dean on academic programs and issues of the law school.

The **associate dean of students** provides academic advice and counseling to students; advocates for student concerns; offers information and makes referrals for students with professional, personal, or family problems; facilitates operation of the student discipline system; and arranges reasonable accommodations for disabled students. The associate dean of students also advises law students pursuing combined degrees in University of Iowa graduate programs and serves as the liaison with those programs.

**Small section instructors** advise students enrolled in their small sections during students' first year of study.

Each year one or two tenured faculty members are selected by the Iowa Student Bar Association to serve as College of Law **ombudspersons**. Students who have a problem or grievance should seek an ombudsperson's help. All complaints are handled in strict confidence.

The College of Law **registrar** is in charge of student record keeping and should be students' first recourse for information about course enrollment, scheduling, combined program status, student certification for state bar applications, and progress toward graduation.

The **Student Services Committee** oversees coordination and periodic review of how the college provides academic and curricular counseling to law students. The committee reviews and coordinates the college's efforts to provide information, offer services and programs, and make referrals regarding its students' mental and emotional health. The committee has oversight for assignment of faculty academic advisors to law students, for matters of faculty/student collegiality, and for the Academic Achievement Program.

### Academic Achievement Program

The College of Law Academic Achievement Program (AAP) helps students achieve their potential as they go from successful undergraduate careers to the unique challenges of law study. Although AAP focuses on helping first-year students, its programs are open to all.

AAP presents a variety of programs, including a fall-semester lecture series for new students. Examples of content areas include time management for law study, developing effective study groups, outlining and organizing class notes and course materials, taking essay exams, and answering multiple choice tests. Several weeks before exams, a voluntary practice exam is administered.

Spring semester programming responds to special challenges of the second semester, including reviewing and learning from fall exams, refining study habits, preparing for exams, and other matters.

In addition to offering group programs, AAP provides individual help with study skills. When personal issues affect a student's concentration or studying, the program provides direct help and refers students to University and community support resources.



## Joint J.D./Graduate Degrees

The college has developed joint degree programs with a number of University graduate programs through the Graduate College, under which students pursue degrees simultaneously in both colleges.

Joint degree candidates may count up to 6-12 s.h. earned for the graduate degree toward the 84 s.h. required for the J.D., providing the courses are relevant to both degrees and the 12 s.h. are earned after admission to the combined degree program and after matriculation at the College of Law.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. Applicants to graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or Graduate College section of the Catalog.

Graduate departments establish their own requirements for the joint degree program, including the number of semester hours taken for the J.D. that may be counted toward the graduate degree.

The College of Law offers joint graduate programs with several colleges, departments, and schools. Among them are the Tippie College of Business and its Departments of Accounting and Management and Organizations; the Schools of Journalism and Mass Communication and Social Work; and the Departments of American Studies, Anthropology, Chemistry, English, History, Philosophy, Political Science, Religious Studies, Sociology, and Spanish and Portuguese (College of Liberal Arts and Sciences); the Departments of Educational Policy and Leadership Studies and Rehabilitation and Counselor Education (College of Education); the School of Library and Information Science and the Department of Urban and Regional Planning (Graduate College); the Carver College of Medicine; and the College of Public Health and its Department of Health Management and Policy.

Many departments have advisors for their joint programs. For more information, consult the associate dean of the College of Law and the individual academic units.

## Master of Laws in International and Comparative Law

The Master of Laws (LL.M.) in international and comparative law is an important component of the College of Law's international approach to legal education. The program is designed for graduates of J.D. programs in the United States who wish to deepen their understanding of international and comparative law, including the law pertaining to international business transactions, and for foreign-trained jurists who wish to receive advanced training in these areas or a comparative orientation to and specific training in U.S. law and legal institutions.

The LL.M. program admits 10-15 students per year, allowing each student to receive substantial attention from the faculty. Admission is competitive.

The LL.M. requires a minimum of 24 s.h. earned in College of Law courses that include a strong focus on international and comparative law. With their advisor's approval, LL.M. students may count up to 6 s.h. of law study abroad, or non-law graduate-level courses or externships, toward the degree.

LL.M. students take courses (except 091:504 Tutorial and 091:657 LL.M. Seminar) together with J.D. students, from the law school's rich offerings on U.S., international, and comparative law. This method of instruction ensures that the foreign-trained students have an effective comparative experience through broad contact with U.S. law students and professors, and the U.S. students benefit similarly from close contact with the foreign-trained lawyers.

LL.M. applicants who are graduates of U.S. law schools must have been granted a J.D. from a school that is a member of the Association of American Law Schools or is approved by the American Bar Association. Graduates of foreign law schools must have completed the basic course of university studies that qualifies them to sit for the bar examination (e.g., the French *maîtrise*, the German first state bar examination). If the home country bar exam does not require a specific degree, applicants should be experienced members of the bar or have completed at least the first university degree in law. Applicants without a degree from a four-year English-language university must score at least 580 (paper-based), 237 (computer-based), or 92 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score lower than 600 (paper-based), 250 (computer-based), or 100 (Internet-based) may be required to take English language course work upon entering the University. In place of TOEFL scores, the college accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All applicants must present evidence of high academic potential, such as high class rank in their previous law studies; strong recommendations, especially from law professors who supervised their work in classes or seminars; and challenging professional work experience. The College of Law relies heavily on academic references to assess applicants' credentials. Because U.S. applicants and all others with first-language fluency in English are required to produce a substantial publishable paper in the program, **these** applicants must show evidence of ability to carry out complex research and writing projects.

## Cocurricular Programs

Students may earn a maximum of 6 s.h. of the 84 s.h. required for the J.D. through participation in the college's rich cocurricular programs and/or non-law classes.

### Moot Court

The Moot Court appellate advocacy programs familiarize students with writing appellate briefs, acquaints them with citation form, develops research skills, and strengthens persuasive ability in oral argument at the appellate court level.

Each academic year, the Moot Court office administers 091:210 Appellate Advocacy I in the fall semester, and two Moot Court competitions in the spring semester. Students who rank in the top scoring positions of Appellate Advocacy I are eligible for the advanced competitions in the spring semester. Advanced competitions include 091:404 Van Oosterhout Baskerville Moot Court Competition and 091:430 Jessup International Moot Court Competition.

The appellate advocacy program is administered by the Moot Court Board, which consists of student judges and an executive board.

### Trial Advocacy

The Trial Advocacy Program (091:370 Trial Advocacy) is a student-run, faculty-supervised program in which students develop and refine skills used to prepare and try civil and criminal cases. The heart of the program is the 2 s.h. course in trial advocacy taught by law school faculty, federal and state judges, and experienced trial attorneys. Students are on their feet during most class sessions, practicing the arts of jury selection, opening statement, direct and cross examination, introduction of exhibits, use of expert testimony, and closing argument. The course culminates with a full-scale trial--from the filing of pretrial motions to the rendering of a jury verdict--conducted by student cocounsel before a visiting judge and a jury of laypersons.

The Stephenson Competition is named after Judge Roy L. Stephenson, a U.S. District Court and Eighth Circuit Court of Appeals judge and a 1940 graduate of the College of Law. Students who demonstrate superior ability in advocacy skills during the trial advocacy courses participate in a series of mock trials judged by local members of the bench and bar. Individuals selected from the competition represent The University of Iowa in the national trial competition.

### Journals

#### IOWA LAW REVIEW

Since its inception in 1915, the *Iowa Law Review* has served as a scholarly legal journal, noting and analyzing developments in the law and suggesting future paths for the law to follow. Students have managed the *Review* since 1935, editing and publishing articles by professors and students. The *Review* is published five times annually and is staffed by second-year student writers and third-year editors. To learn more, visit the *Iowa Law Review* web site.

#### TRANSNATIONAL LAW & CONTEMPORARY PROBLEMS

*Transnational Law & Contemporary Problems (TLCP)* is produced three times a year by Iowa law students. *TLCP* content includes matters that are of interest to the international and comparative law community and that are not commonly found in other journals and reviews. The journal features symposia with articles by distinguished legal scholars and practitioners; living history interviews with people of international accomplishment; and articles reviewing foreign legislative developments, treaties, conventions, and other international agreements. The journal also publishes articles written by Iowa law students and sponsors an internationally-advertised student writing competition each year. The journal annually organizes and sponsors a symposium on a contemporary international issue. Past conference symposia topics include climate change, international subprime mortgage crisis and war crimes.

Law students who have completed at least two semesters may earn up to 2 s.h. of credit by writing for *TLCP*. Highly qualified students who complete the writing and secondary hour requirements may be chosen to fill an editorial position, for which they earn additional credit. They also may be eligible for a monetary stipend. For more information, visit the *Transnational Law & Contemporary Problems* web site.

#### THE JOURNAL OF CORPORATION LAW

*The Journal of Corporation Law* is the nation's oldest and most cited student-published legal periodical specializing in corporate law. The journal's scope includes antitrust, intellectual property, labor law, securities, taxation, employment discrimination, insurance, products liability, and regulated industries, as well as traditional corporate topics. Selected articles submitted from practitioners and academics are published in each of four annual issues. Several student articles also are selected for publication.

All students who have completed two semesters of class work are eligible to write for the journal. Students who have achieved third-year status at the College of Law are eligible for selection to the journal's editorial board and may

receive additional academic credit. They also may be eligible for a monetary stipend. See the *Journal of Corporation Law* web site.

## THE JOURNAL OF GENDER, RACE & JUSTICE

*The Journal of Gender, Race & Justice* pushes at the boundaries of traditional legal scholarship and theory in its focus on social justice issues. Each spring the journal hosts a live symposium, bringing nationally renowned legal scholars and practitioners to the college to discuss topics such as race, gender, economic class, ability, and identity. The journal publishes the papers presented at the symposium. Each issue also includes articles written by Iowa law students.

All students completing two semesters are eligible to write for the journal. Students who have third-year standing at the College of Law are eligible for a position on the editorial board. Visit the *Journal of Gender, Race & Justice* web site.

## Study Abroad

A consortium of six American law schools, coordinated through The University of Iowa College of Law, offers an annual study abroad program in which students attend a spring semester at Florida State University's London study center. There they study American and English law with faculty from the American schools and the University of London. Students participating in the program register for 660:824 London Law Consortium.

The College of Law also offers up to 8 s.h. of credit for intensive course work at Arcachon, France, in conjunction with the University of Bordeaux. Courses are offered for four weeks in May and June and are taught in English by professors from Iowa and Bordeaux. Application deadline is February 1. Students participating in the program register for 660:823 Program in Comparative Law in Bordeaux, France.

Two Iowa law students may attend the Bucerius Law School in Hamburg, Germany, each fall semester in an exchange program with that school. Students earn 12-15 s.h. of credit through course work taught in English.

Two students may attend the Universidade Católica Portuguesa School of Law (Lisbon Campus) each fall semester in an exchange program. Students earn 12-15 s.h. of credit through courses taught in English.

Three students each year may participate in an exchange program at the Radboud University in Nijmegen, The Netherlands, during fall and spring semesters. They earn 12-15 s.h. of credit in courses taught in English.

## Academic Recognition

### Order of the Coif

The Order of the Coif, a national legal honor society, has a chapter at The University of Iowa. The order is dedicated to scholarship and advancement of high ethical standards in the legal profession. Membership is drawn from the top 10 percent of the graduating class. Initiates are selected by the faculty after graduation.

### Prizes and Awards

**Hancher-Finkbine Medallions** are awarded each year by the University to outstanding graduates; honorees are chosen from nominations made by University departments and colleges based on learning, leadership, and loyalty.

The **Philip G. Hubbard Human Rights Award** is presented each year by the University to recognize outstanding contributions to human rights and equal opportunity, as described in the University's Human Rights Policy.

The **Sandy Boyd Prize** is presented to the student who has demonstrated outstanding ability and creativity in the development of written legal scholarship.

The **Alan I. Widiss Faculty Scholar Award** is presented to the student who has made an especially outstanding and distinctive contribution to the development of written legal scholarship.

The **Randy J. Holland Award for Corporate Scholarships** is presented to the student who has written an outstanding scholarly paper in the area of corporate law.

The **Robert S. Hunt Legal History Award** is presented to a student who has written an outstanding scholarly paper in the field of legal history.

The **Donald P. Lay Faculty Recognition Award** is presented to the student who has made distinctive contributions to the College of Law's cocurricular, community, or education programs.

The **Iowa State Bar Association Prize** is presented to the student who possesses the attitude, ability, and other qualities that indicate success as a future leader of the bar association.

The **Antonia "D.J." Miller Award for Advancement of Human Rights** recognizes outstanding contributions by a student to the advancement of human rights in the law school community.

The **Dean's Achievement Award** is presented each year to a student, who, through his or her achievements, has

exemplified, promoted, or contributed to cultural, racial, or ethnic diversity in the law school.

The **National Association of Women Lawyers Award** is presented to a law student who contributes to the advancement of women in society and women in the legal profession and who also has attained high academic achievement.

The **Erich D. Mathias Award for International Social Justice** is presented to a student who has made an outstanding contribution or demonstrated commitment to attaining international social justice.

The **John F. Murray Award** recognizes the student with the highest academic standing in the graduating class.

The **ALI-ABA Scholarship and Leadership Award** is presented to a student who represents an outstanding combination of scholarship and leadership, the qualities embodied by the American Law Institute and the American Bar Association.

The **Russell Goldman Award** recognizes the student who has demonstrated the most improved academic performance after the first year.

The **Iowa College of Law Appellate Advocacy Award** is presented to a student for outstanding achievement in and service to the appellate advocacy program.

The **Iowa Academy of Trial Lawyers Award** is presented to a student for outstanding achievement in the Roy L. Stephenson Trial Advocacy Competition.

The **International Academy of Trial Lawyers Award** is presented to a student who has demonstrated distinction in trial advocacy skills.

The **Michelle R. Bennett Client Representation Award** recognizes outstanding service in the college's clinical law programs.

The **ABA/BNA Award for Excellence in the Study of Intellectual Property** is presented to a student who has demonstrated excellence in the study of intellectual property law.

The **American Bankruptcy Institute Medal for Excellence in Bankruptcy Studies** is presented to a student who has demonstrated excellence in the field of bankruptcy.

The **Joan Hueffner and Stephen Steinbrink Real Estate Law and Property Award** is presented to a student who has demonstrated excellence and promise in the field of real estate law.

## Student Organizations

Link to the student organizations' web sites on the college's Journals & Student Groups web page.

The **Alternative Dispute Resolution Society** promotes awareness of varied alternative dispute resolution processes, including arbitration, mediation, and other forms of negotiation; explores legal and other careers in alternative dispute resolution; and equips students with the knowledge and practical skills necessary for effective participation in alternative dispute resolution.

The **American Constitution Society (ACS)** is a new nonpartisan organization whose goal is to foster discussion of important issues of law and policy.

The **Asian American Law Students Association (AALSA)** seeks to instill greater awareness among law students of the needs of the Asian American community, and to encourage a greater commitment toward meeting those needs.

The Iowa chapter of the **Black Law Students Association (BLSA)** focuses on the relationship of black attorneys to the American legal structure and works to foster an attitude of professional competence. BLSA strives to promote the needs and goals of black law students, instill a greater awareness among law students of the needs of the black community, and encourage a greater commitment toward meeting those needs. The chapter seeks involvement in the local community and in recruitment programs. Membership is open to all students who support the association's goals.

The **Christian Legal Society** maintains a Christian law fellowship at the College of Law whose mission is to enable its members to love their Lord and to love their neighbors as themselves.

The college's **Equal Justice Foundation (EJF)**, a chapter of the national foundation, supports public interest law concerns, with emphasis on promoting equal access and adequate representation in the courts and other forums for citizens and citizens' groups. The UI chapter's professional activities are aligned with those of the national organization. They include work in varied legal activities statewide; College of Law activities, including coordination with other student organizations to provide the college with a better public interest support base; promotion of public interest career opportunities; and provision of information about public interest activities and concerns. Membership is open to all College of Law students.

The **Environmental Law Society** provides an educational forum for environmental law topics. During spring

semester, the organization sponsors a lecture series featuring professors and experts in environmental law. The group also provides limited legal research and counseling services for attorneys, organizations, and citizens who have questions concerning environmental law. Membership is open to all College of Law students.

**The Federalist Society** fosters critical thought and debate about the application of conservative and libertarian principles to the law. Its mission is to promote, advocate, and defend its founding principles and further their application through its activities, which are aimed at reordering the legal system's priorities to place a premium on individual liberty and the rule of law, and restoring recognition of those principles among law students, faculty members, lawyers, and judges.

The **Intellectual Property Law Society (IPLS)** promotes exploration of traditional areas of intellectual property law (patent, trademark, copyright) and related areas such as antitrust and entertainment law. The society provides a forum for faculty and student discussion of contemporary issues relating to intellectual property law and its practice; fosters interaction between law students and intellectual property law practitioners through a mentor program that pairs members with intellectual property law practitioners; and offers symposia. All members of the University community are welcome to attend a Society meeting or symposium.

The **International Law Society** aims to increase student and faculty awareness of international law and related issues. The society's brown bag lunch lecture series and annual spring conference expose students and faculty to a wide variety of contemporary legal issues surrounding the study and practice of international law. Members also work to support the activities of the University of Iowa Center for Human Rights; promote the Iowa-Arcachon, France, summer program in comparative and international law; participate in the annual Philip C. Jessup International Moot Court Competition; and bring together faculty members and students who share an interest in international affairs.

The **Iowa Campaign for Human Rights (ICHR)** promotes human rights awareness and education at the College of Law, among University of Iowa students, and across the Iowa City community.

The **Iowa Student Bar Association (ISBA)** acts as the College of Law's student government. Governed by an executive council, the association provides a collective voice for the student body and a source of organization and funding for a variety of college activities and programs. Law students may get involved with the association by serving as class representatives or on faculty-student committees, which deal with admissions, curriculum, financial aid, placement, and so forth. The association presents speakers, sponsors events with other organizations, publishes a newsletter, and sponsors social events. Its legal guardian program assigns entering law students to upperclass students, who provide encouragement and information.

The **J. Reuben Clark Law Society** emphasizes three basic values and attitudes toward the practice of law and the place of law in modern society: public service, loyalty to the rule of the law and the Constitution of the United States, and appreciation for the religious dimension in American society and in lawyers' personal lives.

The **Jewish Law School Association (JLSA)** strives to provide social, educational, religious, political, cultural, and professional resources and opportunities for all Jewish law students at Iowa. The society educates and involves its members in the social, moral, and ethical obligations of the profession; plans and implements programming to facilitate a sense of community among Jewish law students; and raises awareness of Jewish cultural and educational issues at the college.

The **Latino/a Law Student Association (LLSA)** promotes viable changes within existing legal institutions in order to develop constructive legal and community programs, produce competent and effective Latino and Latina attorneys, and utilize available resources--activities necessary to safeguard and advance the rights and opportunities of oppressed peoples. To achieve these goals, LLSA recruits for the law school. LLSA's philosophy is that national unity is fundamental for the collective awareness needed to bring about progressive policies in legal education. The association welcomes all students.

**Law Students for Reproductive Justice (LSRJ)** is committed to increasing education and professional training in reproductive rights law. The society supports Iowa law student activism, advocacy, and networking in order to ensure that new lawyers can successfully defend and expand family planning rights and reproductive freedoms.

The **Middle Eastern Legal Student Association (MELSA)** aims to increase student and faculty awareness of issues pertaining to the Middle East and how they affect the legal profession.

The **Native American Law Students Association (NALSA)** promotes awareness of legal, political, cultural, and social issues that affect Native Americans, Alaskan Natives, Native Hawaiians, and other indigenous peoples. NALSA also seeks to promote the study of federal Indian law and provides a forum for the exploration of issues in tribal sovereignty, natural resources, family law, trust obligations, and cultural identity.

The **National Lawyers Guild (NLG)** is dedicated to the use of law as a means to promote progressive social change. Iowa's student chapter sponsors discussion panels on topics such as South African divestment and has cosponsored events with other student organizations. It also invites faculty members to speak in the college's student lounge on topics ranging from the political aspects of selecting Supreme Court justices to employment discrimination. Membership in the Iowa chapter is open to all College of Law students. Membership in the national organization is

optional.

The **Organization for Women Law Students and Staff** (OWLSS) aims to address the changing needs and problems of women in the legal profession and to develop, recommend, and implement new programs, especially those that meet the needs of women at the College of Law. It also sponsors programs of interest to the general law school community. OWLSS has sponsored fall recruitment of prospective women law students, a safety-in-numbers program, brown bag lunches with guest speakers, sponsorship of members to the annual National Women and the Law Conference, a support network, a regular newsletter, and joint programs with women student groups in medicine and dentistry. Membership is open to all College of Law students, faculty members, and staff members.

**The Outlaws** provides a common forum for gay, lesbian, bisexual, and transgendered persons interested in the law, and promotes a climate of mutual support, protection, and professional advancement. Membership is open to all College of Law students and faculty members.

Founded in 1902, **Phi Alpha Delta** (PADS) is the nation's oldest and largest law fraternity. It was the first law fraternity to remove membership restrictions based on race, color, creed, national origin, and grade-point average. Iowa's Hammond Chapter was established in 1908 and became the first PADS chapter to accept students of all races and religions. It participates in fund-raisers and other service projects to benefit local and national service organizations. Membership is open to all College of Law students.

**Phi Delta Phi** (PHIDS) promotes the highest standards of ethics and professionalism in law schools and the legal profession. Since its establishment in 1869, the fraternity has initiated more than 200,000 members. It has more judges, American presidents, governors, senators, representatives, and cabinet members among its membership than does any other legal fraternity.

The **Pro Bono Society** exists to reinforce the value of public service and volunteerism in the legal profession. Membership in the *Pro Bono* Society is earned through objectively measured activities during the academic year. Iowa law students who complete and report 15 hours of voluntary public service in each of two consecutive semesters are considered for membership. Time donated to a charitable or public service cause, which may be law-related or not, is considered voluntary public service; the requirement is interpreted broadly, so that students may volunteer in an area of interest to them. Members receive a certificate of membership and are invited to attend the annual recognition dinner. The society is a project of the Iowa Student Bar Association.

## Admission

### Undergraduate Education and Law School

Applicants for admission to The University of Iowa College of Law must complete all requirements for the baccalaureate degree before beginning law school. In addition, the baccalaureate degree must be earned from an undergraduate institution that is accredited by an accrediting agency recognized by the Department of Education. This is in line with standards that are set by the College of Law's primary accrediting agency, the American Bar Association.

Fulfillment of the basic requirements does not guarantee admission. The College of Law Admissions Committee selects applicants it deems best able to help the college fulfill its primary mission of providing a high quality legal education in a diverse and stimulating environment and preparing students to serve as leaders in their professional and civic communities. Some additional consideration is given to applicants who are residents of Iowa.

The services that College of Law graduates are called upon to perform are so varied, and the possible fields of endeavor so broad and diverse, that the college prescribes no uniform undergraduate program for those planning to enter law school. With the assistance of faculty advisors, each student should develop an undergraduate program that explores and develops that student's particular intellectual interests. Reading, writing, research, public speaking, critical thinking, and a healthy respect for the historical perspective are important academic skills for students considering law school.

Iowa strongly endorses the three basic objectives recommended by a committee of the Association of American Law Schools: education for comprehension and expression in words; education for a critical understanding of the human institutions and values with which the law deals; and education for greater power in thinking. Anyone thinking of attending law school should keep these objectives in mind while planning an undergraduate course of study.

The association's recommendations emphasize that undergraduate education of students for a full life through liberal education is far more important than education directed too pointedly toward later professional training and practice. Students are urged not to sacrifice broad perspective for detailed specialization.

### Selection of Applicants

The college uses multiple criteria in evaluating applicants for admission. Part of the entering class is admitted under a "presumptive admit" process, in which the faculty admissions committee admits students primarily, but not solely, on the strength of their numbers, namely the cumulative undergraduate grade-point average and LSAT score (see "Law School Admission Test" below). Before admission offers are made, each applicant's complete file is reviewed to

ensure that the overall record suggests the applicant's suitability for admission, in keeping with the primary mission of the law school.

Although undergraduate academic record and performance on the LSAT are both important admission criteria, the college recognizes that in some circumstances they do not accurately reflect an applicant's potential to succeed in the study of law, develop skills as a leader, enrich the learning environment of his or her fellow students, and serve the public interest as a lawyer.

To evaluate applicants' total suitability for admission, the college has developed a "numbers-plus" admissions policy, under which part of each entering class is admitted. Under the "numbers-plus" policy, undergraduate record and LSAT scores are supplemented by nonquantifiable factors that may provide insight to an applicant's overall potential for success in the study and practice of law.

For example, an applicant who can substantiate that his or her standardized test scores are not predictive of academic performance in law school may receive proportionately greater consideration from the committee for his or her grade-point average. Other factors the committee may consider include special academic or professional abilities not reflected in the grade-point average, disability or serious health factors that affected prior academic performance, extracurricular activities, exceptional school-year work commitments due to family financial circumstances, postbaccalaureate academic success (including graduate study), law-related employment experience, public service commitment, leadership in groups historically underrepresented in the legal profession, educational or socioeconomic disadvantage, native language other than English, unusual motivation or perseverance in overcoming obstacles to law study, and any other information the committee considers relevant to the applicant's potential for law study.

Candidates who wish to bring such factors to the committee's attention may do so by including addenda and other documentation with their applications.

### **Entrance Date**

Admission is for August. Applications are accepted beginning September 1 of the year before admission, with an application deadline of March 1 in the year of admission. Because the college has a rolling admissions process, applicants are encouraged to submit their applications as early as possible.

Each application must include an application fee, which is nonrefundable. Students from disadvantaged backgrounds who cannot afford the fee should apply for a waiver. If you seek a waiver, you must submit a written request and a recent FAFSA or income tax statement along with your application.

For additional information, contact the College of Law Office of Admissions and Financial Aid, c/o College of Law, The University of Iowa, Iowa City, IA 52242-1113. Applications are available online at <http://www.law.uiowa.edu/admissions>.

### **Application Process**

#### **LSDAS REPORT AND TRANSCRIPTS**

The University of Iowa College of Law participates in the Law School Data Assembly Service (LSDAS). Applicants must register for this service through the Law School Admission Council (LSAC); foreign-educated applicants are exempt from this requirement. Prospective law applicants can find the information they need to complete their application for admission to the law school in the council's free, annual publication, *Law School Admission Information Book*, and on LSAC's web site. It takes approximately three weeks from the time the College of Law requests the LSDAS report until it arrives.

Applicants whose fall course work does not appear on the Law School Data Assembly Service report should send an official transcript of that course work to the LSDAS.

Applicants are responsible for submitting an official transcript from each college or university they have attended to Law School Admission Council, Box 2000, Newtown, PA 18940-0998.

Each applicant's undergraduate institution must forward the applicant's class rank or the grade distribution for the applicant's class to the College of Law, if such information is available. Information about class rank is helpful in the application process, but not required. Currently enrolled or former University of Iowa students need not provide this information.

Before classes begin, every applicant who accepts admission to the College of Law must file official transcripts showing conferral of degree with the University's Office of Admissions.

#### **LETTERS OF RECOMMENDATION**

The college requires applicants to submit at least two, but not more than three, letters of recommendation. Recommendations from professors or others who can comment on the candidate's critical thinking, writing skills, and potential for success in law school are particularly welcome.

The college participates in the Letter of Recommendation Service offered by the Law School Admission Council. A letter of recommendation form can be downloaded on the council's web site. Individuals writing letters of recommendation should send their letters, with the required forms, to Law School Admission Council, P.O. Box 8508, Newtown, PA 18940-8508.

#### **LAW SCHOOL ADMISSION TEST**

Applicants for admission must take the Law School Admission Test (LSAT). The test is given several times each year and may be taken at numerous locations in the United States and abroad. Test application forms may be obtained from the Law School Admission Council.

Applicants are urged to take the test no later than the fall preceding the fall semester for which they are applying. Applicants' LSAT scores may not be available until approximately four weeks after their test date.

The February test date is the last one that the admissions committee can consider for applicants requesting admission the following fall. Scores more than five years old are not accepted.

Applicants whose first language is not English must take the Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS) exam.

#### **DEFERRALS**

Admission is for the year of application; deferrals are granted only in extraordinary circumstances.

#### **DEPOSIT UPON ACCEPTANCE**

All applicants must make a nonrefundable deposit of \$250 (U.S.). Fall entrants accepted before March 15 must submit the deposit by April 1; those accepted after March 15 have two weeks to submit the deposit.

Fall entrants must pay a second nonrefundable deposit of \$150 (U.S.) by June 1.

For those who enroll, the deposit is credited toward tuition and fees. All accepted applicants, including recipients of scholarships, fellowships, and loans, are required to pay the deposit. Applicants who fail to make the deposit by the specified time forfeit their place in the entering class.

### **Financial Support**

The College of Law administers its substantial financial aid program to advance the goals of its selective admission policy. Scholarships, fellowships, work-study funds, and loans are awarded on the basis of need or merit to provide access to legal education for the talented and diverse students admitted to the college. A number of part-time employment opportunities also are available to upper-level students.

Inquiries regarding financial aid should be directed either to the University's Office of Student Financial Aid or to the College of Law Office of Financial Aid.

All financial aid information is subject to change without notice.

#### **Application for Financial Aid**

Eligibility for financial aid is based on need established by completion of the Free Application for Federal Student Aid (FAFSA) and the required supporting documents. The FAFSA should be completed online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov) after January 1 each year and should be completed as soon as possible thereafter, since some financial aid is subject to the availability of funds.

Although financial aid awards are not made until after applicants are admitted to the College of Law, applicants should not wait for the notice of admission before filing the FAFSA. Admitted students who provide the required documents are informed of their eligibility for financial aid on the award notification letter. Students must reapply for aid every year.

Applicants are urged to investigate other sources of aid. Public libraries, private and civic organizations, and the Internet are excellent sources for information about financial aid resources.

#### **Scholarships, Fellowships**

##### **MERIT-BASED SUPPORT**

All students admitted to the College of Law are considered for merit-based scholarships and fellowships based on their academic achievement. A separate application is not required. Recipients are notified by letter. Awards may range from \$500 to full tuition with a research assistantship component in upper-level years.



**NEED-BASED SCHOLARSHIPS**

All admitted students who file a Free Application for Federal Student Aid (FAFSA) and required supporting documents are considered automatically for need-based scholarships. Recipients are notified by award letter. Awards may range from \$500 to full tuition.

**IOWA LAW SCHOOL FOUNDATION SCHOLARSHIPS**

The University of Iowa Law School Foundation Scholarships include scholarships based on need, merit, or a combination of need and merit. These scholarships are available to a limited number of students who meet the criteria established by the scholarship donors. All admitted students are considered for the merit-based scholarships, and all admitted students who file the FAFSA and required supporting documents are considered automatically for the need-based scholarships. A separate application is not required. Recipients are notified by award letter. Awards may range from \$200 to full tuition.

**LAW OPPORTUNITY FELLOWSHIP**

The College of Law is committed to affording opportunity for a legal career to persons historically underrepresented in the legal profession. The Law Opportunity Fellowship Program was established by the University to provide access to law school for students from groups and backgrounds historically underrepresented within the legal community. Among criteria considered in awarding the fellowships are educationally and/or socioeconomically disadvantaged backgrounds, leadership potential, academic merit, and importance of the fellowship award to the student's financial ability to attend law school.

The Law Opportunity Fellowship may provide up to full tuition for three years and the opportunity to hold a research assistant position for the second and third years. All admitted students who file the FAFSA and required supporting documents are considered for the Law Opportunity Fellowship. A separate application is not required. Recipients are notified by award letter.

**Employment**

The College of Law does not employ students during their first year of law school, due to the intensive course schedule. In no event may a full-time student work more than 20 hours per week.

**RESEARCH ASSISTANT POSITIONS**

Research assistant positions are available with many faculty members for second- and third-year students. Students classified as nonresidents who hold one-quarter-time research assistantships (10 hours per week) automatically qualify for resident tuition status during the semester(s) in which they serve as research assistants.

**UI PART-TIME EMPLOYMENT**

The University offers a variety of part-time employment positions for students. Students do not need to apply for financial aid in order to work in these positions. Information about part-time employment is available from the University's Office of Student Financial Aid.

**FEDERAL WORK-STUDY PROGRAM**

The Federal Work-Study Program provides a need-based employment opportunity for a limited number of students in their second and/or third year at the law college. College Work-Study may reduce the student's William D. Ford Federal Direct Loan eligibility. Students must demonstrate financial eligibility for work-study through the FAFSA and its required documents.

**Loans**

All admitted students who file the FAFSA and required supporting documents are considered for the University of Iowa Law Foundation Loan, the Federal Perkins Loan, and the William D. Ford Federal Direct Loans.

**IOWA LAW SCHOOL FOUNDATION LOAN, FEDERAL PERKINS LOAN**

These are low-interest loans based on exceptional financial need. Interest does not accrue and payments are not required until the student is no longer enrolled at least half-time in school.

**FEDERAL DIRECT FORD/STAFFORD LOANS AND FEDERAL GRADUATE/PROFESSIONAL PLUS LOANS**

The Federal Direct Ford/Stafford Loans (subsidized and unsubsidized) and the Federal Graduate/Professional PLUS

Loans are funded by the federal government. The three loan programs have different interest rates and interest subsidies based on eligibility as determined by the FAFSA and other required documents, and based on the annual maximum loan amounts. Interest on the Unsubsidized Direct Stafford Loan and the Graduate/Professional PLUS Loan accrues while a student is in school, but principal and interest payments may be deferred while a student is in school. Eligibility for the Graduate/Professional PLUS Loan also includes a determination that the applicant does not have an adverse credit history.

## **Academic Rules and Procedures**

### **Transfer Credit**

No more than 30 s.h. may be transferred to Iowa from another law school. To qualify for transfer credit, courses must have been completed at a law school accredited by the American Bar Association. Grades received at another law school are not counted in calculating the cumulative grade-point average.

### **Courses Taken Before Admission to the College of Law**

Students may not count toward the J.D. any credit they earned in courses they took before matriculating at the College of Law, with the exception of transfer students from other law schools.

### **Courses Taken Outside the College of Law**

Students who take courses outside the College of Law must first obtain permission from the associate dean. If "special permission of the instructor required" is indicated on ISIS (Iowa Student Information Services web site), the student also must obtain the instructor's signature.

Students not enrolled in a joint degree program may apply toward the J.D. a maximum of 6 s.h. earned in courses outside the College of Law or through cocurricular hours. Such courses are approved only if they contribute directly to the professional competence of an attorney or broaden the student's understanding of law, the legal process, or any particular legal subject. More information about limitations on accreditation of non-College of Law courses is available from the associate dean.

### **Courses Taken at Another Law School After Enrollment at Iowa**

With the permission of the dean, enrolled students may receive credit for courses taken and passed at other law schools accredited by the American Bar Association, up to a maximum of 30 s.h. Grades of C and higher are reflected on the student's transcript as credit for the designated semester hours.

### **Externships and Summer Legal Placements**

Students may earn academic credit for externships with nonprofit or governmental organizations throughout the United States, and in some circumstances, abroad. Externship credit counts toward the maximum of 20 s.h. that may be earned for clinical work, nonclinical externships, and non-law classes. Students may earn credit for only one nonclinical externship during their law school tenure, no matter what amount of credit that externship carries.

Most externships are done during summer, with students registering for 091:395 Summer Legal Placement in order to earn 3 s.h. of credit. Students must spend at least 150 hours on site. They are assigned to a section supervised by a faculty member, who conducts a virtual seminar for the section's students during the externship. The faculty supervisor also conducts regular conferences with individual students (usually by telephone) and reviews their written reports on the work in progress.

Some summer externships offer 6 s.h. of credit. Students in these externships register for 091:267 Legal Externship. They must arrange their own faculty supervision and are required to write a 40-page research paper that satisfies the faculty-supervised writing project requirement for the J.D. degree. A faculty site visit also is required.

Externships also may be scheduled for the fall or spring semester. In unusual circumstances, externships for up to 15 s.h. of credit may be approved.

Students considering externships are responsible for initiating contact with appropriate sponsoring organizations and for securing an externship position. The College of Law Career Services Office offers assistance with arranging externships. Information also is available at Legal Externships on the college's web site.

Applications for summer externships are due by April 1, except in extraordinary circumstances. Students interested in externships should contact the College of Law Career Services Office.

### **Grading Policy**

The College of Law has adopted a numbering system for grading, effective for students who entered the college in May 2004 and later.

A numerical grade is assigned to each student in each course, except as otherwise provided (e.g., for courses graded

pass/fail, for courses that continue the following term, for grades of incomplete). Grades are recorded in the University's permanent record.

The highest grade awarded at the College of Law is 4.3, the lowest 1.5. No academic credit is given for grades below 1.8 or for grades of "fail."

Numerical grades may be translated into a letter grade as follows.

4.3–4.2 = A+  
4.1–3.9 = A  
3.8–3.6 = A-  
3.5–3.3 = B+  
3.2–3.0 = B  
2.9–2.7 = B-  
2.6–2.4 = C  
2.3–2.1 = C-  
2.0–1.8 = D  
1.7–1.5 = F

Professors may disenroll students for cause or reduce grades for inappropriate academic conduct, for example, plagiarism. Such measures are subject to appropriate due process.

With the dean's permission, a student may retake a course in which he or she has received a failing grade. The second grade is recorded either as pass--a grade of 2.1 or higher--or fail and is not used in computing the student's cumulative grade-point average. Rather, the first grade received for the course remains on the transcript and is used in computing the grade-point average.

If the course being retaken is sectioned, the dean designates the section to which the student will be assigned.

The faculty has adopted a mandatory grade curve for all courses.

### **Pass/Fail Grades**

Credit for certain courses is offered only on a pass/fail basis. In the case of a failing academic performance in a pass/fail course, the faculty supervisor or instructor may assign a failing numerical grade, i.e., between 1.7 and 1.5. Individual faculty members may allow students to withdraw from a course rather than receive a failing grade.

### **Miscellaneous Grading Marks**

Marks other than pass, fail, and numerical grades are as follows.

R means registered. It indicates that a student has completed the first half of a year-long program, such as a seminar or journal, for which a grade cannot be assigned until the second half of the program has been completed.

W means withdrawn. It carries no course credit and is not used in computing the cumulative grade-point average.

I means incomplete. It carries no course credit toward a degree until it is changed, nor is it used in computing the cumulative grade-point average. A mark of I may be reported only in exceptional cases and only if the unfinished part of the work is small and is unfinished for reasons acceptable to the instructor, and if the student's standing in the course is satisfactory. Students remove an incomplete by completing the unfinished work during their next period of residence.

### **Class Ranking**

Students in the top 10 percent in each class may be informed of their exact rank; grade-point averages at the 12.5 percentile and 37.5 percentile are posted.

Students are ranked following the fall semester and spring semester each year. Final class standing is determined each August and is available in September. It includes students who completed all graduation requirements in August, May, and the previous December. For purposes of ranking underclass students, the same system is used, based on the expected graduation date.

### **Release of Transcripts**

A student's grades are not given to persons outside the College of Law, including prospective employers, without written permission of the student.

### **Class Attendance and Preparation**

Students must be regular and punctual in attending classes and must be prepared to participate in class discussions. Students may be dropped from a course or failed, at the discretion of the instructor, for excessive absence or repeated lack of preparation. Students also are expected to attend special class meetings and be punctual in submitting course assignments, memos, and papers.

## Examination Policy

One examination is given in each course, with few exceptions. Before taking an exam, each student is assigned an identification number for that exam, to ensure anonymity in grading. Students must write their examination number on scratch paper and any other materials that are distributed at the start of the examination and collected at its conclusion. The instructor submits a grade for each identification number. The grade is kept on file for two years at the College of Law.

To preserve anonymous grading, students must not identify themselves and must not place their name on the examination answer or other materials that the instructor might see. They also may not discuss the examination with their instructors until the exam has been graded and the grades released. Students who have questions should pose them to a proctor during the examination or to the College of Law registrar or dean of students after the exam.

Students may be offered the option of taking some exams on their personal laptops. Each course's instructor determines whether this option is available for his or her specific course.

Students who have more than one examination scheduled for the same day, two consecutive exams (i.e. Wednesday afternoon, Thursday morning), or exams four days in a row may schedule a make-up time for one of the exams. Students who have exams three days in a row may reschedule one only with permission of the instructor.

Students are expected to take the exam on the next scheduled makeup date immediately following the regularly scheduled exam. Whenever possible, the dean sets aside one to three days as an upperclass study period between the end of regular classes and the first regularly scheduled upperclass exam.

### Extra Exam Time for Students Whose First Language Is Not English

Students who are at a substantial disadvantage in taking a timed exam because their first language is not English may receive additional time to complete the exam, commensurate with the extent of their disadvantage.

Students seeking additional time must make a written request in the dean's office by the deadline announced for the semester in which the exam is to be taken. An undergraduate degree from an English-speaking college or university is considered *prima facie* evidence that the student is not qualified for extra time.

### Exam Accommodations for Students with Disabilities

The College of Law is committed to making all of its programs, activities, and services accessible to students with disabilities. In compliance with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973, it strives to provide equal access to all academically qualified students and does not discriminate against students on the basis of disability. The college provides reasonable accommodations to students with disabilities, commensurate with the nature and extent of the disability and consistent with federal law, state law, and policies of The University of Iowa and the College of Law. Students may request accommodations for any University of Iowa sponsored curricular, cocurricular, or extracurricular program, including those in the College of Law.

The College of Law's cocurricular and extracurricular programs include, but are not limited to, Appellate Advocacy I, Trial Advocacy Board, the *Iowa Law Review* and its editorial board, Moot Court Board, Advanced Moot Court Competition, Van Oosterhout-Baskerville Moot Court Competition, National Moot Court Competition, Client Counseling Board, Client Counseling Competition, *The Journal of Corporation Law* and its editorial board, *Transnational Law & Contemporary Problems* and its editorial board, *The Journal of Gender Race & Justice* and its editorial board, Jessup International Moot Court Competition, and Jessup International Law Moot Court team.

### Withdrawal

First-year students who withdraw during the academic year or who fail to reenroll for the second semester are not eligible to return to school. Instead, they must compete with other applicants for the year in which they wish to return. The reason for the withdrawal and the quality of work done before withdrawal or failure to reenroll are considered when students reapply.

Unless granted a leave of absence by the dean, second- and third-year students who fail to enroll for any semester during the academic year must obtain permission from the admissions committee if they wish to reenroll. (Students are considered first-year if they have less than 27 s.h. of credit at the time of withdrawal or failure to enroll.)

The associate dean of students may grant a second- or third-year student a leave of absence for up to one year, if the student shows good cause.

### Student Conduct

Students are expected to act in a manner appropriate at a professional school. An act or omission that is dishonest or designed to take unfair advantage may subject a student to sanctions as serious as expulsion from school. Misconduct policies and procedures are published annually in the college's *Student Handbook*.

## Research Centers

Research centers and outreach programs are an important part of the College of Law's service to professional and civic communities. The college was home to the nation's first agricultural law center. Since that center's closing, several new centers and institutes have been founded in diverse fields such as child and maternal health care, disability law and policy, human rights law, not-for-profit entities, public affairs, and public international finance. Located in and around the Boyd Law Building, these programs enjoy increasing national and international recognition for their specialized research projects and service activities. Several have enjoyed success in attracting competitive grants from state, federal, and private sources. See Research Centers on the college's web site for links to the following centers.

### Center for Human Rights

The University of Iowa Center for Human Rights was founded in 1999 as an outgrowth of the University's year-long commemoration celebrating the 50th anniversary of the Universal Declaration of Human Rights. The center's mission is to promote and protect human rights at home and abroad by providing distinguished multidisciplinary leadership in human rights research, education, and public service. Its focus includes all categories of human rights, from first-generation civil and political rights, to second-generation economic, social, and cultural rights, to third-generation group or community rights.

### Center for International Finance and Development

The University of Iowa Center for International Finance and Development is a project to help laypersons understand the often impenetrable world of international finance and development. The center's web site features a 300-page e-book, written by a University of Iowa law professor and a group of his students, that explains the complex world of international finance and development in plain language. It also offers related news, issues discussions, briefing papers, frequently asked questions, and links to other useful sites.

### Institute of Public Affairs

The Institute of Public Affairs provides services and information to help maintain and strengthen the effectiveness of Iowa's local governments. Efforts include facilitation of goal setting and strategic planning, public policy and organizational assistance, professional development and training, timely and topical conferences and workshops, publications, outreach, and linkage with other University programs and activities. The Institute provides training for newly elected mayors and council members through a municipal leadership academy and publishes the *Iowa Municipal Policy Leader's Handbook* for city officials. It also holds the annual Iowa Municipal Management Institute, a professional development conference for city and county managers and administrators in Iowa.

### Larned A. Waterman Iowa Nonprofit Resource Center

The Larned A. Waterman Iowa Nonprofit Resource Center was created in 2000 to help nonprofit organizations throughout Iowa. The interdisciplinary center works to increase accessibility to educational and service programs focused on strengthening nonprofit organizations. It collaborates with government agencies, nonprofit organizations, and educational institutions. It also introduces students to the nonprofit sector and develops their sense of public and community service.

### Law, Health Policy & Disability Center

The Law, Health Policy & Disability Center is an emerging leader in law, technology, education, and research. Its aim is to improve quality of life for persons living with disabilities. Based at the University of Iowa College of Law, with offices in Washington, D.C., and elsewhere, the center concentrates on public policy and its impact on persons with disabilities, with emphasis on employment, self-determination, and self-sufficiency.

### National Health Law and Policy Resource Center

The National Health Law and Policy Resource Center promotes laws and public policies that foster and facilitate accessible, affordable, high-quality health care for all Americans, particularly members of vulnerable and disadvantaged populations. It provides a nonpartisan forum for informed dialogue on health law and policy issues, based on the best available data and information, between academics, practitioners, and public policy makers.

## Facilities and Resources

### Boyd Law Building

The Willard L. Boyd Law Building exemplifies Iowa's continuing commitment to legal education and the legal profession. The large, circular structure reflects the special character of the Iowa law school and allows the college to operate in a physical environment in which every square foot of space is designed to promote the college's academic and professional programs.

Classrooms in the Boyd Law Building provide an atmosphere conducive to the college's goals. They are air conditioned, carpeted, and properly lit. The building's largest classroom seats only 100 people. Small seminar rooms and special-purpose learning areas are distributed throughout the building, permitting students and faculty members to work together in close professional interaction. The newly renovated clinic suite functions as a teaching law firm, offering ease of access, usability, and visibility. The student lounge, faculty lounge, and faculty offices are located on the same floor, encouraging interaction between students and faculty members.

### **Iowa Law Library**

The centerpiece of the Boyd Law Building is the University of Iowa Law Library, which occupies space on four floors and is one of the major repositories of legal materials in the United States. Iowa's collection, containing 1,260,524 volumes and volume equivalents, is ranked second in the number of volumes and volume equivalents and second in the number of titles among all U.S. law school libraries. The collection covers a full range of Anglo-American, foreign, international, and comparative law; contains in-depth collections on law of the United States and of every state and territory; and has extensive holdings of early English legal source materials. Since 1968 the library has been a selective Federal Documents Depository.

The Law Library has an open-stack policy that makes its collection accessible to all patrons, who are served by a full staff of professional librarians. The Westlaw and LexisNexis computerized information retrieval systems are available for training and research activities, and a full range of legal and nonlegal databases are available through the online catalog.

The library's entire collection is cataloged on the University's InfoHawk database, including the collection of U.S. government documents. InfoHawk also features an automated circulation system for checking materials out of the library. The library uses OCLC (Online Computer Library Center) for online cataloging and interlibrary loan.

### **Writing Resource Center**

The Writing Resource Center is dedicated to strengthening law students' command of writing skills central to the study and practice of law. The first writing center in the country established specifically for a law school community, the Writing Resource Center serves as an extension of the classroom and supplements the college's first-year legal writing, analysis, and research program.

Members of the Writing Resource Center staff help law students with a broad range of writing, including class assignments, seminar papers, law journal articles, and symposium presentations. They also assist students with résumés, application letters, and writing samples.

In addition to helping students with general writing skills in one-on-one tutorial sessions, the center's staff members train editors in editing skills, set up individualized programs of study, offer grammar and style workshops, provide guidance on avoiding plagiarism, and suggest strategies for overcoming writer's block and adapting material for varied audiences.

The Writing Resource Center is staffed by writers, including graduate students enrolled in the Iowa Writers' Workshop, second- and third-year law students, lawyers, and a director who holds a Ph.D. in the area of writing instruction.

### **Career Services Office**

The College of Law Career Services Office provides career planning and job search assistance to law students. Each year the office sponsors a comprehensive series of programs on career options and job search skills. It also maintains a library of resources and provides individual advising by professional staff. Job search assistance also is available to alumni.

The special rigor that characterizes Iowa's distinctive brand of legal education attracts a wide variety and growing number of recruiters to campus each year. During a typical academic year, approximately 150 employers send representatives to Iowa City to conduct job interviews, and many more firms use the college's Career Services Office to search for prospective employees through written inquiries and off-campus interviews.

Iowa graduates traditionally have had excellent success in finding employment; usually, more than 98 percent are employed within a few months of graduation. The career services staff is happy to talk with prospective students regarding the college's programs and the success of its graduates.

### **Bookstore**

The College of Law has its own bookstore, which carries all assigned texts and materials for law classes. It also stocks a variety of professionally prepared outlines, hornbooks, and other study aids, as well as a limited selection of school supplies and merchandise, including pens, notebook paper, binders, computer disks, exam software, stamps, t-shirts, and sweatshirts. The bookstore also can make change.

Photocopied handouts and teaching materials assigned by course instructors are available through the bookstore.

Students may charge costs for books, class materials, supplies, and merchandise directly to their University accounts. The bookstore does not accept credit cards.

### **Information Technology**

Since electronic information technologies are vital in legal and business work, the College of Law encourages all law students to become proficient with computers. Access to word processing software also helps law students draft the many papers, articles, and other manuscripts that are a regular part of the law curriculum. The college has installed 41 personal computers attached to a local area network for use by its students. Students also are encouraged to purchase personal computers and Microsoft Windows software, if possible, and to use them in connection with their law school work.

The law college provides network and Internet access from all student library carrels. To participate, law students supply their own laptop computers, which must meet required specifications. Specifications are available from the Law Library computer support office. Wireless Internet access is available in the Law Library, the fourth-floor student lounge, journal offices, and other areas of the law building.

The college's computers are loaded with WordPerfect and Microsoft Office software, and the college provides training for and access to the two major online computer research databases, West Publishing Company's WESTLAW and Mead Data's LEXIS. Once students complete the training, they have unlimited free access to these services at home via their own PCs and on the student and public workstations in the Law Library.

The Law Library also provides CD-ROM workstations that allow access to databases in CD-ROM formats. Some of the titles available are United Nations documents, complete from 1945; Index to Legal Periodicals; TIARA, a database containing treaties; and numerous U.S. government documents published on CD-ROM.

The University provides free e-mail accounts to its students, faculty, and staff through its Information Technology Services office (ITS). Students can sign up for e-mail accounts online or at the ITS offices in University Capitol Centre. ITS advises University of Iowa students, faculty, and staff on computer hardware and software needs and can provide information about educational discounts on some purchases. ITS also offers a wide variety of free computer short courses throughout the year. For information on computing resources at the University, consult the Information Technology Services web site.

### **Copy Services**

Networked copy machines are available on each floor of the Law Library. Students may set up a copying account at the circulation desk. They also may use networked printers in the library and charge them to their University account.

A University-operated copy service on the first floor of the Boyd Law Building provides high-volume, high-quality copying. Prices are comparable to those at commercial concerns, and students may charge copying to their University accounts.

### **Legal Aid for Students**

Students in need of legal assistance may consider turning to the University's Student Legal Services. The Legal Services Corporation of Iowa also provides civil representation to indigent clients.

## **College of Law Events**

### **Parents and Partners Day**

Each fall, the parents, spouses, and friends of all students are invited to the campus for activities sponsored by the Iowa Student Bar Association and the Iowa Law School Foundation. Past activities have included a simulated class, a brunch, an auction, and a tour of the college. The weekend is a good opportunity for families and friends to see what the life of a law student is really like.

### **Supreme Court Day**

The College of Law hosts the Iowa Supreme Court on The University of Iowa campus each fall. Third-year students present oral arguments in a moot case to the court, and faculty members host receptions at their homes for the justices, attorneys, and students, providing an opportunity for informal visits with members of the court.

## **Iowa Law School Foundation**

During the three years that students spend at the College of Law, many of the classes, programs, and projects in which they participate are partially or totally supported by private gifts from law alumni and friends.

The Iowa Law School Foundation was created by the 1952 graduating class to promote close relations between the

college and its alumni and to solicit gifts for scholarships, faculty support, and other projects that benefit the college.

Foundation funding benefits faculty positions, student scholarships, loans, research assistantships, guest speakers, and student orientation activities; the clinical law, Moot Court, Trial Advocacy, and Client Counseling programs; and the student-edited law journals. It also helps support *Iowa Advocate*, the law school's alumni magazine. Published once a year, the magazine features articles and news about the college and its alumni, faculty, and students.

In order to support these programs and activities, the Iowa Law School Foundation actively solicits contributions from the college's approximately 9,600 alumni.

## College of Law Courses

The following list includes all approved College of Law courses. The college does not offer each course every year. For information on current course offerings, consult the College of Law registrar. The College of Law Guide to Courses contains a list of courses that have been offered within the past two academic years. It also lists courses the college expects to offer during the next academic year.

### First Year

**091:102 Introduction to Law and Legal Reasoning** 1 s.h.  
Basic concepts and intellectual skills necessary for understanding the first-year curriculum.

**091:104 Civil Procedure** 4 s.h.  
Procedure before trial; commencement of a suit; subject matter jurisdiction; jurisdiction over the person and venue; pleadings, motion practice, including summary judgment, simple joinder of parties and claims in determining scope and size of the lawsuit; pretrial discovery procedures, the trial, claim and issue preclusion.

**091:116 Constitutional Law I** 3 s.h.  
Constitutional allocation of governmental powers; doctrine of judicial review and nature of judicial function in constitutional cases; relationships among several branches of national government; the federal system, including powers delegated to national government, powers reserved to states, and intergovernmental immunities; role of judicial process in structuring limits within which society operates; institutional development of legal system, relationship among institutions within the system.

**091:120 Contracts and Sales Transactions** 4 s.h.  
Law that governs the otherwise unregulated sector of the economy; making and enforcement of promises, usually as part of a bargain; formation of agreements, consideration, invalidating causes, parole evidence and interpretation, conditions, and remedies; roles of promises and promissory exchanges in a modern economy; the law's limitations on freedom of contract; brief introduction to Uniform Commercial Code, Article 2.

**091:124 Criminal Law** 3 s.h.  
Basic understanding of substantive criminal law; underlying premises of and justifications for criminal law; emphasis on general doctrines that dictate the minimum elements necessary to impose criminal liability, essential requirements of culpable conduct (an *actus reus*, or guilty act), blameworthy mental state (a *mens rea* or guilty mind); rape, homicide, causation, attempt, conspiracy, accomplice liability; various defenses to criminality, such as self-defense, duress, intoxication, insanity, diminished capacity.

**091:130 Legal Analysis Writing and Research I** 2 s.h.  
Structured development of effective skills in legal analysis, writing, and research; first of a two-semester sequence.

**091:131 Legal Analysis Writing and Research II** 2 s.h.  
Structured development of effective skills in legal analysis, writing, and research; second of a two-semester sequence.

**091:132 Property** 4 s.h.



Concept of private property as one of the legal system's basic foundations; historical development of Anglo-American property law examined in conjunction with changing currents of economic, social, and political thought; emphasis on understanding decision making by courts in the common-law tradition, and its interplay with legislative enactments intended to change the common law; fundamental notions relating to the origins of property rights; relationship of possession and ownership, with emphasis on capacity of property law to recognize a wide range of interest configurations; impetus for promoting ease and reliability in conveyance of property interests, commercially and gratuitously; function of public recording in providing stability to transfers of interest in land; role of adverse possession and prescriptive use in recognizing expectations based on long-standing property relationships; responsiveness of property law to social change as illustrated by modern reforms in landlord-tenant act.

**091:364 Torts**

4 s.h.

Development of tort principles; civil responsibility for harms to tangible personal and property interests; roles of legislatures, judges, juries; intentional harms, negligence, and strict liability considered from perspectives of jurisprudence, economics, and moral philosophy.

**Second and Third Year****091:125 Criminal Procedure: Investigation**

3-4 s.h.

Guarantees and rights of the Fourth, Fifth, and Sixth Amendments to the U.S. Constitution against police and prosecutorial practices designed to investigate and prove criminal cases; protection against unreasonable searches and seizures, guarantee against extraction of involuntary confessions, privilege against self-incrimination constraints upon securing confessions (i.e., *Miranda* doctrine), due process protection against unreliably suggestive identification procedures, right to counsel, protection against inculpatory admissions and identification practices; exclusionary rules and remedies that enforce constitutional guarantees.

**091:136 Property II**

3 s.h.

Continuation of 091:132; limitations imposed on landowner's use of their property by private agreements, judicial actions, and public regulations; problem areas including servitudes, nuisance, eminent domain ("takings"), constitutional limitations on governmental activities adversely affecting private property, community planning, zoning and other forms of local land use control; discrimination as it relates to land development and housing; relative effectiveness of private ordering, judicial decisions, legislative enactments and administrative processes for resolving conflicts over use of land resources; relationships between law and other disciplines, particularly economics, in forging solutions to land use issues; law's utility as an instrument for achieving societal objectives regarding land use.

**091:192 Art, Law, and Ethics**

3 s.h.

How law and ethics apply to individuals and institutions concerned with the visual arts. Same as 01H:182, 024:161, 033:175.

**091:193 Human Rights in the World Community**

1-3 s.h.

Introduction to established and developing legal rules, procedures, and enforcement mechanisms that govern protection of international human rights; liberal western and developing world notions of human rights, recent examples of human rights controversies worldwide; international human rights of women.

**091:195 Introduction to Public International Law**

1-3 s.h.

Introduction to fundamentals of international law, with focus on aspects of international law that concern U.S. interests; survey of sources, methodology, and major doctrines of international law, framed by understanding of diverse jurisprudential approaches; how international law relates to U.S. domestic law and institutions; procedural aspects of international law involving international institutions, including the International Court of Justice.

**091:198 Advanced Legal Research**

2 s.h.

Builds on 091:130-091:131; in-depth exploration of American legal resources; current print and electronic resources that help students develop better, more efficient search techniques and select the most effective formats for their research; opportunity to review the basic sources of legal information, use varied techniques to access legal information, develop personal strategies for managing information; advanced training in LEXIS, WESTLAW, the Internet; nonlegal information sources important to the legal community, research resources of other legal jurisdictions and international law.

**091:200 Agricultural Law**

1 s.h.

Topics in agricultural law and policy, such as legal efforts to control the structure of agriculture (including payment limitations and legal restrictions on farm land ownership), agricultural cooperatives, commodity promotion boards, government price and income support programs, soil and water conservation regulations, control over location and operation of animal confinement facilities, mechanisms for regulating food sources and safety.

**091:201 American Legal History**

3 s.h.

**091:202 Advanced Civil Procedure**

3 s.h.

Complex civil litigation, personal and subject matter jurisdiction, discovery, intervention, necessary parties, interpleader, consolidation, discovery and confidentiality orders, appellate jurisdiction; mechanisms to structure trials such as bifurcation of issues; class actions.

**091:203 Income Taxation of Estates and Trusts**

2-3 s.h.

Income tax basis of property acquired by gift or devise, part-gift/part-sale transactions, income and deductions in respect of a decedent, allocation of receipts and expenditures between income and principal, income taxation of trusts and estates, treatment of distributions of cash and property to beneficiaries, administration of marital-deduction formula clauses. Prerequisites: 091:272. Corequisites: 091:378.

**091:204 Administrative Law**

3 s.h.

Formal and informal procedures, processes, and functions of state and federal administrative agencies; legislative, executive, and judicial control of their actions; nature and definition of administrative agencies; permissible delegation of authority to administrative agencies; scope of agency authority; agencies' right to obtain information from members of the public; citizens' right to obtain information in agencies' possession; definition and types of administrative rules; rule-making procedure; agency discretion to make law by rule or adjudication; right to a trial-type hearing before an agency; parties' specific rights in an administrative hearing, including notice, open or closed hearing, right to counsel, evidence, nature and exclusivity of the record; agency decision-making process, including role of hearing officers, separation of functions and bias of decision makers, nature of opinion required; judicial review of administrative action, including reviewability of agency action, primary jurisdiction of agencies, exhaustion of administrative remedies, standing, scope of judicial review, mechanics of judicial review.

**091:206 Criminal Procedure: Adjudication**

3-4 s.h.

Adjudicatory phases of the criminal justice system: indictments and the charging process, preliminary hearings, applications for release on bail and pretrial detention, processes of discovery, guilty pleas, jury selection, conduct of criminal trials, sentencing proceedings and post-trial motions, appellate review, collateral remedies; focus on constitutional rights, specifically the Fifth, Sixth, Eighth, and Fourteenth Amendments; statutory provisions, rules of criminal procedure.

**091:207 Arbitration: Law and Theory**

2-3 s.h.

The law of arbitration and its role in modern conflict resolution, conceptual framework and explanatory theories for the analysis of issues frequently encountered; statutory and contractual grounds for arbitration, such as labor relations, employment, consumer, and commercial transactions; the decision to use arbitration; the role of lawyers; judicial enforcement of arbitration agreements and arbitration awards; contractual issues and defenses; federal preemption; arbitrability and separability; remedies; the relationship between arbitration and litigation and mediation and other non-adversary forms of dispute resolution.

**091:208 Antitrust Law**

3 s.h.

Laws dealing with restraints of trade, monopolization and mergers; history of these laws and their development in the courts; current doctrine and its underlying legal and economic theories; analytical tools of trade: sufficiency of economic efficiency as the measure of justice.

**091:209 Arbitration Advocacy Competition**

1-2 s.h.

Development and application of arbitration advocacy skills in preparation for the Iowa intramural and regional competitions; addresses arbitration presentation methodology, procedure, prehearing preparation, and advocacy skills; students who advance in the intramural Iowa Arbitration Tournament are selected to represent Iowa in the ABA Arbitration Competition the following fall.

**091:210 Appellate Advocacy I**

1 s.h.

Experience based on an assigned fictitious case: writing an appellate brief asserting the client's position, and arguing the case before a panel of students, faculty, community attorneys.

**091:213 Business Bankruptcy Reorganizations**

arr.

Reorganization of distressed businesses using chapter 11 of the Bankruptcy Code; prebankruptcy negotiations and out-of-court restructurings, avoiding powers and other tools to restructure the company, formation and confirmation of a plan of reorganization, post-confirmation issues; for work as commercial litigators or transactional lawyers.

**091:214 Bankruptcy**

3-4 s.h.

Rights of individuals and entities under the federal bankruptcy laws, from perspectives of debtors and creditors; foundational topics from liquidation bankruptcy (chapter 7) to reorganization bankruptcy (chapters 11 and 13); consumer and business bankruptcies; advanced bankruptcy topics such as small business reorganizations, farm bankruptcies, ethical issues in bankruptcy law, international insolvencies. Prerequisites: 091:215 or 091:222.

**091:215 Debt Transactions**

4 s.h.

Laws and practices of modern lending; procedures for collection of unsecured debts, including enforcement of judgments, exemptions, prejudgment remedies, fraudulent conveyances, statutory liens; secured transactions that involve real property (mortgages) and personal property (security interests governed by Uniform Commercial Code, Article 9); consumer and commercial transactions, counseling hypothetical creditor or debtor clients, understanding realities that shape enforcement of credit agreements.

**091:216 Business Planning**

3 s.h.

Series of problems involving common business transactions in context of business planning and counseling; emphasis on problems of limited liability companies and closely held corporations; choice of business entity, formation of LLCs and corporations; allocation of ownership interests and control, issuance of securities and capital structure, valuation, dividends, reduction of capital, buying out of members/stockholders, acquisitions via merger or purchase of stock or assets, redemption of stock and liquidations, other problems of LLCs; related tax matters. Prerequisites: 091:241 and 091:272.

**091:218 Federal White Collar Criminal Law**

1-3 s.h.

How corporations and their officers, directors, employees, and agents can violate criminal law; liability imposed under state and federal laws in the United States, criminal liability under laws of other countries; fundamentals of U.S. law; case studies of recent prosecutions involving American corporations.

**091:219 Civil Procedure in Pre-Trial Theory and Practice**

arr.

The law of pleadings and other pretrial matters presented in 091:104; hypothetical case developed from interview to pleading to early pretrial stages; experience drafting relevant pleadings and motions. Prerequisites: 091:104.

**091:222 Commercial Transactions**

3-4 s.h.

Commercial debt transactions, with focus on use of personal property security interests; basic legal structure of Article 9 of the Uniform Commercial Code, related provisions of Articles 3 and 8 of the Bankruptcy Code; problems of commercial finance, skills involved in using commercial statutes (transaction planning and drafting).

**091:223 Comparative Islamic Law**

3 s.h.

Sources of Islamic law; origins and functions of varied schools of jurisprudence; Islamic legal philosophy and Islamic legal rulings in contexts of five major schools of law; major legal topics covered by the Ottoman Legal Code. Same as 032:159.

**091:224 Comparative Law**

2-3 s.h.

Comparative study of origins, development, and principal features of the world's main legal systems; common and civil law traditions; historical development of the main legal systems, their sources, ideologies, techniques; subjects important to international legal practice (e.g., international judicial assistance, application of foreign law in American courts; in-depth study of modern legal systems of the United States, Britain, France, Germany, Japan, Russia; introduction to other legal traditions, including preliterate tribal law, traditional Chinese and Islamic law. Same as 144:142.

**091:225 Comparative Law in Post-Communist Countries**

arr.

Law and legal reforms in Russia, the newly independent states (NIS), and post-communist countries of eastern and central Europe.

**091:226 Comparative Equality**

arr.

Affirmative action or "positive discrimination" for examining/comparing inequality and inclusion in the countries of France, Brazil, Canada, India, South Africa, and the United States; historical context in which affirmative action or positive discrimination programs have been implemented for certain groups within Brazil, Canada, India, South Africa, and the United States as arguments in favor of and against such programs in those countries; lessons learned from these countries applied to France to answer the question, "Is France in need of affirmative action?"

**091:227 Comparative Constitutional Law**

2-3 s.h.

Constitutional law structures; decision making and substantive results under a variety of different constitutional systems, including major Western and non-Western systems; forms of judicial review and separation of powers, forms of federalism and alternatives to federalism, conceptions of fundamental human rights.

**091:228 Conflict of Laws**

2-3 s.h.

Problems created when a transaction or relationship has associations with more than one jurisdiction; emphasis on selection of appropriate jurisdiction-selecting rules, recognition of other states' judgments; current evolution in theoretical approaches to these problems; limitations imposed on American state courts by the federal constitution.

**091:230 Consumer Law**

3 s.h.

Whether and how law should regulate rights of consumers and businesses to transact freely with each other; tension between laws that protect consumers from harmful consequences and principles of freedom to contract, caveat emptor, and free market economies that dominate traditional contract and tort law; state and federal consumer protection statutes, including Truth in Lending Act, Equal Credit Opportunity Act, Unfair and Deceptive Practices Acts; current topics in consumer law, including predatory lending, marketing fraud, arbitration clauses; realities faced by attorneys who advise businesses on compliance with consumer laws, competing concerns of plaintiffs' attorneys and government officials who seek to enforce consumer laws.

**091:232 Constitutional Law II**

3 s.h.

Limits on governmental power imposed by the national constitution for protection of individuals; protection of life, liberty, and property by due process and equal protection; freedom of expression and association; religious freedom and the guarantee against establishment of religion; 1st and 14th Amendments.

**091:233 Comparative Law and Religion**

3 s.h.

**091:234 Commercial Contract Drafting**

2-3 s.h.

Components of common commercial contracts, analytical and technical processes involved in drafting contracts for specific commercial purposes; contracts for services, agency agreements, employment agreements, stock or asset purchase agreement, problems associated with data processing contracts; trial drafting of appropriate clauses for a series of contract problems in varied commercial settings. Requirements: third-year standing. Corequisites: 091:241, if not taken as a prerequisite.

**091:235 Constitutional Law of the European Union**

2 s.h.

Constitutional law of the European Union; the EU's path of legal integration, sources of law, and substantive, temporal, and territorial jurisdiction; fundamental documents (e.g., Merger Treaty, Single European Act, Maastricht Treaty, Amsterdam Treaty); legal framework for exercise of community powers--legal basis, subsidiarity, proportionality, equal treatment; EU institutions--European Parliament, Commission, Council, Court of Justice and Court of First Instance, Court of Auditors; decision-making process and legal procedures; Common Market and free movement of goods, persons, capital, services; fundamental rights; Economic and Monetary Union; EU in international legal transactions, external powers of the communities; forthcoming enlargement of EU, options of institutional reform.

**091:236 Contemporary Russian Law in Historical Context**

3 s.h.

Contemporary law and legal reforms in Russia, in context of Russian, Soviet, and European history; introduction to the current Russian legal system; similarities and differences in the contemporary Russian legal system and the traditional (pre-1917) and Soviet legal models; major legal issues of contemporary Russia; degree to which Russian law is characterized by continuity or change relative to law of former Russian empire and USSR.

**091:237 Comparative Criminal Law Issues: United States and United Kingdom**

1-3 s.h.

Comparative study of issues in British and American criminal law; focus on the right of silence/right against self-incrimination in the two countries; historical origins and recent development of these rights in Britain and America with emphasis on the practical application of the rights; effect of capacity and age on the exercise of the rights; prosecutions's obligation of disclosure and discovery; confessions; and the admissibility of evidence.

**091:238 Comparative Law of Foreign Relations**

3 s.h.

Comparison of legal foundations for external relations in the United States, the European Union, post-Communist states, and other countries; external powers and objectives; instruments, principles, and actors who determine and carry out external policies; legal effects of international agreements and other aspects of international law; basic questions of constitutionalism raised by foreign relations law (i.e., division of competencies, separation of powers, protection of fundamental rights, issues of democracy and legitimacy, judicial review).

**091:239 Corporate Governance and Control**

1-3 s.h.

Principal issues in creation of appropriate governance and control systems for large publicly-held corporations; questions of corporate structure, shareholder voting rights, duties of directors, derivative suits, indemnification and transfers of control viewed from perspective of Delaware's statutory and common law. Recommendations: 091:241.

**091:240 Arbitration: Practice and Advocacy**

1-2 s.h.

Skill development to effectively participate in arbitration and related court proceedings; advise clients on various aspects of arbitration; opportunity to draft an arbitration agreement, a petition to compel arbitration, a prehearing arbitration booklet with legal authorities and supporting exhibits, and pleadings necessary for judicial review; examination of all aspects of the arbitration process; procedures for post-award remedies and judicial review; hybrid methods of arbitration, applicable rules, and ethics concepts.

**091:241 Business Associations**

3-4 s.h.

Structure, characteristics of both large publicly and closely held corporations; distribution of powers among management, directors, shareholders; fiduciary duties that limit those powers; enforcement of such duties by shareholder suits; may include basic principles of agency, partnership, and limited partnership law.

**091:243 Taxation of Business Enterprise**

3-4 s.h.

Income tax treatment of corporations, partnerships, and limited liability companies, with focus on closely held firms and their owners; choice of entity, the life cycle of the entity (organization, operation, sale or liquidation), corporate mergers and acquisitions. Prerequisites: 091:272. Corequisites: 091:241.

**091:244 Introduction to Disability Law and Policy**

1-3 s.h.

Overview of the Americans with Disabilities Act (ADA), and related federal and state disability laws; emphasis on understanding recent Supreme Court decisions interpreting the ADA, particularly its employment provisions; lawyers' roles in supporting equality of individuals with disabilities.

**091:245 Domestic Abuse Law**

arr.

The law's response to domestic abuse (i.e., the pattern of violent and coercive control used in adult intimate relationships); cultural contexts of domestic violence, legal and social reform efforts of the past decade and their impact on the administration of justice, use of common law and statutory injunctions, the criminal justice system's response, constitutional and interspousal torts, mediation, federal legislation.

**091:248 Deposition Practice**

2 s.h.

Actual practice of depositions; law of deposition practice, procedural prerequisites to a deposition, including drafting of necessary documents (e.g., subpoenas duces tecum); structure and strategies of taking and defending a position; students conduct depositions in varied circumstances (e.g., discovery of a party, perpetuation deposition of an expert). Prerequisites: 091:370.

**091:249 Development of the Western Legal Tradition**

2-3 s.h.

Major developments in the history of Western European law; laws of ancient Greece and Rome through 19th-century codifications in France and Germany; fusion of law and equity in England; evolution of and interaction among the four main components of Western legal tradition--Roman and civil law, customary and feudal law, canon law, and English common law; primary and secondary sources translated into English.

**091:250 Employment Law**

2-3 s.h.

Rights of employers, employees in unorganized workplaces; legal issues that arise between employers and employees in nonunionized settings; hiring, discipline, termination, minimum wage, covenants not to compete, employment-related intellectual property issues, occupational safety and health, unemployment.

**091:251 Topics in Employee Benefits Law**

arr.

Survey of major topics in employee benefits law; overview of the plans that are subject to the Internal Revenue Code, Erisa, or both; tax-qualification rules for retirement plans focusing on 401(k) plans; disclosure owed and relief available to plan participants under ERISA; fiduciary responsibility for investment decisions under 401(k) plans; and whether ERISA preempts state and local initiatives to expand health care coverage.

**091:252 Family, Gender, and Constitutional History**

3 s.h.

Same as 16A:175.

**091:253 Employment Discrimination**

2-3 s.h.

Legal prohibitions against discrimination in employment on the basis of race, sex, national origin, age; focus on Title VII of the Civil Rights Act of 1964; procedural and remedial problems, elementary issues of proof.

**091:254 Education Law**

3 s.h.

Law affecting governance of schools, with focus on public elementary and secondary schools; issues such as speech, association, privacy, procedural due process, curriculum control, special education, educational financing, religion, racial discrimination; allocation of power and discretion between federal and state authority; contrasting and complementing roles of legislator, educator, and judge; varied interests of state, teacher, parent, and student; related problems in private schools, state colleges and universities; interaction of law and educational policy. Corequisites: 091:232, if not taken as a prerequisite.

**091:255 Environmental Law**

3 s.h.

Role of the legal system in addressing problems of environmental disruption, with special emphasis on air, water, hazardous waste pollution.

**091:256 Federal Criminal Practice**

2 s.h.

Introduction to each step in the criminal process together with instruction in advocacy skills required for the effective practice of law; complete chronology of a typical federal criminal case, from grand jury investigation through post-trial motions; importance of strategic thinking. Prerequisites: 091:125.

**091:259 Federal Government Contracting**

1 s.h.

Specialized litigation forums created by the federal government to remedy contract disputes over federal contracts for goods, services, and construction; similarities and differences between the federal litigation system and the common law of contracts and UCC Article 2 law; assessment of whether the federal litigation forums and policy goals work; related issues most attorneys encounter during their practices.

**091:260 Foreign Relations Law**

arr.

Impact of the constitutional distribution of powers on the conduct of U.S. foreign relations; influence of separation of powers doctrines on conduct of foreign relations, status of international law in the U.S. legal system, role of courts in adjudicating issues affecting foreign relations, controversy over distribution of war powers between the president and Congress.

**091:261 Health Law**

2-3 s.h.

Major areas of concern in health law; tension between quality, access, costs; may include malpractice, quality control, health care financing, access (insurance, Medicare, and Medicaid), licensing, bioethics (end-of-life decisions, informed consent, surrogacy, organ transplantation).

**091:262 Federal Regulations of Health Care Industry: Fraud and Abuse**

2-3 s.h.

Impact of governmental regulation on business planning and transactions in application of federal fraud and abuse laws to organizational entities; False Claims Act and the Stark Law, corporate compliance programs, enforcement efforts. Prerequisites: 091:241.

**091:265 Evidence**

3 s.h.

Rules of evidence developed in common-law courts and under statutes; judicial notice; examination of witnesses; privilege and competence; remote and prejudicial evidence; hearsay; burden of proof and presumptions; roles of judge and jury.

**091:266 European Union Law**

2-3 s.h.

Law of the European Union; EU legal and institutional structure; role of the European Court of Justice in elaborating constitutional and administrative law for the EU on the basis of treaties and legislation; principle of free movement; progress of European integration.

**091:267 Legal Externship**

arr.

Experience in nonprofit organizations, government agencies; unpaid; usually summer.

**091:268 Family Law**

3-4 s.h.

Creation, dissolution of marriage and parent-child relationships; lawyer's practical approach to family law problems combined with a broader view of how the law might treat those problems in light of findings from social and behavioral sciences.

**091:269 Family Responsibilities Discrimination**

1-3 s.h.

The exploding area of employment discrimination law (a form of sex discrimination) in which workers are treated less favorably at work because of their caregiving responsibilities for children, elderly parents, or ill relatives; theories, cases brought under a variety of statutes.

**091:270 Health Care Quality**

2 s.h.

Private law responses to quality-of-care and autonomy issues involving health care providers and their consumers; competing and overlapping liability models applied to health care providers, and liability exposure of different provider groups (individual health care professionals, provider groups, third party payors, drug and device manufacturers); range of litigation issues, including expert and scientific evidence, causation, damages, insurance issues as they relate to health care providers; effect of statutory reforms, such as experts qualifications, limitations on certain types of damage recovery, mandated dispute resolution mechanisms.

**091:272 Basic Federal Income Taxation**

3-4 s.h.

Operation, policies, principles of federal income tax, including gross income, deductions, property dispositions, tax accounting, assignment of income among family members, time value of money, leveraging.

**091:274 Federal Courts**

3 s.h.

Role of the federal courts in our federal system of government; the federal courts' original and appellate jurisdiction; Supreme Court review of state courts' judgments; Congress' power to strip the federal courts of jurisdiction; development of federal common law; federal writ of habeas corpus; abstention doctrines; state sovereign immunity; federal remedies against state and local action; and Congress' power to create non-Article III adjudicative tribunals. Prerequisites: 091:104 and 091:116.

**091:275 Federal Courts: The Structure and Jurisdiction of the Federal Judiciary**

3 s.h.

Overview of federal courts' federal-question, diversity, supplemental, and appellate jurisdiction; venue, removal of cases from state to federal courts; other issues in powers of federal judiciary, such as Congress's power to alter the structure and jurisdiction of the federal courts, of forum non conveniens doctrine, federal habeas corpus petitions, transfer of cases, claim and issue preclusion, powers of legislative courts.

**091:276 Private International Finance**

3 s.h.

International banking and securities transactions; major national markets of the United States, Europe, and Japan, and offshore markets; major areas of international regulation and policy, such as capital adequacy, clearance, and settlement.

**091:278 Selected Topics in International and Comparative Law**

1-3 s.h.

Opportunity for students to learn from distinguished faculty from U.S. and international institutions.

**091:279 Immigration Law and the Workplace**

3 s.h.

Intersection of immigration and employment law, with focus on the United States; employment rights and remedies of immigrant workers, including undocumented workers; issues relating to employment eligibility verification and antidiscrimination protections; workers' claim of unpaid wages, protection for day laborers, English-only rules, entitlement to benefits such as workers' compensation, human trafficking, coverage under antidiscrimination statutes, and the right to engage in collective bargaining; gender implications; some discussion of international perspectives. Prerequisites: 091:250.

**091:280 Immigration**

1-3 s.h.

Legal, historical, social, philosophical, and policy foundations of immigration control; modern debate over immigration; criteria and procedures that govern admission of non-U.S. citizens to the United States for permanent residence and temporary visits; deportation criteria and processes; national security and civil liberties implications of immigration policy; refugees and political asylum; undocumented migrants; acquisition, loss, and significance of U.S. citizenship; focus on U.S. law with introduction to perspectives from comparative and international law; experience analyzing varied fact problems that require strategic decision making and interpretation of complex statutory provisions.

**091:281 Interest-Based Negotiation for Lawyers**

2-3 s.h.

Theory and practice of interest-based or problem-solving negotiation; acquisition and enhancement of the skills for this approach to negotiation; negotiation exercises.

**091:282 International Business Transactions**

1-3 s.h.

Legal and practical issues in international trade and investment; typical private transactions, such as the sale of goods (documentary sales transaction, INCOTERMS, letters of credit, agency, distribution), transfer of technology (franchising, licensing), and direct investment across national borders; how private international sales, investment, and licensing transactions are structured to permit private businesses to minimize and plan for the risks associated with conducting business on a global scale.

**091:283 Copyrights**

3-4 s.h.

Federal law of copyrights, primarily the Copyright Act of 1976; emphasis on copyright protections affecting new technologies, such as videotape, computer hardware and software, electronic data transfer, cable television rebroadcast; ability of legal concepts to keep pace with technological developments. Recommendations: 091:286.

**091:284 Insurance**

1-3 s.h.

Legal principles of insurance; applicability of general principles of contract formation; principles involved in determining which persons and interests are protected, which risks are transferred, and when rights are at variance with insurance policy provisions; claims process, disposition of disputed claims; adoption of tort principles and statutes to alter common law approach to insurance contracts.

**091:285 Foreign Comparative and International Legal Research**

1 s.h.

Treaty research, locating and identifying documents from international organizations and tribunals, legal research in selected jurisdictions outside the United States; print and electronic sources and research methods in foreign and international law; project to complete a pathfinder on a foreign or international law topic.

**091:286 Introduction to Intellectual Property Law**

3-4 s.h.

Concept of intellectual property, survey of decisions in patents, trademark and unfair competition, copyright, trade secrets, related areas; issues arising from intersections of areas.

**091:287 International Trade Law: Basic Norms and Regulations**

3 s.h.

Basic norms and legal framework of international trade as expressed in the GATT/WTO regime and U.S. trade laws; issues raised by regional trade blocs such as NAFTA; controversies such as the economic and philosophical justifications for, and objections to, free trade from a variety of perspectives.

**091:288 Jurisprudence**

2-3 s.h.

Selected legal philosophies, with emphasis on legal positivism and natural law; relationship between law and morality. Same as 144:143.

**091:289 Intellectual Property and Antitrust Law**

3 s.h.

Important issues at the intersection of federal competition policy and federal intellectual property law; exclusionary practices, collusion and joint ventures, vertical integration, and procedural issues.

**091:291 International Environmental Law**

3 s.h.

Laws and institutions developed by the international community to deal with international environmental problems, including those of the atmosphere (acid rain, ozone depletion, radioactive fallout, climate change), hydrosphere (land-based sea pollution, sea-based vessel pollution, transboundary groundwater diversion), lithosphere (hazardous waste disposal, toxic pollutants, decertification), biosphere (driftnet fishing, endangered elephants, loss of tropical rainforests).

**091:292 Labor Law**

3-4 s.h.



How national labor law regulates labor relations in the private sector; law relating to unionized employees and firms; right of employees to organize into unions; limits of concerted activities by employees; scope and provisions of collective bargaining; enforcement of the collective bargaining agreement; rights of individual employees in collective units and in labor organizations; lawyer's role in dealing with judicial, administrative, and arbitral tribunals involved in enforcing labor law; lawyer's role in complex interrelationships between policy, statute, judicial, and administrative decisions.

### **091:294 International Civil Litigation**

3 s.h.

Issues that arise in litigation between litigants located in different nation-states; choice of law and personal jurisdiction issues in context of international litigation; litigation-limiting doctrines and devices such as *forum non-conveniens* and *lis pendens*; international enforcement of judgments, sovereign immunity, international discovery.

### **091:295 International Commercial Arbitration**

arr.

Formation and enforcement of agreements to enter arbitration in order to settle international business disputes; recognition and enforcement of arbitral awards, process of arbitrating an international business dispute; role-playing exercises to hone advocacy and decision-making skills.

### **091:297 Law and Accounting**

2-3 s.h.

Accounting as the language of business; familiarization with the vocabulary of accounting, knowledge and skill development in using accounting information as an analytical tool; for students with no business background.

### **091:298 English Legal System**

1 s.h.

Taught in spring London Law Consortium.

### **091:300 Land Use**

2-3 s.h.

Zoning, comprehensive planning, provision of services, subdivision development ordinances, and their role in construction of local community; mechanics of various procedural devices, including those for changing zoning restrictions through variances, rezonings, contract and conditional zonings, initiative and referendum process, agreements by cities and developers pursuant to platting processes; coordination of control efforts; theory and doctrinal investigations contrasted with actual problems and results. Prerequisites: 091:136.

### **091:303 Federal Indian Law**

3 s.h.

Specialized body of law that allocates power and authority in Indian country and has grown up around Native American peoples and their reservations; sovereignty arrangements, jurisdiction, federal Indian policy, tribal self-government. Same as 149:178.

### **091:306 The Law of Electronic Media**

2-3 s.h.

Legal and public policy issues in the operation and regulation of broadcasting, cable, and new technologies. Requirements: junior or senior standing.

### **091:307 Law in the Muslim World**

2-3 s.h.

International and comparative law issues relevant to countries in the Muslim world; legal cultures, institutions, rules, actors, processes of several jurisdictions including Afghanistan, Saudi Arabia, Iran, Iraq, Algeria, Nigeria, Palestine, Pakistan; Islamic sharia law as practiced in Sunni and Shiite countries; the role of church versus state, fundamentalism versus secularism, as manifested in the legal system; tension between communitarianism and individualism in modern constitutionalism; intertwining of customary and religious legal practices; first, second, and third generations of human rights; international law on issues such as terrorism, self-determination; women's rights, including polygamy, divorce, child custody, inheritance. Requirements: junior or senior standing.

### **091:308 Professional Responsibility**

1-3 s.h.

Public and private professional responsibility of lawyers; organization of the profession; its economics, ethics, and sociology.

### **091:311 Law of France and the European Union**

2-3 s.h.

Summer abroad program.

### **091:315 Mediation: Theory and Practice**

3-4 s.h.

Essential characteristics; comparison of mediation with litigation and other alternative dispute resolution processes; stages of mediation; confidentiality; enforceability of agreement; ethical problems, particularly lawyer-mediator; student role playing; short writing assignments.

- 091:317 Narrative Strategies for Lawyers** 1-3 s.h.  
Fiction writing; narrative nonfiction writing techniques; use of narrative in the legal context; workshop format to read and critique stories, published works, and works students have written.
- 091:320 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 024:247, 028:257, 032:227, 042:247, 06J:247, 102:278, 174:247.
- 091:322 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 024:248, 028:258, 032:228, 042:248, 06J:248, 102:279, 174:248.
- 091:324 Patent Law** 2-4 s.h.  
All aspects of U.S. patent law; patent claims, adequacy of disclosure, statutory subject matter, validity, inequitable conduct, infringement, remedies, varied specialized doctrines; focus on recent pronouncements from the Court of Appeals for the Federal Circuit. Recommendations: 091:295.
- 091:329 Products Liability** 3 s.h.  
In-depth liability for defective products based on negligence, warranty, and strict tort theories.
- 091:340 Remedies** 3 s.h.  
Legal and equitable remedies by which the law corrects injustice and redresses legal wrongs; remedies for tortious wrongs, including damages and injunctive relief; remedies for breaches of contract, including damages, specific performance, rescission, reformation; law of restitution, with emphasis on restitutionary remedies (quasi-contract, constructive trust, equitable lien).
- 091:341 Managing National Security** 1-3 s.h.  
Substance, process, and practice of national security law.
- 091:342 Negotiations** 2-4 s.h.  
Nature and theory of negotiations, diverse rhetorics (including the rhetoric of legal argument) relevant to conduct of negotiations, conflict between ethics and effectiveness; readings from game theory, social psychology, anthropology, rhetoric and ethics.
- 091:344 Sales of Goods** 3 s.h.  
Role of the Uniform Commercial Code in governing unsecured sales of goods; applicability of Article 2, formation of sales contracts, warranties, performance obligations and gap fillers, entrustment and remedies; leases of goods (Article 2B); United Nations convention on the International Sale of Goods.
- 091:345 Sentencing** 3 s.h.  
Introduction to the law, history, and policies that govern criminal sentencing in federal and state systems; traditional indeterminate sentencing, modern determinate sentencing at federal and state levels, capital sentencing.
- 091:347 The Supreme Court in Wartime** 1 s.h.  
Facts and outcomes of Supreme Court cases as well as wartime pressures on the court (including cold war) that generate deference to the executive branch, including the military.
- 091:352 Title Examination and Selected Real Estate Transactions** 2 s.h.  
Examination of abstracts of title to real property and preparation of resulting title opinion; drafting and interpretation of legal description to real property; subdivision of real property; negotiating and drafting basic contractual and transfer documents involved in typical real estate transactions.
- 091:354 State and Local Government** 1-3 s.h.  
Allocation of decision-making authority in society; allocation between public and private decision makers; allocation among governmental units, and among public institutions; principles and policies that underlie legal doctrines and the relationship of those principles and policies.

**091:355 Securities Regulation**

arr.

Regulation and sale of securities to the public under the Securities Act of 1933 and state blue-sky laws; remedies provided through the Securities Act; regulation and litigation under the Securities Exchange Act of 1934, which focuses on companies with publicly-traded securities. Prerequisites: 091:241.

**091:356 Surrogate Decision Making for Incapacitated Individuals**

1-2 s.h.

State and federal appellate courts in their roles of shaping and maintaining rule of law in the United States; modern appellate courts in relation to other branches of government; access to and limits on appellate review; administrative and adjudicative duties; collegiality and decision making; procedural responses to challenge of giving law in high-volume courts; work of law clerks and staff attorneys; related issues.

**091:357 A Survey of Gender Work and the Law**

arr.

Impact of law and legal norms on the economic status of women workers; historical and contemporary concerns, theoretical analyses, doctrinal developments, practical applications; intersections of race, class, ethnicity, gender, sexual orientation.

**091:360 Taxation of Gratuitous Transfers**

1-3 s.h.

Justification of wealth taxation, effectiveness of current law, alternate methods of wealth taxation; federal estate, gift, and generation-skipping taxes; tax and estate planning; identification of the tax base and tax paying unit. Prerequisites: 091:272 and 091:378.

**091:369 Trademarks and Unfair Competition Law**

2-4 s.h.

Acquisition and retention of trademark rights, registration, infringement, remedies; application of section 43 (a) of the Lanham Act to protect creative as well as commercial products. Recommendations: 091:286.

**091:370 Trial Advocacy**

2 s.h.

Training in basic skills of trial advocacy, aspects of trial technique; student participation in a full trial. Prerequisites: 091:265.

**091:371 Trial Advocacy Board**

1-2 s.h.

Administration of Trial Advocacy Program and Stephenson Competition; research and writing in connection with trial problems and readings used in program; critique of performances of trial problems. Prerequisites: 091:265 and 091:370.

**091:372 Stephenson Trial Advocacy Competition**

1-3 s.h.

Presentation of at least two full trials by teams of two students; finalists represent the College of Law at a regional and national trial advocacy competition. Held in January. Prerequisites: 091:265 and 091:370.

**091:373 Stephenson Trial Advocacy Team**

arr.

Student participation as College of Law representatives in Stephenson Trial Advocacy Competition.

**091:374 Advanced Trial Advocacy--Stephenson Competition**

1-2 s.h.

Review and expansion of topics presented in the initial trial advocacy course; preparation and application of principles in the Stephenson trials; introduction to additional advanced problems, such as the evidentiary issues raised in the trial problem. Corequisites: 091:370, if not taken as a prerequisite.

**091:378 Trusts and Estates**

1-4 s.h.

Transmittal of wealth within the family; policy of donative freedom, with focus on property law, including intestate succession, wills, lifetime transfers in trust or otherwise, powers of appointment, future interests; experience drafting a will, trust, or other estate planning document; for 4 s.h., additional classes on federal estate, gift, generation skipping transfer taxes, their effect on wealth transfer.

**091:379 Advanced Trusts and Estates**

arr.

Substantive provisions of wills and trust instruments; recurring construction problems and pitfalls in drafting; powers of appointment; future interests and how they operate in complex trusts; impact of rules of policy restricting the disposition of property, including the rule against perpetuities. Corequisites: 091:378, if not taken as a prerequisite.

**091:380 The Global Financial Crisis**

1-3 s.h.

Today's financial and economic crisis—the worst since the Great Depression; roots of the crisis, spread from the United States and Europe via securitization, key actors in the crisis, domestic and international regulatory aspects, impact on emerging and developing countries, measures taken to tackle the crisis.

**091:390 British Legal Methods Clinical Program** 3 s.h.

British Law externship; placement in London law office under guidance of barrister or solicitor; seminar and enrollment in course on English legal system taught by faculty of King's College, University of London.

**091:395 Summer Legal Placement** 3 s.h.

Externship opportunities for direct involvement in activities characteristically performed by attorneys (e.g., research and writing, document drafting, client interviewing and counseling, fact investigation, negotiations, court appearances); in-depth exposure to as many facets of the actual practice of law as practicable in each externship.

**091:399 Judicial Externship** arr.

One-semester student assignments to the chambers of selected judges, at both trial and appellate levels; experience participating in work of the chambers, including researching and writing memoranda to the court, drafting opinions, other court business.

**091:400 Law Review** 1-2 s.h.

Work on *Iowa Law Review*.

**091:401 Student Journal Editor--Law Review** arr.

Experience on the *Iowa Law Review* editorial staff: managing production, overseeing business operations, administering student writing program, selecting and editing articles for publication, supervising student research and writing. Eligibility based on previous writing for the journal. Prerequisites: 091:400.

**091:402 Moot Court Board** 1-3 s.h.

Experience as member of the Moot Court Board administering the Appellate Advocacy Program, researching appellate cases used in the program, judging appellate arguments. Requirements: membership based on performance in 091:210.

**091:403 Advanced Moot Court Competition** 1 s.h.

Advanced Moot court team; members are top advocates from previous year's Van Oosterhout/Baskerville competition. Fall of third year.

**091:404 Van Oosterhout Baskerville Moot Court Competition** 1 s.h.

Single-elimination tournament culminating in the final four advocates arguing before a panel of judges; advocates write a portion of the brief, argue for and against the issue they briefed.

**091:406 Clinical Law Program--Internship** arr.

Experience working directly with faculty members on cases and in-house program; full participation in interviewing, fact investigation, negotiation, courtroom proceedings.

**091:407 Clinical Law Program--Externship** arr.

Experience representing clients through legal assistance offices in eastern Iowa, under supervision of faculty members and staff attorneys.

**091:408 National Moot Court Competition** 1 s.h.

Participation by third-year students as law school's representatives in the regional Moot Court competition (fall semester), and in judging intramural Moot Court competitions (spring semester). Requirements: placement as one of four finalists in 091:404.

**091:409 Child and Family Advocacy Clinic** arr.

Experience working with faculty members on cases involving children with health problems and their families; representation of clients in connection with health insurance, social security disability, education, and public benefits (e.g., food stamps, school lunch programs, WIC, housing, fuel and utility assistance, income support); interviews, fact investigation, negotiation, administrative and courtroom proceedings; close work with Carver College of Medicine faculty members and residents who staff pediatric units at University of Iowa Hospitals and Clinics.

**091:410 Client Counseling I** 1-2 s.h.

Foundation for recognizing and resolving legal, nonlegal, ethical issues in the legal interview; interviewing and counseling skills developed through practice sessions, lectures, observation.

**091:415 Journal of Corporation Law**

1-2 s.h.

Experience editing articles and writing commentaries for *The Journal of Corporation Law*, a student-operated scholarly publication that examines subjects of current importance to businesses and the bar.

**091:416 Student Journal Editor--Journal of Corporate Law**

arr.

Experience on *The Journal of Corporation Law* editorial staff: managing production, overseeing business operations, administering student writing program, selecting and editing articles for publication, supervising student research and writing. Eligibility based on previous writing for the journal. Prerequisites: 091:415.

**091:420 Transnational Law and Contemporary Problems Journal**

1-2 s.h.

Experience researching and writing on issues in international and comparative law for the journal *Transnational Law & Contemporary Problems*. Requirements: second- or third-year law standing.

**091:421 Student Journal Editor--TLCP Journal**

arr.

Experience researching, writing, and editing on issues in international and comparative law for the journal *Transnational Law & Contemporary Problems*. Requirements: second- or third-year law standing.

**091:425 Journal of Gender, Race and Justice**

1-2 s.h.

Academic year experience on *The Journal of Gender, Race & Justice*: writing two journal pieces, including a recent development and a note or a comment, and performing office duties. Requirements: second- or third-year law standing.

**091:426 Student Journal Editor--Gender, Race and Justice**

arr.

Experience on *The Journal of Gender, Race & Justice* editorial staff: managing student writing program, overseeing business operations and production, selecting symposium topic and participants, selecting and editing all publications pieces; eligibility based on writing and editing experience.

**091:430 Jessup International Moot Court Competition**

1 s.h.

Participation by second-year students in intramural regional- and national-level moot court competition in international law; intensive criticism in appellate brief writing and oral argument. Prerequisites: 091:210.

**091:431 Jessup Moot Court Competition Team**

1-2 s.h.

Participation as team member in Jessup International Moot Court Competition; preparation of memorials in fall, travel to February regional rounds; travel to international competition in Washington, D.C., for top two teams.

**091:450 Corporate Law Practicum**

arr.

One-semester externship with Justice Holland of the Delaware Supreme Court or with Vice Chancellor Parsons of the Court of Chancery of the State of Delaware.

**091:455 Health Law and Policy Practicum**

1-3 s.h.

Opportunity to participate in research involving current health law and policy issues, in collaboration with organizations such as public health agencies, health professional organizations.

**091:460 Law Study Abroad at Bucerius**

arr.

Exchange student study at Bucerius Law School, Hamburg, Germany. Fall semester.

**091:463 Law Study Abroad at Catolica University**

arr.

Exchange student study at the University of Católica in Lisbon, Portugal.

**091:464 Law Study Abroad at Radboud University Nijmegen**

arr.

Exchange student study at Radboud University in Nijmegen, Netherlands.

**091:500 Independent Research Project**

arr.

Work under faculty supervision; research.

**091:501 Directed Research and Writing**

arr.

Research and writing project unrelated to any substantive course; supervised by a faculty member.

**091:502 Supplementary Writing**

arr.

Supplemental writing project that is related to a student's course, but goes beyond the requirements for the course, and is supervised by the faculty member who teaches the course.

**091:503 Writing Tutorial**

arr.

Writing project on a subject or topical area specified by the supervising faculty member; group meetings; writing tutorial.

**091:504 Tutorial**

1-4 s.h.

Work under faculty supervision; may involve substantive area of the law of jurisprudential ideas as they appear in various intellectual spheres; tutorials.

**091:506 LL.M. Tutorial**

1 s.h.

Requirements: LL.M. candidate.

**091:509 Journalism and Freedom of the Press**

2-3 s.h.

Constitutional theory and doctrine under the First Amendment, with focus on the free press guarantee and protection for news and journalism; prior restraints and injunctions against publication; libel; privacy; other communicative torts; commercial speech and news publications; public forum and time, place, and manner restrictions on the press and publishers; ownership, control, copyright, related intellectual property interests of the press; meaning of journalism, news, and news organizations; governmental control or sponsorship of news organizations; subsidies for the press; taxation of the press; access to the press; newsgathering; press privileges; equality and press freedom; problems in the financial and regulated sectors, such as regulation of business news periodicals; control of advertising by news organizations; advertorial practices and First Amendment freedoms; limits of press speech and journalism.

Corequisites: 091:232, if not taken as a prerequisite.

**091:512 Service Tutorial**

arr.

Designed to enhance learning through the completion of a group service project. Corequisites: 091:265.

**091:515 Washington, D.C. Tutorials for the National Practice of Law**

3 s.h.

Insight into and experience with a national practice of law dealing with issues, specialized forums, and the policies and procedures that arise from practicing law for state clients in the nation's capital.

**091:600 Abused, Neglected, and Dependent Children**

arr.

Laws relating to abused, neglected, and dependent children--those not receiving proper parental care and protection as defined by statutes and case law; history of child abuse, neglect, and dependency laws; jurisdiction of juvenile and family courts; abuse, neglect, dependency proceedings; termination of parental rights in abuse, neglect, and dependency cases.

**091:601 Advanced Topics in Corporate Law**

arr.

Wide range of topics; theory of the firm, fiduciary duties, corporate counseling issues, history of corporate law, and so forth. Requirements: one law or business course in corporate law.

**091:602 Asian Americans and the Law**

arr.

Legal issues encountered by Asians and Asian Americans in the United States; how those issues have been addressed by Congress, state legislatures, the judiciary, the executive branch, the public, and the legal community.

**091:603 Capital Punishment**

arr.

Overview of the death penalty in America; moral issues; long-term trends limiting the use of the death penalty in the United States and abroad; legal issues and Eighth Amendment jurisprudence that has developed since the 1960s regarding limits on the exercise of juror discretion, jury selection, proportionality, the execution of minors, racial discrimination, *mens rea* requirements, capital appeals and collateral attacks, death penalty lawyering, and so forth; critique of death penalty bills proposed in recent years for Iowa.

**091:604 Patent Prosecution Seminar**

3-4 s.h.

Drafting seminar on patent application preparation and prosecution; student drafting exercises and presentations on advanced patent law topics; administrative rules and procedures governing practice before the U.S. Patent and Trademark Office; for students who plan to practice patent law. Prerequisites: 091:324.

**091:605 Advanced Problems in International Environmental Law**

arr.

Focus on the so-called trade and environmental debate.

**091:606 Advanced Problems in International Business and Economic Relations**

arr.

Legal aspects of contemporary problems in transnational business and economic relations; year-long seminar.  
Prerequisites: 091:282.

**091:607 Animals and the Law**

arr.

Issues concerning nonhuman animals and the laws that affect them; historic and philosophical rationales for conferring or refusing to confer legally cognizable rights upon nonhuman animals; topics such as laws governing use of animals (e.g., for scientific research, human consumption, companionship, entertainment), laws to preserve endangered species, laws governing international animal trafficking, laws governing efforts to establish standing in lawsuits aimed at improving animals' welfare; how laws relating to animals intersect with issues of broader concern, such as the rights of children and persons with severe mental disabilities, respect owed to cultural differences when crafting laws regarding fundamental areas of human activity, evolution of modern thought regarding basic human rights.

**091:608 Advanced Topics in Intellectual Property**

arr.

Opportunity to explore complex intellectual property issues with a focused topic area; for students experienced in intellectual property law. Requirements: one intellectual property course.

**091:609 Business Bankruptcy Reorganizations Seminar**

arr.

Examination of the reorganization of distressed businesses using Chapter 11 of the Bankruptcy Code; prebankruptcy negotiations and out-of-court restructurings, avoiding powers and other tools to restructure the company, formation and confirmation of a plan of reorganization, and post-confirmation issues; suitable for those who plan to work as commercial litigators or transactional lawyers. Prerequisites: 091:241.

**091:610 Advanced Problems in Contract Law**

arr.

Study of contract law beyond what was covered in the first-year course; in-depth review of selected topics, recent developments.

**091:612 Criminal Law in Context: Legal and Social Images of Victims and Perpetrators**

arr.

Criminal law contextualized by an in-depth study of the legal and social characterizations of victims and perpetrators in U.S. law, politics, and popular culture; overview of the law's treatment of victims and perpetrators and its relationship to political and social dynamics over the past century; legal and social characterizations of victims and perpetrators in select areas of criminal law, including rape, domestic violence, and child sexual abuse; victim-precipitated crimes, specifically crimes involving claims of provocation and self-defense, and their relationship to the current victim-perpetrator discourse.

**091:613 Constitutional Interpretation Seminar**

arr.

How the United States Supreme Court interprets the Constitution; particular emphasis on substantive due process and equal protection doctrine. Corequisites: 091:232.

**091:614 Design of Law**

arr.

Development of ability to critique the design of laws and to refine laws; legal literature addressing the design of law, classic articles from design literature, and three basic codes adopted by different societies at different times--the Code of Manu, Blackstone's Commentaries, and the Code of Iowa; theories of how laws change over time, how laws are reformed for better or worse, preconditions for progressive social change that prompts refinement of a law that is working less than optimally; empirical assessments of a law's effectiveness and visual displays of detailed empirical information, such as that used in court and in Brandeis briefs.

**091:616 Family Law in the World Community**

arr.

Family law from an international and comparative law perspective; treatment of family law problems in varied legal systems; application of international treaties and conventions to issues such as child custody, adoption, reproductive freedom, domestic violence. Prerequisites: 091:195 or 091:268.

**091:618 Cultural Property/Heritage**

arr.

Concept of cultural property, measures for its protection, impact of these measures on the transfer of cultural items; traditional art and architecture, biological and fossil material, human remains; contexts in which issues have arisen, such as stolen cultural property, property acquired during armed conflict and in colonial settings, and property collected in the field or excavated; international, national, and state law, including UNESCO convention on illicit transfer of cultural property, U.S. Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act; how developing professional ethics codes affect the concept of cultural property.

**091:619 Farm Labor Regulation**

arr.

Farm labor regulation; seminar.

**091:620 Law and Technology Seminar**

arr.

Production of a model statute addressing the range of issues in the selected subject area with suggested solutions; definition of statute's scope, research projects to identify existing law and develop competing ideas and approaches; further definition and a vote on the statute's scope and policies; further research memoranda as the statute takes shape; drafting of the statute with seminar review sessions; students work as a draft committee modeled after the Commission on Uniform State Laws.

**091:622 Elder Law**

arr.

Qualification for Medicaid, elder abuse and neglect, discrimination in employment and elsewhere, retirement pension planning and taxation, elderly patients' rights in nursing homes; conservatorships and guardianships.

**091:623 Critical Race Theory**

arr.

Race relations and racial discrimination in America from perspectives of the Critical Race Theory movement (CRT); affirmative action, hate speech, queer theory, voting rights, postmodernism, liberalism, Asian-critical theory, Latin-critical theory, federal Indian law, critical white studies; critical race feminism--essentialism, motherhood, lawbreaking, employment law, sexual harassment, global issues.

**091:624 Cyberspace Law Seminar**

arr.

The wide range of legal and public policy issues created by the newly-emerging electronic technologies; focus on student research, writing, presentations, discussion.

**091:625 The History of Free Labor**

arr.

Employer and employee rights and major changes in the common law of employment; actual rights, obligations, and protections on the job historically; dramatic changes in 19th century law; readings from original sources on free and unfree labor, such as slavery laws, the Thirteenth Amendment, supreme court cases dealing with free labor, treatises, significant court cases, modern legal and historical interpretations of free labor's history in American Law.

**091:629 History of Regulation of Smoking and Tobacco**

arr.

Regulation of smoking and tobacco use; history, beginning with 19th and early-20th centuries; state statutes and case law; OSHA, EPA, and FDA regulations; class action litigation, involvement of law firms in formulating tobacco company strategies, use of medical studies, economic history of the tobacco industry.

**091:631 Intellectual Property Research and Writing**

arr.

Opportunity to develop research and writing skills for intellectual property practice; basic intellectual property law research exercises; major drafting assignment, typically in intellectual property litigation. Recommendations: 091:286.

**091:632 Higher Education and the Law**

arr.

Practice of law in and for a complex institution; problems confronting attorneys in higher education, doctrinal issues prevalent in a university setting; focus on real or hypothetical problems considered in light of background reading rather than doctrinal analysis.

**091:633 International Criminal Law**

arr.

How a single crime may occur in or harm more than one nation; questions addressed: which courts have jurisdiction, whose law governs; when countries may apply their criminal law extraterritorially; collaborative enforcement; the International Criminal Court.

**091:635 UI Center for International Finance and Development**

arr.

Study of problems and issues in the complex world of international finance and development; focus on the International Monetary Fund and the World Bank; research and writing a new issue for the UICIFD web site.

**091:636 Seminar on Islamic Law and Government**

3 s.h.

Islamic legal and political legacy from the formative period until modern time; critical analysis of the logic and context of development; development of jurisprudential, legal, and political literature; overview of theories and practices of governance in Islam beginning with the Caliphate system and ending with the modern nation-state models. Same as 032:225.



**091:640 Human Trafficking**

arr.

Scope of international human trafficking; framework of international law; American law governing trafficking, involuntary servitude, and related offenses from 13th Amendment to the present, including recent statutory developments such as the Trafficking Act of 2000 and amended act of 2003; prosecution strategies used by the Departments of Justice and Labor, other executive agencies; the combined prosecution/prevention/protection model in the United States; civil litigation by trafficking victims against their traffickers; potential and limits of state antitrafficking legislation; relationship between trafficking law and labor law; the annual State Department Trafficking in Persons report's role in U.S. foreign policy and its international law implications; varied legal issues involving trafficking and involuntary servitude.

**091:641 Journalism and Freedom of the Press**

arr.

Constitutional theory and doctrine under the First Amendment; focus on free-press guarantee, protection for news and journalism. Corequisites: 091:232.

**091:642 Innovation, Business, and Law Colloquium**

arr.

Varied topics: antitrust, intellectual property, corporate, securities law, or the interfaces between those areas; taught by one or more College of Law faculty with some sessions taught by expert visitors from other institutions, including government officials and representatives of private enterprise; interdisciplinary course offered under the aegis of the Iowa College of Law Center on Innovation, Business, and Law.

**091:646 Nonprofit and Philanthropic Organizations**

arr.

Issues in law and policy relating to philanthropic and nonprofit institutions; creation, role, nature, and history of nonprofit entities; tax exemption, tax treatment (including property and donor tax issues); political and legislative activities; roles of members, directors, officers; problems of external regulation, accreditation, ethics; special issues for religious organizations, community foundations, private foundations, universities; development of philanthropic and nonprofit activity in foreign jurisdictions.

**091:647 The Law of the Frontier: U.S. 1820-1870**

arr.

How law really functioned at the edges of the nation's jurisdictional limits; earlier patterns of power, adjustments for environmental circumstances; difference between concepts of law and justice.

**091:650 Law and Colonialism**

arr.

The role of law in colonial and imperial expansion, with focus on the history of Anglo-American empires; how importation of common law as part of the colonial enterprise changed indigenous societies (e.g., labor relations, property rights, family law, criminal justice); use of the rule of law to justify colonialism, law as a practical dilemma for administrators; how colonialism's legal history fits into broader theories of imperialism; current globalization of common law.

**091:651 Law in Asia**

arr.

Development and reform of law and legal institutions in selected Asian countries, including Vietnam, China, India; changing role of socialist constitutions; law and regulation of civil society's nonprofit organizations, philanthropy, grassroots organizations, and the state; reform of courts, prosecutorial institutions, legal process; transformation of the legal profession; struggle for authority of law and against corruption in socialist transitional states; law in globalization and export labor; foreign models and foreign donor support in Asian legal reform.

**091:653 Law and Popular Culture**

arr.

How law and popular culture influence each other; viewing of selected films and a TV series involving different aspects of law and legal institutions; readings related to each film that raise issues in cultural studies, and legal and film theory.

**091:655 Law of War, Peace, and Military Affairs**

arr.

Three aspects of law's efforts to govern military affairs: international law of war, U.S. law regulating foreign commitment of the nation's military forces, rights of individual soldiers (particularly women, homosexuals, religious observers).

**091:656 Law and Religion**

3-4 s.h.

Role of law in ongoing conflicts over the relationship between religion, morality, and society in the United States.

**091:657 LL.M. Seminar**

arr.

Basic research and analytical methodologies for the international and comparative law fields; workshop approach to project proposals, drafts.

**091:658 Seminar on the First Amendment**

arr.

Issues decided in the Supreme Court's unfolding jurisprudence under the First Amendment religion guarantees; conduct as free exercise of religion; strict separation of church and state in contexts of education, public funding, and use of public space; claims of religion for exemption from general law (e.g. *Yoder*, *Smith*); school prayer and its legacy (pledge of allegiance, Ten Commandments in public spaces); evolution, creationism, intelligent design in public school curricula; relationship between free speech and free exercise of religion; vouchers and public funding of private religious schools, need- and merit-based scholarship funding; cases, historical sources, religious and philosophical views.

**091:659 Law and Lawyers in Literature**

arr.

Fundamental societal issues and ethical questions examined through discussion of literary works, including novels and plays by writers such as Camus, Coetzee, Dostoyevsky, Durrenmatt, Faulkner, Ibsen, Kafka, Melville, Schaffer, Thucydides.

**091:660 Medical Tutorial for Law Students**

arr.

Participation on medical and/or surgical rounds under supervision of attending physician; didactic sessions on legal, medical, and ethical issues arising from the clinical experience, and issues such as peer review, credentialing, quality assurance, cost containment, AIDS, reproductive technology; recent developments in medical technologies. Cosponsored by Carver College of Medicine. Prerequisites: 091:261.

**091:661 Legal Issues: Intercollegiate Athletics**

arr.

Legal issues affecting college and university athletics and athletes; includes drug testing, recruitment, gender equity (Title IX), NCAA regulations, endorsement contracts, coaching contracts, trademark licensing, and broadcasting rights.

**091:662 Freedom of Expression**

3 s.h.

London Law Consortium, available through Study Abroad.

**091:663 Advanced Topics in International Law**

arr.

Contemporary problems of public international law and policy; issues arising from armed conflict, use of force, pacific settlement of disputes; human rights law and policy (individual civil, political, economic, social, and cultural rights; group rights such as self-determination, development, environment, peace); trade and development; environmental law and policy (e.g., climate change, species extinction, pollution).

**091:664 Postconviction Remedies**

arr.

Three postconviction remedies traditionally available to prisoners who wish to challenge their continued confinement: state postconviction relief, federal habeas relief, executive clemency.

**091:665 National Security Law and Government Powers in Emergencies**

arr.

National security powers of the federal government in national and international emergencies and crises; constitutional and statutory framework within which national security powers are exercised; conflicts between national security powers and individual rights, war powers and the rules of engagement, apprehension of foreign aliens through extradition or force; military tribunals and indefinite detentions of suspected terrorists, government practices in withholding information from the public and extracting critical information through extraordinary conduct, imposition of obligations on the United States under international law.

**091:666 Notable American Trials: Trial Skills**

arr.

Trial skills and strategy; real trial transcripts, contemporary accounts of the selected trials, secondary literature evaluating what actually happened in the courtroom and relevant history; skills of opening and closing argument, *voir dire*, direct and cross examination, witness selection, use of exhibits.

**091:670 Advanced Issues in Nonprofit Organization Law**

arr.

Topics relating to nonprofit organizations; may include formation and dissolution of nonprofit organizations (NPOs), internal governance and external regulation, accountability and ethics, tax issues, self-regulation in the nonprofit sector, categories of nonprofits (e.g., religious organizations, philanthropic foundations, charitable trusts, mutual benefit societies), international and comparative perspectives on nonprofits and nongovernmental organizations (NGOs); research and writing seminar.

**091:672 Selected Issues in Family Law**

arr.

In-depth look at an issue or set of issues in family law; relevant cases, statutes, scholarship; class visits or on-the-job observations with community members who play roles in the family law process being examined.

**091:673 Sentencing Law and Policy Seminar**

arr.

Sentencing as a key stage of the criminal-justice process; the purposes of sentences, guilty pleas and plea bargaining, procedural rights during the sentencing process, types of sentencing statutes and guidelines, community-based sanctions, death penalty, what constitutes cruel and unusual punishment in noncapital cases; parole release, probation and parole revocation, collateral sanctions and consequences.

**091:674 Poverty Law**

arr.

Governmental responses to poverty in the United States; federal, state, and local social welfare programs for low-income persons; policy issues, history of welfare provision; state responses to federal welfare devolution, women and welfare, immigration.

**091:677 Selected Topics in Consumer Law**

arr.

Topics relevant to broad issues in consumer law--effects of deregulating the consumer credit industry, rapid growth of consumer borrowing in other nations, merits of proposed policy reforms in consumer law; may include credit cards, usury regulation, disclosure requirements for consumer transactions, unfair and deceptive practices lawmaking, expansive uses of credit reporting; focus intersection of economic, social, and political consequences of current approach to consumer law; interdisciplinary perspectives. Recommendations: course in consumer law, debt transactions, or bankruptcy.

**091:680 Supreme Court Seminar**

arr.

Supreme Court practice, procedure, jurisdiction; the art of opinion writing; in-depth analysis of cases on the court's pending docket; writing briefs, conducting research, conferencing cases sitting as a mock Supreme Court, assigning and preparing opinions, soliciting votes of colleagues; preparation of two opinions.

**091:683 Rethinking Public International Law**

arr.

Major transformations of public international law; how to integrate human rights into a system designed to secure world peace; transformation of laws of war; emergence of new sites of authority (supranational, international); blurring of line between public international law and constitutional law; conflicts of interpretation in relations between major players (United States, European and Asian countries).

**091:685 Seminar: Religion and Law**

3-4 s.h.

The role of law in ongoing conflicts over the relationship between religion, morality, and society in the United States. Same as 032:240.

**091:693 Transitional Justice**

arr.

How states resolve and manage tensions between objectives of social peace, justice, reconciliation (e.g., redress past abuses of basic rights); judicial and nonjudicial responses, including criminal prosecution, truth-seeking initiatives, private lawsuits for compensation from wrongdoers, monetary reparations by states to victims, displacement of perpetrators from prominent positions; strengths and weaknesses of each approach and conditions under which an approach is suitable, examined through countries including South Africa, Peru, Chile, Argentina, Rwanda, Sierra Leone, former Yugoslavia; how methods increasingly are combined to achieve comprehensive societal remediation in aftermath of abuse.

**Law Study Abroad****660:823 Program in Comparative Law in Bordeaux, France**

arr.

Intensive course work in France taught by professors from Iowa and France. Five-week courses in May and June.

**660:824 London Law Consortium**

arr.

Study abroad program for students from seven law schools (Iowa, Georgia, Utah, Kansas, Missouri-Columbia, Indiana-Bloomington, Chicago-Kent); American and British law taught by faculty drawn from the seven schools and British universities; clinical law program, work with British barristers and solicitors.

# Carver College of Medicine

**Dean:** Paul Rothman  
**Executive dean:** Peter Densen  
**Senior associate dean, scientific affairs:** Michael Apicella  
**Associate dean, clinical and translational science:** Patricia L. Winokur  
**Associate dean, student affairs and curriculum:** Christopher Cooper  
**Associate dean, faculty affairs and development:** Lois J. Geist  
**Associate dean, veterans' affairs:** John S. Cowdery Jr.  
**Associate dean, cultural affairs and diversity:** Benita D. Wolff  
**Associate dean, information technology:** Boyd Knosp  
**Assistant deans:** David Asprey, James D. Henderson, Roger D. Tracy  
**Degrees:** B.S., M.A., M.D., M.M.E., M.P.A.S., M.P.T., M.S., Ph.D.  
**Web site:** <http://www.medicine.uiowa.edu>

The Roy J. and Lucille A. Carver College of Medicine is an integral part of The University of Iowa. It contributes to the education of several thousand University students, is home to ground-breaking research in a wide array of disciplines, and provides a statewide educational health care resource.

The Carver College of Medicine is the only college in Iowa that offers a curriculum leading to the Doctor of Medicine. It also offers a Bachelor of Science in clinical laboratory sciences, nuclear medicine technology, and radiation sciences (see "Undergraduate Programs" later in this Catalog section) as well as Master of Science and Doctor of Philosophy degrees in several disciplines, the Master of Physician Assistant Studies, and the Doctor of Physical Therapy (see "Graduate Programs" later in this section).

The college participates in the education of students in the Colleges of Dentistry, Nursing, Pharmacy, and Public Health, and in the life-sciences and health-related programs of the College of Liberal Arts and Sciences, the College of Engineering, and the Graduate College.

Health professionals from throughout the Midwest take part in the college's year-round program of continuing medical education. They update their knowledge and skills through refresher courses, clinics, and conferences.

Doctor of Medicine and other health science students have a number of opportunities to gain experience in private medical offices and community hospitals. M.D. graduates may pursue further training in the specialties of family medicine, internal medicine, surgery, and pediatrics at one of 10 University of Iowa-affiliated residency programs in six Iowa cities. They also have access to two transitional-year programs. The Carver College of Medicine also offers a variety of services in support of Iowa physicians and community hospitals.

In addition to its responsibilities for educating physicians, the college addresses broad public issues of distribution and organization of health care services. Its faculty members advise and serve on national, state, and regional health planning councils, health boards, and various health agencies; some faculty members also take part in the University's Center for Health Services Research.

Accredited by the Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges, the Carver College of Medicine meets the requirements of all state licensing boards. Its M.D. diploma admits the holder to all privileges granted to graduates of all medical colleges before such boards. All other professional programs administered by the college are accredited by their respective accrediting bodies.

## Professional Program (M.D.)

### Doctor of Medicine

The Carver College of Medicine accepts 148 first-year students annually into its four-year course of study leading to the Doctor of Medicine (M.D.).

#### First and Second Years: Basic Medical Sciences and Clinical Foundations

The first three semesters present a core of sciences basic to the study of medicine and introduce students to the foundations of clinical practice.

#### FIRST SEMESTER

**099:163 Medical Biochemistry** presents concepts concerning structures of biological macromolecules, cellular metabolism, elements of human nutrition, molecular biology and genetics, and extra- and intracellular signaling mechanisms. It uses clinical examples to illustrate how alterations in these molecules and pathways can lead to pathological conditions.

**060:103 Medical Gross Human Anatomy** includes complete dissection of the human body with a regional focus that emphasizes relationships to the living system. Clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations complement the dissection experience. Students acquire anatomical knowledge

through lectures, small group work, and independent activities.

**050:120 Medical Cell Biology** presents concepts concerning the structure and function of the cell and its organelles at the molecular level. The course consists of basic science lectures and clinical correlations and relates basic cell biological concepts to the understanding and treatment of human disease.

**070:110 Medical Genetics** is integrated with ongoing classes in anatomy, biochemistry, and cell biology. It provides an overview of clinical and medical genetics, with particular emphasis on recent changes that affect clinical practice with respect to common diseases that have a genetic component.

**050:162 Foundations of Clinical Practice I** is the first semester of a sequential four-semester course that introduces clinical skills students need in order to become practicing primary care physicians.

The five major goals for students over the four-semester course are to develop knowledge, attitudes, and skills that are necessary for:

- maturation into a competent and confident clinician;
- maintaining a lifelong process of learning the practice of medicine;
- application of relevant basic science and clinical concepts and other scientific advances to the practice of medicine;
- application of the principles of health promotion and disease prevention to the practice of medicine; and
- increasing awareness of the ethical and social context in which medicine is practiced.

Through large group lectures, small case-based learning groups, and small-group skill building sessions, students focus on communication in the doctor-patient relationship, accessing and managing medical information, and applying basic principles of evidence-based medicine and medical ethics.

## SECOND SEMESTER

**060:234 Medical Neuroscience** is a course for medical students, physical therapy students, and graduate students in the basic medical or related sciences. Through lectures, clinical correlate presentations, laboratories, and small group discussion sessions, the course emphasizes the interdisciplinary and integrated study of the human central nervous system. Its faculty is drawn from basic science and clinical departments.

**148:251 Principles of Medical Immunology** is offered by the interdisciplinary Immunology Program. Its goals are to teach basic components and mechanisms of the immune response as well as medical principles of normal and abnormal immunity. The course consists of lectures by Immunology Program faculty and small group case analysis sessions.

**050:240 Human Organ Systems** is an interdepartmental course that presents the normal structure (histology) and function (physiology) of human organ systems in a coordinated and integrated organ systems approach. The course is designed to emphasize structure/function relationships by integrating the microscopic anatomic and physiologic function of normal human organ systems. The course's faculty includes members of basic science departments and clinical departments.

**050:163 Foundations of Clinical Practice II** is the second semester of a sequential, four-semester course that introduces clinical skills students need in order to become practicing primary care physicians (see 050:162 for overall course goals). In this semester, students continue to work toward course goals through small case-based learning groups, large-group lectures, and small-group skill acquisition sessions. They also are introduced to clinical medicine in a shadowing experience with health care providers. Principles of doctor-patient communication are reinforced and performance of the components of the general physical examination are taught and practiced. Other topics include multiculturalism, preventive medicine, the social context of medicine, and health across the lifespan.

## THIRD SEMESTER

**071:105 Pharmacology for Health Sciences: Medical** introduces basic principles of drug action and drug disposition through discussion of mechanisms of action, therapeutic uses, and side effects for a wide variety of commonly used medications. Lectures integrate knowledge from related scientific disciplines, including biochemistry, microbiology, pathology, and physiology. Students acquire knowledge of rationale and basis for appropriate selection of medications in clinical situations and an understanding of the basis for common drug-drug interactions and adverse drug reactions.

**061:103 Principles of Infectious Diseases** presents a comprehensive approach to the microbiology of infectious diseases, covering infectious agents at both the organismic and molecular levels. The molecular aspects of pathogenesis are presented as the basis for present and future preventive and therapeutic measures. The laboratory includes hands-on experiments ranging from principles of aseptic technique to the most modern molecular aspects of diagnostic microbiology.

**069:205 Medical Pathology I** starts with general principles of disease: cell injury, inflammation, immune mechanisms, neoplasia, and hemodynamic disorders, followed by etiology, pathogenesis, epidemiology, and major clinical and

morphologic manifestations of disease by organ systems. The course combines lecture information, small group analytic skills, and observation of current laboratory procedures.

**050:164 Foundations of Clinical Practice III** is the third semester of a sequential, four-semester course that introduces clinical skills students need in order to become practicing primary care physicians (see 050:162 Foundations of Clinical Practice I for overall course goals). This semester continues the knowledge, attitude, and skill acquisition begun in the preceding two semesters. Students continue to learn through small patient-centered learning groups as well as lecture and clinical skill-building small groups. Content areas include human sexuality, biomedical ethics, and problem-specific medical history and physical exams. Students begin to apply clinical history taking and physical exam skills learned in preceding semesters by taking complete histories and performing physical exams on simulated and real patients.

Some elective courses are available to students during the first and second years. These normally carry 1 or 2 s.h. of credit. Topics include areas not specifically covered in the regular curriculum and areas related to medical practice and the role of the physician. Course offerings vary from year to year, but typical subject areas are global health issues, U.S. health care systems, and community health outreach.

#### FOURTH SEMESTER

**069:206 Medical Pathology II** is a continuation of 069:205 Medical Pathology I.

**050:183 Healthcare Ethics, Law, and Policy** introduces M.D. and physician assistant students to health care ethics, law, and policy. Students learn to appreciate the inseparable relationship between medicine and ethics, recognize key ethical obligations and challenges common in medical practice, identify sources of ethical value commonly used in ethical reasoning, and apply a systematic approach to clinical ethical reasoning. They learn fundamental legal doctrines and theories that relate to business and professional aspects of the law pertaining to health care delivery. They also develop an understanding of the relationship and contrasts between ethics and law in medical practice, and they gain familiarity with the ways in which health policy influences medical practice. Through small group discussions about ethical challenges in patient care, they learn to interact respectfully with peers and faculty when discussing controversial issues.

**050:165 Foundations of Clinical Practice IV ICD** is the final course in the foundation series. The fourth semester is devoted primarily to this major interdisciplinary course, which includes participation by a large proportion of the faculty and is vital in providing students with the tools for a lifetime of patient care.

Mornings are devoted to intensive review of the diagnostic and therapeutic aspects of organ-system-based clinical medicine. The reviews are presented by teams of specialty and subspecialty clinicians. Students spend afternoons acquiring and practicing the clinician's skills in history taking and physical examination and in learning specialized exams. Small group learning and clinical case conferences take place throughout.

Each student is evaluated individually during the semester. Evaluations include the student's approach to the patient, accuracy of history and physical examination, precision in communicating gathered data, ability to synthesize available data into a realistic differential diagnosis, and ability to apply the process of problem-based learning to the understanding of patient-based problems. Cognitive knowledge of topics covered in the morning lecture and small group sessions is assessed through computer-based multiple-choice examinations. Students who need further work receive guidance and assistance.

All M.D. students are required to pass Step 1 of the United States Medical Licensing Examination before they may be promoted to the third year of the curriculum.

#### Third and Fourth Years: Clinical Training

The clinical courses take place during the last two years of the medical curriculum. In order to qualify for graduation with the M.D., students must complete satisfactorily a total of 81 weeks of courses during the two clinical years: 69 weeks of required courses and 12 weeks of electives. Course distribution is 49 weeks in the first clinical year and 32 weeks in the second.

Clinical Beginnings (050:170), a required, 1 s.h. course, follows the first two years and precedes the start of clinical clerkships in the third year. Clinical Beginnings helps students make the transition between the first and the second years of the curriculum by emphasizing the "four Cs": Clinical reasoning and reflection; the core Competencies (patient care, medical knowledge, practice-based learning and improvement, interpersonal and communications skills, professionalism, and systems-based practice); interdisciplinary Collaboration and teamwork; and Critical appraisal of the literature and lifelong learning.

The required clerkships are as follows.

**Seven core clerkships:** internal medicine, obstetrics and gynecology, pediatrics, surgery, outpatient internal medicine, community-based primary care, and family practice preceptorship; each course includes a mix of inpatient and outpatient activities, introduces the student to a specific discipline or to the practice of medicine in the community,

and presents the opportunity to develop and practice clinical skills.

**Required subspecialty clerkships:** anesthesia, dermatology, neurology, ophthalmology, orthopaedics, otolaryngology, psychiatry, radiology, and urology, and courses in laboratory medicine and electrocardiography.

**Advanced clerkships:** subinternship, in which the student assumes responsibility for managing patients in a variety of approved medical disciplines, supervised by a senior resident and a faculty physician; emergency room or intensive care rotation.

**Three electives:** electives chosen from clerkships listed in the course book distributed by the Carver College of Medicine.

#### **FIRST CLINICAL YEAR COURSE REQUIREMENTS**

All medical students must complete satisfactorily 49 weeks of courses, including 050:170 Clinical Beginnings (one week), 40 weeks of core clerkships, and 8 weeks of courses chosen from the required subspecialty clerkships.

#### **SECOND CLINICAL YEAR COURSE REQUIREMENTS**

All medical students must complete satisfactorily 32 weeks of clerkships chosen from those not completed in the first clinical year, including the required subspecialty clerkships and electives.

Primary venues for clinical training of medical students are the University of Iowa Hospitals and Clinics, the Iowa City Veterans Affairs Medical Center, and the Des Moines Area Medical Education Consortium Inc.. Students also participate in the family practice preceptorship and the community-based primary care clerkship, which are off-campus rotations. Other courses may be assigned to off-campus sites, as well.

### **Admission to the M.D. Program**

The Carver College of Medicine participates in the American Medical College Application Service (AMCAS), a nonprofit centralized application processing service for applicants to U.S. medical schools. AMCAS applications are available for completion in May of the year preceding the beginning of the class for which application is being made. Prospective students are urged to apply as early as possible. The deadline for AMCAS submission is November 1.

Secondary applications are forwarded to applicants whose AMCAS applications pass a review conducted by the college. A \$60 fee must accompany the secondary application from all applicants.

Admitted applicants must have an official transcript from each college they have attended sent to the University's Office of Admissions.

#### **Technical Standards for Admission and Retention**

The Carver College of Medicine seeks students who will serve the needs of society best, and it strives to graduate skilled and effective physicians. To achieve these goals, it applies the following principles and technical standards to candidates for admission and to continuing students.

##### **PRINCIPLES**

Technical standards refer to criteria that go beyond academic requirements for admission and are essential to meeting the academic requirements of the M.D. program.

Applicants to the Carver College of Medicine and students continuing in the college, with or without disabilities, are expected to meet the same requirements.

Matriculation and continuation in the college assume a certain level of cognitive and technical skill. Medical students with disabilities are held to the same fundamental standards as their nondisabled peers. Although not all students should be expected to gain the same level of proficiency with all technical skills, some skills are so essential that mastery must be achieved, with the assistance of reasonable accommodations where necessary.

Reasonable accommodations are provided to assist in learning, performing, and satisfying the technical standards.

Every reasonable attempt is made to facilitate the progress of students, providing that such efforts do not compromise collegiate standards or interfere with the rights of other students and patients.

##### **TECHNICAL STANDARDS**

Applicants for admission to the Carver College of Medicine and continuing students must possess the capability to complete the entire medical curriculum and be granted the degree. To this end, they must complete all courses in the curriculum successfully. In order to acquire the knowledge and skills to function in a broad variety of clinical situations

and to provide a wide spectrum of patient care, M.D. students must have abilities and skills in six areas, including observation; communication; motor skills; intellectual, conceptual, integrative, and quantitative abilities; behavioral and social attributes; and cultural competence.

Technological compensation can be made for some disabilities in certain areas, but each student must meet the essential technical standards in such a way that he or she is able to perform in a reasonably independent manner. The use of a trained intermediary is not acceptable in many clinical situations, because it implies that the student's judgment must be mediated by someone else's power of selection and observation.

**Observation:** Students must have the functional ability to observe demonstrations and experiments in the basic sciences and must have sufficient use of the senses necessary to perform a physical examination.

**Communication:** Students must be able to relate reasonably to patients and establish sensitive, professional relationships with patients, colleagues, and staff. They are expected to communicate the results of the history and examination to the patient and to their colleagues with accuracy, clarity, and efficiency.

**Motor:** Students are expected to participate in basic diagnostic and therapeutic maneuvers and procedures. Those who cannot perform these activities independently should be able to understand and direct the methodology involved in such activities.

**Intellectual, conceptual, integrative, and quantitative abilities:** Students must be able to learn to analyze, synthesize, solve problems, and reach reasonable diagnostic and therapeutic judgments. Students are expected to be able to display good judgment in the assessment and treatment of patients. They must be able to learn to respond with prompt and appropriate action in emergency situations.

**Behavioral and social attributes:** Students are expected to be able to accept criticism and respond with appropriate modification of their behavior. Students also are expected to possess the perseverance, diligence, and consistency necessary to complete the M.D. curriculum and enter the independent practice of medicine in a reasonable period of time. They must demonstrate professional and ethical demeanor and behavior in all dealings with peers, faculty, staff, and patients.

**Cultural Competence:** Medical students must be able to communicate with and care for persons whose culture, sexual orientation, or religious beliefs are different from their own. They must be able to perform a complete history and physical exam on any patient regardless of the student's or the patient's race, religion, ethnicity, socioeconomic status, gender, age, or sexual preference. Similarly, students must be able to interact professionally with colleagues and other health care professionals without regard to race, religion, ethnicity, socioeconomic status, gender, age, or sexual preference.

Applicants who may not meet these standards are encouraged to contact the college's admissions office.

### Admission Requirements

Applicants for admission to the Carver College of Medicine must have a baccalaureate degree; or they must be enrolled in a baccalaureate degree program, have earned at least 94 s.h. of credit or the equivalent, and expect to receive their degree before enrolling in the Carver College of Medicine. They must have earned college credit in the following courses.

**Physics:** a complete introductory course (one year), including lab instruction.

**Mathematics:** college algebra and trigonometry; applicants who completed college algebra and trigonometry in high school must take a course in advanced college mathematics or in statistics.

**Chemistry:** a minimum of one complete introductory course in organic chemistry (one year), ordinarily following a complete introductory course in modern general chemical principles, each with the appropriate laboratories.

**Biological sciences:** a complete introductory course in the principles of biology, or zoology and botany (one year), each with the appropriate laboratories; and an advanced biology course (one semester or quarter); recommended advanced biology courses include biochemistry, molecular and cell biology, human physiology, genetics, and microbiology.

**English:** two courses (including composition and literature); the requirement may be waived if the applicant's school has an integrated writing requirement in courses across its curriculum.

**Social and behavioral sciences, and humanities:** four courses; because writing skills are important in the study and practice of medicine, prospective applicants are encouraged to fulfill this requirement with courses that include a writing component; recommended courses include behavioral psychology, foreign language, and other courses that encourage appreciation for diversity and cultural competency.

Fulfillment of these requirements does not guarantee admission to the Carver College of Medicine. The college's admissions committee selects applicants who appear to be best qualified to study and practice medicine.

Applicants must have a cumulative g.p.a. of at least 2.50 for all college work. Applicants should have taken the required science courses for a grade rather than electing pass/fail grading.



Preference is given to Iowa residents with high scholastic standing. Consideration also is given to outstanding nonresidents.

Applicants are required to take the Medical College Admission Test (MCAT) no earlier than five years before and no later than September of the year of application. MCAT registration is available on the Association of American Medical Colleges web site.

Personal interviews are part of the admission process. Candidates invited for an interview are contacted by the admissions committee.

An external criminal background check is performed for all admitted students at the time of admission.

Applicants accepted on or before February 15 must submit an advance payment of \$50 by March 1. Applicants accepted after February 15 must submit the \$50 payment within two weeks after they receive notification of acceptance. The advance payment is credited toward tuition and fees.

All students who enter the Carver College of Medicine are required to comply with the pre-entrance and annual health screening program developed by the University's Student Health Service in cooperation with University of Iowa Hospitals and Clinics.

All registered Carver College of Medicine students are required to maintain health insurance (or an equivalent care plan) that satisfies minimum standards of coverage. Insurance coverage must be maintained continuously throughout each year of attendance at The University of Iowa.

## **Financial Support**

The Carver College of Medicine's philosophy is that no student should be denied a medical education due to a lack of financial resources. Admissions decisions at the Carver College of Medicine are made without consideration of financial need. Therefore, the Carver College of Medicine financial aid staff actively seeks financial aid sources so every student interested in a medical education can finance that education.

Financial assistance is provided by the Carver College of Medicine primarily on the basis of demonstrated financial need. Although a limited number of collegiate or institutional grants are available for the most economically disadvantaged students, most aid is in the form of loans. Examples of federal loan programs are the Federal Direct Stafford/Ford Student Loan, the Federal Direct Unsubsidized Stafford/Ford Student Loan, the Federal Perkins Loan, and the Primary Care Loan (PCL). Students also may qualify for Federal Direct Grad PLUS Loans or private loans to supplement their financial aid package.

In addition, the college supports scholarship and loan programs through permanent endowments and/or contributions from alumni and friends of the Carver College of Medicine. These funds are administered by the college's financial aid office and are awarded as a part of a student's total financial aid package. Funds to support short-term emergency loans are available for students with immediate financial need.

A small number of Dean's Scholarships are awarded by the college's admissions office to highly qualified candidates on the basis of their academic excellence, leadership abilities, and their potential to enrich the college. Dean's Scholarships are included in the recipient's overall financial aid package.

To learn more about financial aid, contact the Carver College of Medicine Office of Student Affairs and Curriculum financial services department.

## **Academic Rules and Procedures**

### **Student Promotion**

The Carver College of Medicine has established promotion policies and procedures to ensure that each of its graduates has adequate skills, knowledge, judgment, ethical standards and personal integrity to assume the responsibilities of a medical doctor. The student promotions committee, made up of seven faculty members and two students, performs these duties with the cooperation, advice, and judgment of course directors, faculty members, students, and administrators.

The committee recommends specific actions to be taken when a student's skills, knowledge, judgment, or ethical behavior is in any way considered consistently marginal or unsatisfactory. Possible recommendations include dismissal of the student from the college; suspension for a specified period of time; requiring the student to repeat all or any part of the curriculum on academic probation; and allowing the student to continue on academic probation with a full or partial course load. The committee's recommendations are forwarded for action to the executive dean of the Carver College of Medicine.

Medical students have the right to appeal a promotion decision. They must submit the appeal in writing to the Carver College of Medicine's executive dean within five days of notification of the decision. Appeals are considered by the

Appeals Committee, made up of faculty representatives of the Medical Council and the Executive Committee, a medical student, a lay member, and the associate dean for student affairs (ex officio). Students may request an opportunity to appear before the Appeals Committee to make a statement and answer questions. The committee then makes its recommendation to the college's dean, who is the final authority.

Specific information about student promotion policies and procedures is available from the Office of Student Affairs and Curriculum and is online in the Medical Student Handbook. See Office of Student Affairs and Curriculum/Student Handbook on the college's web site.

### **Leaves of Absence, Withdrawal, Reinstatement**

The Carver College of Medicine has established policies regarding leaves of absence, dropping courses, withdrawal from the college, and reinstatement to the college. Information about each of these policies is available at the college's Office of Student Affairs and Curriculum and is published annually in the Medical Student Handbook.

### **Disputes and Complaints**

Student complaints concerning actions of faculty members or departments are pursued first through mechanisms established in the Carver College of Medicine. These procedures allow the greatest flexibility for all concerned in resolving a conflict. They are intended for situations such as grading disputes, alleged academic dishonesty, alleged dishonesty during a clinical rotation, alleged unethical or unprofessional conduct, and perceived discrimination or harassment.

Complaints regarding sexual harassment are handled confidentially in accordance with University policy and procedures; see the University's Policy on Sexual Harassment.

For information about the established informal mechanisms, contact the Office of Student Affairs and Curriculum or see the Medical Student Handbook.

## **Undergraduate Programs**

The Carver College of Medicine offers a Bachelor of Science with majors in clinical laboratory science, nuclear medicine technology, and radiation sciences. The clinical laboratory sciences major is offered through a partnership with the University of Nebraska Medical Center. Each program offers a certificate of completion in addition to the bachelor's degree. See Clinical Laboratory Sciences, Nuclear Medicine Technology, and Radiation Sciences in the Catalog.

Undergraduate study in the Carver College of Medicine is guided by the following academic rules and procedures.

### **Health Insurance, Immunizations**

All health professions students are required to provide proof of health insurance coverage annually. Contact the University Benefits Office or see For Students/Health Insurance/Health Science Major on its web site (<http://www.uiowa.edu/hr/benefits/index.html>).

All health sciences students must show proof of health examinations and screenings annually. For more information, contact Student Health Service or see Forms, Documents, and Reports on its web site.

### **Application for Degree**

Students who want to be considered for graduation must file an Application for Degree with the Office of the Registrar before the deadline for the session in which the degree is to be conferred. Students who want to have a minor listed on their transcript must indicate this on the degree application form so that completion of the requirements for the minor can be verified.

### **Academic Recognition**

The University of Iowa and the Carver College of Medicine recognize academic achievement every fall and spring semester.

### **GRADUATION WITH DISTINCTION**

Graduating students may be recognized for their scholastic achievement upon recommendation by their academic program and with the dean's approval. Graduation with distinction, high distinction, or highest distinction is determined by cumulative and University of Iowa grade-point average. Highest distinction requires a g.p.a. of 3.85 or higher; high distinction requires a g.p.a. of 3.75 to 3.84; and distinction requires a g.p.a. of 3.65 to 3.74. Radiologic technology course grades are not included in grade-point-average.

To graduate with distinction, students must have completed a minimum of 60 s.h. in residence at The University of Iowa and must have completed 45 of the final 60 s.h. before their final semester of registration.

Students graduating with distinction are recognized at graduation and a notation is added to their transcript and diploma.

#### **DEAN'S LIST**

Students in the undergraduate Tippie College of Business, Colleges of Engineering, Liberal Arts and Sciences, and Nursing, and undergraduate programs in the Carver College of Medicine who achieve a grade-point average of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work (including Guided Independent Study courses) during a semester (or summer session) and who have no hours of I (incomplete) or O (no grade reported) for that enrollment are recognized by inclusion on the Dean's List for that semester (or session).

#### **PRESIDENT'S LIST**

University of Iowa undergraduate students who achieve a grade-point average of 4.00 on 12 s.h. or more of University of Iowa graded course work (including Guided Independent Study courses) and who have no hours of I (incomplete) or O (no grade reported) for two consecutive semesters (including summer session) are recognized by inclusion on the President's List.

#### **Financial Support**

Students are eligible to apply for undergraduate financial aid. Scholarships, grants, loans, and part-time job placement are administered by the University's Office of Student Financial Aid. Part-time work in related areas is sometimes available.

#### **Degrees, Minors**

#### **GRADING, RESIDENCY**

Students must earn a g.p.a. of at least 2.00 each semester in all college work attempted, all work undertaken at The University of Iowa, and all graded work attempted after admission to the Carver College of Medicine. Students enrolled in a program that uses the pass/fail/honors grading system must pass all courses required to complete the program.

Students must earn a C or higher in professional specialty (modality) courses.

The residence requirement may be met by earning the final consecutive 30 s.h. in residence at The University of Iowa, or 45 of the last 60 s.h. in residence, or an overall total of 90 s.h. in residence.

Nonresident instruction includes course work and correspondence study at other colleges, universities, and institutions. Undergraduate course work in other University of Iowa colleges counts toward residency requirements.

#### **DOUBLE MAJORS**

Students may earn more than one major in the Carver College of Medicine by meeting the requirements for each major.

#### **TWO BACHELOR'S DEGREES**

Students who want to earn two bachelor's degrees, each from a different college, may do so under a joint degree program. They must have their combined course of study approved by the dean of the Carver College of Medicine and the dean of the other college to be eligible for a joint degree program.

#### **SECOND BACHELOR'S DEGREE**

Students who already hold a bachelor's degree and wish to earn an additional bachelor's degree must complete at least 30 s.h. consecutively in the Carver College of Medicine. Students who hold a B.A. or B.S. are considered to have completed the College of Liberal Arts and Sciences General Education Program except for the foreign language requirement. Holders of other degrees must meet college and program degree requirements. Students with a B.A. or B.S. must satisfy the residence requirement for a bachelor's degree at Iowa. Individuals interested in earning a second bachelor's degree must apply for admission to the degree program at the University's Office of Admissions.

#### **JOINT BACHELOR'S DEGREE**

Students may earn two University of Iowa bachelor's degrees in a joint degree program in the Carver College of Medicine and the College of Liberal Arts and Sciences. Students generally begin their academic program in the College of Liberal Arts and Sciences and must be eligible for admission to the Carver College of Medicine Bachelor of Science program they wish to enter.

Students enrolled in a joint degree program must meet the bachelor's degree requirements specified by both colleges. The exact length of time necessary to complete the program is determined by the major areas of study selected in each college. Students who enter the joint degree program are assigned two faculty advisors, one in the major department of the Carver College of Medicine and the other in the major department of the College of Liberal Arts and Sciences.

Students interested in a joint degree program should see the director of the Bachelor of Science program of their choice in the Carver College of Medicine.

#### **MINORS**

Students graduating from the Carver College of Medicine may earn a minor or minors in any degree-granting department or program in the college outside of their major department or in another college of the University by meeting that department's requirements for the minor. Generally, students must earn a minimum of 15 s.h. in the minor.

#### **DUPLICATION AND REGRESSION**

Duplication occurs when students take the same course more than once or when they take a course that duplicates the content of a course they already have completed satisfactorily. Regression occurs when students take a course that is less advanced or at a lower level than one in the same subject that they already have completed satisfactorily. Duplication and regression are assessed by the registrar at the time of graduation analysis. Semester hours earned by duplication or regression do not count toward graduation.

#### **COURSES OFFERED BY OTHER UNIVERSITY OF IOWA COLLEGES**

Students who enroll in courses offered by other University of Iowa colleges are governed by those colleges' rules in matters regarding the courses. See Policy Governing Students Enrolled in Courses Outside Their Own College or Degree Program.

#### **Registration and Grading**

Information about tuition and fees, registration, and deadlines is available from the Office of the Registrar. Students who add or drop a course after registration or who register late are assessed a fee. Each course dropped after the deadline results in a W (withdrawal) on the transcript (see Changes in Registration below). Students are not allowed to register for full-semester courses after the second week of the semester or the first week of the summer session. Students must register for off-cycle courses before the first day of the course. The maximum permitted registration is 20 s.h. in a regular semester and 10 s.h. in the summer session. Students must obtain permission from the head of the division to register for more than the maximum semester hours allowed.

#### **CHANGES IN REGISTRATION**

Courses may be added with the signatures of the advisor and the course instructor at any time during the first one-fifth of the course. They may be dropped at any time during the first two-thirds of the course. Approval is required from the dean of the Carver College of Medicine for all other changes in registration and is granted only in extraordinary circumstances. Students are assigned a mark of W (withdrawn) for any course dropped after the first one-fifth of the course.

Students who have registered for courses offered for variable or arranged credit may change the number of semester hours with the signatures of the instructor, the advisor, and the head of the division at any time before the end of the first two-thirds of the course.

Other changes in registration (such as to audit for zero credit) may be made only during the first one-fifth of the course.

It is the student's responsibility to see that the change of registration form is approved by the necessary individuals and is delivered to the Registration Center. Changes in registration become effective on the date the completed form is submitted to the Registration Center.

#### **WITHDRAWAL OF REGISTRATION**

Students may withdraw registration without academic penalty at any time before the end of the first four-fifths of the course, but no credit is given for the course. Later withdrawal results in automatic assignment of an F. Students who withdraw are not reinstated after the deadline for that session.

#### **GRADING PROCEDURES**

Grading procedures vary from program to program. Students should consult individual program policy statements for

information.

#### **AUDITING COURSES**

Students may register to audit a course with approval of the appropriate program director and course instructor. In addition to obtaining these signatures, students must register for zero credit in the course to be audited. The mark of R (registered) is assigned if the student's attendance and performance are satisfactory; if they are unsatisfactory, the mark of W (withdrawn) is assigned. Courses completed with a mark of R do not meet any college requirement and carry no credit toward graduation. Auditing may not be used as a second-grade-only option.

#### **SECOND-GRADE-ONLY OPTION**

Repeating courses for the second-grade-only option is allowed in extraordinary circumstances. To repeat a course for the second-grade-only option, students must obtain the signatures of the course instructor, the program director, and the dean on a form available from the Office of the Registrar; the signed form must be returned to the Registrar's office before the end of the first one-fifth of the course. Both grades remain on the permanent record, but only the second one is used to calculate grade-point average and credit earned.

#### **INCOMPLETES**

A grade of I (incomplete) may be reported if the reasons for inability to finish the course satisfactorily are acceptable to the program director and the course instructor. There also must be evidence that the course work will be finished within a reasonable length of time, usually by the end of the next academic session. Incompletes not removed by the deadline for submission of final grades for the next session result in the assignment of a grade of F. Changing the grade when an incomplete has been converted to an F requires the signature of the dean on a change-of-grade form.

#### **REPORTS TO STUDENTS**

Instructors notify any student whose work falls below the minimum acceptable level once the problem is recognized. Grades are reported on the student's transcript, following University protocol. No formal midterm reports are given.

#### **Academic Progress, Probation, Dismissal**

Students are expected to maintain satisfactory academic and professional standards and to demonstrate reasonable progress toward the Bachelor of Science and certificate of completion. Students who fail to maintain satisfactory academic progress or professional standards of behavior as determined by their program may be placed on probation or dismissed from the program. Probation serves as a warning that the student will not graduate unless his or her academic performance and/or professional behavior improves.

Students on probation are restored to good standing by the program director upon evidence that the problem has been corrected. Such action is usually taken at the end of a semester or session. Entering students may be admitted on probation if they fail to meet the minimum stated standards for admission.

Continued unsatisfactory scholarship or unprofessional behavior may result in dismissal from a program. Students dismissed from a program must reapply for admission through the regular, established program admissions process, following review by a faculty committee, at least four months before the requested date of readmission.

Students placed on probation or dismissed from a program are notified in writing by the dean; copies are placed in their files.

In order to be restored to good standing, students placed on academic probation during a semester or summer session must have a University of Iowa g.p.a. and a cumulative g.p.a. of at least 2.00 by the end of the next semester (for full-time students) or by the time they have earned the next 8 s.h. (for part-time students). Students on academic probation who fail to meet the grade-point average requirement in the designated time frame for restoration to good standing are subject to dismissal at the end of the semester.

Students are expected to attend classes regularly. Students who miss classes or examinations because of illness are expected to present evidence that they have been ill. Any other absences must be approved in advance by the course instructor.

Any offense against good order committed by a student in a classroom, clinical setting, or laboratory may be dealt with by the instructor or referred to the program director. The instructor reports in writing any disciplinary action taken against a student to the program director. Repeated or exceptional instances are reported to the dean.

#### **Academic Misconduct**

#### **PLAGIARISM AND CHEATING**

All cases of plagiarism and cheating in the Carver College of Medicine are reported to the dean with a statement of relevant facts. The program director and the instructor may submit recommendations for appropriate disciplinary action.

The individual instructor may reduce the student's grade, including assignment of the grade of F in the course. A report of this action is sent to the student, the program director, and the dean.

The dean, or a faculty committee appointed by the dean, may impose the following or other penalties, as the offense warrants: disciplinary probation, requirement of additional hours for the degree, suspension from the program for a period of time, or recommendation of expulsion from the program.

#### **APPEALS PROCEDURE**

Students who want to appeal a decision should appeal in writing to the dean within two weeks after the date of receipt of the decision in writing.

## **Graduate Programs**

The Carver College of Medicine offers graduate programs leading to the M.S. in pathology; the M.S. and Ph.D. in biochemistry, free radical and radiation biology, microbiology, molecular physiology and biophysics, and pharmacology; the Ph.D. in anatomy and cell biology and physical rehabilitation science; the Master in Medical Education (M.M.E.); the Master of Physician Assistant Studies (M.P.A.S.); and the Doctor of Physical Therapy (D.P.T.).

Many of the college's faculty members participate in the Graduate College's interdisciplinary programs in genetics, immunology, molecular and cellular biology, and neuroscience, and in its Biosciences Program.

The Biosciences Program gives graduate students the opportunity to become acquainted with basic molecular research in the Departments of Anatomy and Cell Biology, Biochemistry, Biology, Chemistry, Speech and Hearing, Microbiology, Molecular Physiology and Biophysics, Pharmacology, and the Programs in Free Radical and Radiation Biology, Genetics, Human Toxicology, Immunology, Molecular and Cellular Biology, and Neuroscience. The Biosciences Program offers graduate students flexibility during their first year of study, after which they select the department or program in which they will earn their Ph.D. degree. See Biosciences (Graduate College) for details.

### **Joint Degree Programs**

Students who wish to pursue an M.D. in combination with a graduate degree must be admitted to both degree programs and must make arrangements with the graduate department and with the Carver College of Medicine associate dean for student affairs and curriculum. Students must be admitted to both programs before they can be admitted to the joint degree program. Examples of joint degree programs are the joint M.D./Ph.D. offered through the Medical Scientist Training Program; the joint M.D./M.P.H. with the College of Public Health; joint M.D./M.B.A. with the Tippie College of Business; and the joint M.D./J.D. with the College of Law.

## **Faculty**

Carver College of Medicine faculty members are committed to the college's missions of education, research, and clinical service.

Faculty members teach more than 600 medical students and 250 associated health sciences students, and they lead basic science courses for more than 5,000 students from colleges across the university. They also serve the lifelong educational needs of physicians and allied health personnel; the college is accredited by the Accreditation Council for Continuing Medical Education.

The college's faculty members are dedicated researchers. Among them are leaders in biomedical imaging, cancer, cardiovascular disease, brain imaging and neurosciences, cystic fibrosis, hearing loss and deafness, muscular dystrophy, macular degeneration and other blinding eye diseases, and Huntington's disease. Faculty members are key to the extramural support the college receives for research and scholarship and to the University's rank as 11th among public institutions in National Institutes of Health funding. Four faculty members are Howard Hughes Medical Institute investigators; ten have been inducted into the Institute of Medicine; three have been named to the National Academy of Sciences; and ten are fellows of the American Association for the Advancement of Science.

Faculty who have clinical care responsibilities are members of University of Iowa Physicians, the largest multispecialty medical practice group in Iowa. They provide specialized comprehensive care at University of Iowa Hospitals and Clinics, whose clinical services are directed by the heads of the Carver College of Medicine's corresponding academic departments. In addition to educating Iowa's medical students, faculty physicians train and instruct more than 700 resident physicians and fellows in medical specialties, subspecialties, and research. Nearly 300 faculty members are listed in the national 2009-10 Best Doctors in America database.

The Office of Faculty Affairs and Development supports faculty in their specific areas of teaching, research, clinical care, administration, and professional service.

## Interdisciplinary Programs, Centers

The college's interdisciplinary programs and centers draw strength from college faculty members and the facilities available to them, without regard to departmental units or to the distinction between graduate and postgraduate training. For more information, contact the senior associate dean for scientific affairs.

The following centers are subdivisions of the Carver College of Medicine.

### **Alzheimer's Disease Research Center**

The Alzheimer's Disease Research Center studies Alzheimer's disease and related neurological conditions from the viewpoint of neuroanatomy, neuroimaging, neuropsychology, and neurochemistry. The center's purposes are to improve the diagnosis and treatment of these conditions, to disseminate information on new research to the public, and to contribute to a better understanding of the neural basis of cognition.

### **Carver Family Center for Macular Degeneration**

The Carver Family Center for Macular Degeneration was organized to prevent the devastating consequences of macular degeneration in the majority of people at risk. For those already affected by the disease, the center works to develop sight-saving medical, pharmacological, and surgical treatments.

### **Holden Comprehensive Cancer Center**

The Holden Comprehensive Cancer Center (HCCC) coordinates the efforts of University of Iowa faculty and staff in research, education, and clinical programs related to all aspects of cancer. The HCCC is recognized by the National Cancer Institute as an NCI-designated cancer center and has "comprehensive" status, a designation that recognizes the depth and breadth of interdisciplinary cancer research activity taking place at the University of Iowa.

### **Iowa Cardiovascular Center**

The Iowa Cardiovascular Center coordinates research and training programs related to cardiovascular diseases. It encompasses several programs: Program Project Grant on Integrative Neurobiology of Cardiovascular Function, Program Project Grant on Cerebral Blood Vessels, Program Project Grant on Oxidative Mechanisms in Vascular Disease, Program Project Grant on Genetic and Signaling Mechanisms in the Central Regulation of Blood Pressure, Program Project Grant on Airway Physiology and Pathophysiology in a Porcine CF Model, Program Project Grant on Gene Therapy for Cystic Fibrosis Lung Disease, a Leducq Fondation Consortium grant, and a Cystic Fibrosis Foundation research and development program. It also coordinates several training programs and a program of other interdisciplinary research supported by a number of individual project grants. The center occupies two floors of cardiovascular research laboratories and administrative offices in the Medical Research Center.

### **Iowa Mental Health Clinical Research Center**

The major emphasis of the Iowa Mental Health Clinical Research Center is the study of schizophrenia. The center provides the facilities for research linking the clinical picture of the illness with its underlying neurobiology. The center's seven research units conduct the necessary integrative and interdisciplinary research to advance knowledge about the disease.

## Facilities

### **Education and Patient Care Facilities**

Carver College of Medicine classes are taught in the Medical Education and Research Facility, Bowen Science Building, Medical Education Building, Medical Laboratories, and in University of Iowa Hospitals and Clinics classrooms and conference rooms.

The Medical Education and Research Facility contains the college's four learning communities. The communities group students who are at different stages in their medical education, encouraging peer-to-peer learning and emphasizing leadership and community service. Each learning community features small-group rooms, study and social spaces, computer workstations, a kitchen area, and staff offices. The Medical Education and Research Facility also houses the Performance-Based Assessment Program, which evaluates students' clinical and communications skills by reviewing simulated physician-patient encounters recorded in mock patient examination suites.

The Hardin Library for the Health Sciences is centrally located on the health sciences campus.

Students acquire clinical-skills experience at the 729-bed University of Iowa Hospitals and Clinics, the Iowa City Veterans Affairs Medical Center, and in affiliated hospitals and ambulatory care centers throughout Iowa.

University of Iowa Hospitals and Clinics (UIHC) serves as a tertiary care center for Iowa and portions of adjoining states. Many patients are referred to UIHC for care and treatment not available in their home communities.

### Research Facilities

The Eckstein Medical Research Building provides space, mechanical systems, and support services that offer flexibility and adaptability for current and future research. The facility enables interdisciplinary groups of faculty scientists, each of whom is researching a human biology problem at the advancing edge of science, to conduct research in close proximity to other select researchers. It also is home to the Biomedical Research Store, which provides University of Iowa investigators with common molecular and cell biology enzymes, reagents, and kits.

The Medical Education and Research Facility houses research laboratories in addition to space for medical education. Connected to it is the Carver Biomedical Research Building. With a state-of-the-art nuclear magnetic resonance facility on its lower level and five floors of laboratories above, the Carver Biomedical Research Building greatly expands the college's research capabilities.

Other buildings that house research labs include Medical Laboratories, Bowen Science Building, Medical Education Building, Medical Research Facility, Medical Research Center, and buildings at the University of Iowa Research Park (formerly the Oakdale Research Park).

The Office of Consultation and Research in Medical Education is staffed by education specialists from a range of disciplines who serve the faculty, staff, and administrators of all Carver College of Medicine programs. The office provides educational consultation, initiates and cooperates in educational research endeavors, and conducts faculty development activities.

Core Research Facilities are centralized laboratories dedicated to developing and providing resources that facilitate biomedical research. They are available on a fee-for-service basis to University of Iowa investigators as well as to entities outside the University.

Currently under construction is the Pappajohn Biomedical Discovery Building. The 200,000-square-foot, six-story facility, located adjacent to the Medical Education and Research Facility and the Carver Biomedical Research Building, is scheduled for completion in 2014. It will contain laboratories and office space and will house the Pappajohn Biomedical Institute, which will bring together scientists from across campus to collaborate on high-risk, high-yield life sciences research.

## Nondepartmental Courses

<b>050:001 Medical Elective</b>	arr.
<b>050:003 Clinical Clerkships</b>	arr.
<b>050:005 Medical Student Research Fellowships</b>	0 s.h.
<b>050:006 Doris Duke Clinical Research Fellowship</b>	0 s.h.
Clinical research projects under University of Iowa faculty mentorship. Requirements: leave of absence from Carver College of Medicine.	
<b>050:120 Medical Cell Biology</b>	2 s.h.
<b>050:147 End-of-Life Care for Adults and Families</b>	2-4 s.h.
End-of-life issues in care of adults, older adults, and their families. Requirements: 096:135 and 096:136, or RN standing. Same as 046:146, 096:147, 153:147.	
<b>050:162 Foundations of Clinical Practice I</b>	5 s.h.
<b>050:163 Foundations of Clinical Practice II</b>	5 s.h.
<b>050:164 Foundations of Clinical Practice III</b>	5 s.h.
Experience practicing and expanding clinical skills and self-directed learning skills in clinical medicine; understanding medical practice in a social context. Prerequisites: 050:162 and 050:163. Requirements: second-year M.D. enrollment.	
<b>050:165 Foundations of Clinical Practice IV ICD</b>	arr.
Basic diagnostic considerations in each of medicine's clinical disciplines, as required of primary care providers. Prerequisites: 050:162, 050:163, and 050:164. Requirements: second-year M.D. enrollment.	



- 050:168 Teaching of Physical Exam Skills** 1-2 s.h.  
Components of complete physical exam and educational techniques for teaching such skills: teaching of physical exam components to first-year students. Requirements: fourth-year M.D. enrollment.
- 050:170 Clinical Beginnings** 1 s.h.  
Orientation to third-year clerkships; technical skills, simulated patient activities, competence with the physical exam.
- 050:174 Foundations of Clinical Practice for Physician Assistants** 5 s.h.  
Practice and expansion of clinical skills; development of broad understanding of the practice of medicine in social context; strengthening of self-directed learning skills in clinical medicine. Prerequisites: 117:101. Requirements: Physician Assistant Program enrollment.
- 050:175 Foundations of Clinical Practice IV for Physician Assistants** arr.  
Basic diagnostic considerations in each of medicine's clinical disciplines, as required of primary care providers.
- 050:178 Facilitation of Patient-Centered Learning** 1-2 s.h.  
Experience in facilitating patient-centered learning groups; case discussion, critique of student presentations and assignments, clinical insight, evaluation of student performances.
- 050:180 Community-Based Primary Care** arr.  
Introduction; clinical activities, work with community agencies and resources, didactic and conferences. Requirements: M.D. enrollment.
- 050:183 Healthcare Ethics, Law, and Policy** 2 s.h.  
Ethical and legal aspects of health care delivery.
- 050:185 The Examined Life: Writing and Medicine** 1 s.h.  
Literature, essays, poetry; discussion of participants' writing; students prepare portfolios of their own writing.
- 050:188 Career Life Planning** 1 s.h.  
Students' individual interests, values, and decision-making processes important in selecting a specialty, engaging in the match process, and integrating oneself into the medical profession; personal career development, culture and climate in which physicians work and learn.
- 050:189 Medical Research Seminar** 1 s.h.  
Evaluation of literature and development of critical thinking skills necessary for evidence-based medical practice.
- 050:190 Introduction to Medical Education at Iowa** 0 s.h.  
Introduction to first-year fall courses; advanced concepts in anatomy, biochemistry, cell biology, and clinical reasoning skills; for M.D. students.
- 050:191 Biomedical Innovation** 1 s.h.  
Introduction to all phases of medical device/technology development; development of knowledge of entire medical innovation process through didactic sessions, faculty, interactions, and interdisciplinary collaboration; interdisciplinary approach; research and development of a novel medical device, therapy, or model of care. Requirements: M.D. enrollment.
- 050:195 Community Health Outreach I** 0-1 s.h.  
Presentations and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.
- 050:196 Community Health Outreach II** 1-2 s.h.  
Presentations, patient-based learning groups, readings, and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.
- 050:197 Community Health Outreach III** 1-2 s.h.

Presentations, patient-based learning groups, readings, and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

- 050:203 Clinical Dietetics** 1 s.h.  
Nutritional aspects of health and disease, with emphasis on medical nutrition therapy; human nutrition in the clinical state as it relates to physiology and biochemistry.
- 050:211 MSTP Research** arr.  
Research experience. Requirements: Medical Scientist Training Program enrollment.
- 050:212 MSTP Clinical Connections** arr.  
Experience with physician-scientist preceptor in medical interviewing, physical examination, patient presentation through direct patient interaction. Requirements: Medical Scientist Training Program graduate phase enrollment.
- 050:213 Analyzing and Presenting Medical Research** 1 s.h.  
How to read, interpret, and present medical and scientific literature; students read and present representative papers from scientific and medical literature.
- 050:240 Human Organ Systems** 8 s.h.  
Microscopic structure and function of major and specialized human organ systems; approach integrating normal microscopic anatomy and human physiology. Requirements: M.D. enrollment.
- 050:270 Responsible Conduct in Research** 0 s.h.  
Ethical issues; misconduct and fraud; proper handling of data; responsible authorship; conflict of interest; research on animals and human subjects.
- 050:280 Medicine, Literature, and Writing** arr.  
Insights, freedom, joy, responsibilities, and challenges of a life in medicine; reading, discussion, individual creative writing.
- 050:281 Global Health Issues--International** 1 s.h.  
Global health topics; theoretical structure for interpreting global health care issues; for medical students.
- 050:282 Global Cross-Cultural Clerkship** arr.  
Cross-cultural medical program at an international site; focus on health care problems of a specific community; individual educational objectives set in advance.
- 050:283 Health Informatics I** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 051:187, 056:186, 074:191, 096:283, 174:226, 200:110.
- 050:284 Global Cross-Cultural Elective** arr.  
Cross-cultural medical program with focus on health care problems of a domestic or international community; individually arranged.
- 050:285 Global Health Issues: Domestic Communities** 1 s.h.  
Domestic health topics that illustrate health care needs of diverse domestic communities.
- 050:286 Introduction to U.S. Health Care System** 1 s.h.  
Structure, function, and finance of U.S. health care system; access, cost, quality, finance mechanisms, reform process.
- 050:287 Global Health Seminar** 1 s.h.  
Presentations by faculty members, University special guests, and alumni on their current work in global medicine/global health; implementation of global health concepts. Requirements: M.D. enrollment.
- 050:300 Teaching Skills for Medical Students** 4 s.h.  
Practical teaching techniques; opportunity for students to develop teaching skills before they become medical residents.

<b>050:701 Instructional Design and Technology</b>	3 s.h.
Skills and techniques necessary for analysis, design, development, implementation, and evaluation of effective instruction.	
<b>050:702 Clinical Teaching in Medical Education</b>	3 s.h.
Principles and methods for teaching individuals and small groups in outpatient and inpatient settings. Prerequisites: 050:701 or 07P:205. Recommendations: educational psychology course.	
<b>050:703 Educational Research and Evaluation</b>	3 s.h.
Research design and program evaluation; approaches relevant to medical education.	
<b>050:711 Teaching Methods in Medical Education</b>	3 s.h.
Principles and methods for teaching in large and small classrooms. Recommendations: educational psychology course.	
<b>050:712 Introduction to Educational Measurement in Medical Education</b>	3 s.h.
Classical test theory; overview of medical education assessment methods; practical information for designing and critiquing assessments.	
<b>050:713 Assessment in Medical Education</b>	3 s.h.
Medical education assessment methods; research methods and literature that support current practices; research project. Prerequisites: 050:712.	
<b>050:714 Current Issues in Medical Education</b>	3 s.h.
Selected issues, policies, and research.	
<b>050:720 Portfolio Project</b>	3 s.h.
Production of individual student portfolios used to integrate knowledge across courses; capstone activity.	
<b>050:721 Study in Faculty Development</b>	3 s.h.
Academic credit for approved project or other assigned activities for students in the Teaching Scholars program.	
<b>050:722 Independent Study</b>	arr.
Repeatable.	
<b>050:723 Medical Education Project</b>	3 s.h.
Experience working with a faculty mentor to design and implement a curriculum or educational research project.	
<b>050:724 Leadership in Medicine</b>	3 s.h.
Introduction to basic leadership and management theories pertaining to a health care setting; focus on the history of leadership development, various components of leadership, and how these components can be used to be a successful leader/administrator. Requirements: Master in Medical Education degree program enrollment.	
<b>050:999 Special Study Off Campus</b>	arr.
Arranged by student with department's approval.	

## Hospital Certificate Programs

The following courses are conducted by University of Iowa Hospitals and Clinics staff.

<b>670:901 Radiologic Technology I</b>	0 s.h.
Patient care and ethics, radiographic positioning, radiographic critique, medical terminology, radiologic physics, anatomy and physiology, radiographic technique, computer technology, radiation biology, radiographic processing, imaging equipment, quality assurance; supervised clinical education; two-year program; national board examination required at completion.	
<b>670:902 Radiologic Technology II</b>	0 s.h.
Prerequisites: 670:901.	
<b>671:902 Orthoptics Program</b>	0 s.h.

Clinical science of binocular vision, ocular motility, and related eye disorders; practical, theoretical training in the Department of Ophthalmology and Visual Sciences two-year program; written, oral and practical national board examinations required at completion. Requirements: bachelor's degree with specific class recommendations.

**672:803 Radiation Therapy I** 0-12 s.h.

Theory and techniques of radiation therapy technology; emphasis on areas of oncology treatment planning, treatment set-up, dosimetry, use of megavoltage radiation-producing equipment to administer treatments. Requirements: completion of radiologic technology program and eligibility for registration with a national certification program.

**672:804 Radiation Therapy II** 0-12 s.h.

Theory and techniques of radiation therapy technology; emphasis on areas of oncology treatment planning, treatment set-up, dosimetry, use of megavoltage radiation-producing equipment to administer treatment; one-year program ending in eligibility for national certification examination in radiation therapy. Prerequisites: 672:803. Requirements: graduation from an accredited radiography program and eligibility for registration with a national certification program.

**672:805 Radiation Therapy III** 0-6 s.h.

Prerequisites: 672:804.

**673:110 Foundations of Sonography** 3 s.h.

Sonography history, ergonomics, terminology, image orientation; basic theories of sound waves, echo production, transducers, equipment operation, body imaging, Doppler, hemodynamics. Requirements: 029:008 or radiologic technology program physics course or diagnostic sonography physics course.

**673:115 Abdominal Sonography I** 3 s.h.

Embryology, anatomy, and physiology of various abdominal structures imaged sonographically; abdominal vasculature, hepatobiliary system, pancreas, urinary system, adrenals, spleen, male anatomy; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings. Prerequisites: 676:100. Requirements: successful completion of a two-year radiologic technology or diagnostic medical sonography program. Corequisites: 673:110, if not taken as a prerequisite.

**673:120 Obstetrical and Gynecological Sonography I** 3 s.h.

Embryology, anatomy, and physiology of the female reproductive system and developing fetus; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings. Prerequisites: 676:100. Requirements: successful completion of a two-year radiologic technology or diagnostic medical sonography program. Corequisites: 673:110, if not taken as a prerequisite.

**673:125 Vascular Sonography I** 3 s.h.

Embryology, anatomy, and physiology of peripheral and cerebral vascular system; normal and abnormal hemodynamics, Doppler waveforms, pressure measurements, plethysmography, sonographic appearance, scanning techniques; common types of pathology of the lower extremity arterial and venous system, cerebrovascular system. Prerequisites: 675:110. Requirements: successful completion of a two-year radiologic technology or diagnostic medical sonography program. Corequisites: 673:110, if not taken as a prerequisite.

**673:140 Sonography Principles, Physics, and Instrumentation** 3 s.h.

Physical principles of sound waves, their applications to imaging of the human body, operation and physical characteristics of various ultrasound transducers, method by which the sound wave is converted into a visual image, instrumentation components and their functions, Doppler principles, image artifacts, advanced hemodynamics, and spectral Doppler waveform analysis. Prerequisites: 673:110.

**673:145 Abdominal Sonography II** 3 s.h.

Pathophysiology of abdominal structures imaged sonographically, including the GI system, abdominal wall, peritoneal, retroperitoneal, and superficial structures from 673:115; interventional sonographic procedures (aspirations, biopsies, intraoperative procedures, sterile technique, needle-guide use); post-procedure protocol; clinical findings, laboratory studies, prognosis correlated with sonographic findings; appropriate image analysis and documentation of pathology. Prerequisites: 673:115.

**673:150 Obstetrical and Gynecological Sonography II** 3 s.h.

Sonographically-related pathological and abnormal congenital conditions of gynecology and obstetrics, infertility, assisted reproductive therapy, invasive procedures in obstetrics and gynecology, postpartum complications and maternal-fetal bonding; clinical findings, laboratory studies, and prognosis correlated with sonographic findings; appropriate image analysis and documentation of pathology. Prerequisites: 673:120.

**673:152 Breast Sonography**

2 s.h.

Embryology, anatomy, physiology, and pathophysiology of the breast as it relates to sonographic imaging; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings; sonographic findings of diseases involving the breast. Prerequisites: 673:110. Requirements: successful completion of a two-year radiologic technology or diagnostic medical sonography program.

**673:155 Vascular Sonography II**

3 s.h.

Pathophysiology of peripheral, cerebral, and abdominal vascular systems as evaluated sonographically; normal and abnormal hemodynamics, Doppler waveforms, pressure measurements, plethysmography, sonographic appearance, scanning techniques; sonographic findings of diseases involving the lower extremity arterial and venous system, upper extremity arterial and venous system, cerebrovascular system, and abdominal vascular system. Prerequisites: 673:125.

**673:803 Diagnostic Medical Sonography I**

0-9 s.h.

**673:804 Diagnostic Medical Sonography II**

0-9 s.h.

Principles and methods in using ultrasound as an imaging modality; abdomen, obstetrics and gynecology, neurosonography, and vascular technology specialties; 18-month program; national certification required at completion. Prerequisites: 673:803. Requirements: completion of an allied health program or bachelor's degree with course work in physics, anatomy, patient care, and algebra.

**673:805 Diagnostic Medical Sonography III**

0-3 s.h.

Prerequisites: 673:804. Requirements: completion of an allied health program or bachelor's degree with course work in physics, anatomy, patient care, medical technology, and algebra.

**673:806 Diagnostic Medical Sonography IV**

0-9 s.h.

Principles and methods in using ultrasound as an imaging modality; specialties including abdomen, pediatrics, obstetrics, gynecology, interventional procedures, vascular imaging, neurosonography; 18-month program; national certification examination required at completion. Prerequisites: 673:805. Requirements: completion of an allied health program or bachelor's degree with course work in physics, anatomy, patient care, medical technology, and algebra.

**673:807 Diagnostic Medical Sonography V**

0-6 s.h.

Prerequisites: 673:806. Requirements: completion of an allied health program or bachelor's degree with course work in physics, anatomy, patient care, medical technology, and algebra.

**673:911 Diagnostic Cardiac Sonography**

0 s.h.

Principles, methods in using ultrasound; specialties including adult and stress echocardiography; six-month program; national certification examination required at completion of program. Requirements: completion of an accredited medical sonography or vascular technology program.

**673:912 Cardiac Sonography Clinical Course**

0 s.h.

Using ultrasound as an imaging modality; specialties, including adult echocardiography, stress echocardiography; six-month program; national certification examination required at completion. Requirements: completion of an accredited medical sonography or vascular technology program.

**674:110 Fundamentals for the MRI Technologist**

3 s.h.

Care-giving skills specific to patients undergoing MRI examinations; techniques in effectively communicating for safety and comfort; maintaining patient and personnel safety; patient preparation, monitoring, and venipuncture; technologist's role in a wide variety of MRI examinations and patient conditions. Requirements: ARRT primary certification in radiologic technology, nuclear medicine, sonography, or radiation therapy.

**674:120 MRI Procedures I**

4 s.h.

Imaging techniques related to central nervous and musculoskeletal systems; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria; anatomical structures and the plane that best demonstrates anatomy; signal characteristics of normal and abnormal structures. Requirements: 676:100 or minimum of three months of fulltime MRI clinical work experience; and 674:110, if not taken as a prerequisite, or minimum of six months of MRI clinical work experience.

**674:130 MRI Procedures II**

3 s.h.

MRI techniques related to neck, thorax, breast, abdomen, and pelvis; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria. Prerequisites: 674:120.

**674:140 MRI Acquisition and Principles I**

3 s.h.

Physics and hardware used in obtaining a magnetic resonance signal, including magnetism, NMR signal production, tissue characteristics, spatial localization, pulse sequencing, imaging parameters and options, and special applications; exploration of skills useful in maximizing MR image quality. Corequisites: 674:110.

**674:150 MRI Acquisition and Principles II**

3 s.h.

Advanced MRI techniques; MR angiography and further investigation of fast image acquisition sequences; overview of MR magnets, installation, operation, and facility design; computers and digital image acquisition as they apply to MR; outline of quality assurance procedures. Prerequisites: 674:140.

**674:160 MRI Clinical Internship I**

3-6 s.h.

Work in UI Healthcare's MRI department, completing clinical documentation needed to take the ARRT certification examination in MRI; 36 hours per week. Requirements: 674:110 and pre-acceptance into the MRI Clinical Internship. Corequisites: 674:120 and 674:140, if not taken as prerequisites.

**674:170 MRI Clinical Internship II**

3-6 s.h.

Work in UI Healthcare's MRI department, completing clinical documentation needed to take the ARRT certification examination in MRI; 36 hours per week. Prerequisites: 674:160. Corequisites: 674:140, if not taken as a prerequisite.

**675:110 Vascular Anatomy**

3 s.h.

Normal arterial and venous anatomy of the circulatory system, illustrated through angiographic, magnetic resonance imaging (MRI), and computed tomography (CG) images; common variants. Prerequisites: 027:053. Requirements: Radiologic Technology Program anatomy course.

**675:120 CVI Principles**

4 s.h.

Imaging and accessory equipment for vascular interventional and cardiac interventional procedures; imaging equipment quality control; fundamental principles of vascular and cardiac procedures, including patient preparation and care, radiation safety, contrast medium, pharmacology, and sedation. Requirements: ARRT primary certification in radiologic technology. Corequisites: 675:110.

**675:130 Electrocardiogram and Hemodynamics**

3 s.h.

ECG analysis, hemodynamic principles and waveform analysis, cardiac output, vascular resistance, calculations of stenotic valves. Corequisites: 675:110, if not taken as a prerequisite.

**675:140 CVI Peripheral Procedures and Pathology**

3 s.h.

Angiographic and interventional procedures of the abdomen, thorax, and upper and lower extremities; associated pathologies. Prerequisites: 675:110. Corequisites: 675:120.

**675:150 CVI Neurology and Nonvascular Procedures and Pathology**

3 s.h.

Angiographic and interventional procedures of the head and neck; associated pathologies. Prerequisites: 675:110. Corequisites: 675:120.

**675:160 CVI Cardiac Procedures and Pathology**

4 s.h.

Cardiac diagnostic and interventional procedures; associated pathologies. Prerequisites: 675:110. Corequisites: 675:120 and 675:130.

**675:170 Cardiac Interventional Clinical Internship**

6 s.h.

Cardiac interventional (CI) clinical setting; practical experience on CI exams; 36 hours per week. Prerequisites: ARRT primary certification in radiologic technology and acceptance to UI Hospitals and Clinics CVI internships. Corequisites: 675:130 and 675:160, if not taken as prerequisites.

**675:180 Vascular Interventional Clinical Internship** 6 s.h.

Vascular interventional (VI) clinical setting; practical experience on VI exams; 36 hours per week. Prerequisites: ARRT primary certification in radiologic technology and acceptance to UI Hospitals and Clinics CVI internships. Corequisites: 675:140 and 675:150, if not taken as prerequisites.

**675:808 Cardiovascular Interventional I** 0-8 s.h.

Imaging equipment, intervention, techniques, digital angiography, vascular anatomy and physiology, pharmacology, sterile techniques, cardiac monitoring; six-month program; national recognition examination recommended at completion. Requirements: completion of radiologic technology program.

**675:809 Cardiovascular Interventional II** 0-7 s.h.

Prerequisites: 675:808. Requirements: completion of radiologic technology program.

**676:100 Sectional Anatomy for Imaging Sciences** 3 s.h.

Sectional anatomy identifiable on computed tomography and magnetic resonance imaging, including transverse, coronal, and sagittal planes.

**676:110 Pathology for Imaging Sciences** 3 s.h.

Common pathological conditions found in CT and MRI images; protocol appearance variations; units of CNS, musculoskeletal, neck/thorax, and abdominopelvic pathology; textbook readings, in-class discussions, special projects including case studies and presentations. Requirements: 676:100 or minimum of three months of fulltime CT or MRI clinical work experience.

**676:120 Computed Tomography Procedures** 5 s.h.

Computed tomography exam information, including the CNS, musculoskeletal system, neck, thorax, mediastinum, abdomen, and pelvis; positioning techniques, patient preparation, monitoring and care, indications and contraindications for procedures, contrast media usage; basic protocol information, how adjustments can be tailored as needed for patient indications; pediatric patients and how the exam is altered to provide optimal care to pediatrics; special exams. Requirements: ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

**676:130 Computed Tomography Physical Principles and QC** 4 s.h.

Historical development and evolution of CT; characteristics of x-ray, beam attenuation, linear attenuation coefficients, tissue characteristics, Hounsfield numbers application, data acquisition, image reconstruction, image manipulation techniques, tube configuration, collimator design and function, detector type; characteristics, image quality factors, and functions of CT computer and array processor; CT image processing and display examined from data acquisition through post-processing and archiving; radiation protection practices and QC. Requirements: ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

**676:140 Computed Tomography Clinical Internship** 6 s.h.

Spend 36 hours per week in UI Healthcare's CT department, completing the clinical documentation needed to take the ARRT certification examination in CT. Prerequisites: ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy; and acceptance into the CT internship. Corequisites: 676:120 and 676:130, if not taken as prerequisites.

**677:101 Emergency Medical Technician--Paramedic I** 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Requirements: certification as an emergency medical technician--basic.

**677:102 Emergency Medical Technician--Paramedic II** 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Prerequisites: 677:101.

**677:103 Emergency Medical Technician--Paramedic III** 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Prerequisites: 677:102.

**679:915 Principles of Breast Imaging**

3 s.h.

Comprehensive treatment of Mammography Quality Standards Act (MQSA) initial training requirements for X-ray technologists. Requirements: ARRT certification.



# Anatomy and Cell Biology

**Head:** John F. Engelhardt

**Professors:** Adel K. Affi, Ramesh C. Bhalla, Jackie Bickenbach, Martin D. Cassell, Paul M. Heidger Jr., Masataka Kawai, Nicholas J. Pantazis, Alexander Sandra

**Professors emeriti:** Ronald Bergman, Frank J. Longo, Jeanne M. Snyder, Robert J. Tomanek, Gary W. Van Hoesen

**Associate professors:** Botond B. Banfi, Robert A. Cornell, Charles A. Yeaman

**Assistant professors:** Amit Choudhury, Adam J. Dupuy, C. Andrew Frank, Fang Lin, D. Thomas Rutkowski, Tina Tootle

**Lecturers:** Kathleen Andersen, Darren S. Hoffmann, Justin Sipla

**Associates:** Gregory H. Leno, Marc Pizzimenti

**Graduate degree:** Ph.D. in Anatomy and Cell Biology

**Web site:** <http://www.anatomy.uiowa.edu>

The Department of Anatomy and Cell Biology performs three major functions. It teaches human anatomy to students preparing for careers in the health care professions; provides advanced courses, teaching experience, and research training to graduate students preparing for careers in academic research and related scientific fields; and conducts original research on the biological basis of cellular functions and human disease processes.

## Preclinical Study

The department contributes to the preclinical education of health care professionals by providing major courses in gross anatomy, cell biology, histology, and neuroscience. The department participates in the Carver College of Medicine's Medical Scientist Training Program and the Graduate College's Biosciences, Molecular and Cellular Biology, Immunology, Genetics, and Neuroscience Programs.

## Graduate Program

The department offers a Doctor of Philosophy in anatomy and cell biology.

### Doctor of Philosophy

The Doctor of Philosophy in anatomy and cell biology requires a minimum of 72 s.h. of graduate credit. Students in the Ph.D. program work toward the doctorate without an intermediate master's degree program. They complete courses focused in one of three major areas--molecular medicine and gene therapy, developmental and stem cell biology, or cancer biology--in addition to related background and elective courses. Students also teach in lecture and laboratory courses under faculty supervision. The program may be completed in four or five years of intensive, full-time residence.

Students interested in pursuing graduate study in anatomy and cell biology spend their first year in the University of Iowa Biosciences Program, where they investigate different disciplines by performing research rotations in three of the program's affiliated laboratories. They also take courses that introduce them to basic principles in the biosciences; participate in the biosciences seminar, where they learn how to evaluate scientific literature critically; and attend departmental seminars.

Students are assigned an advisor to assist in their selection of courses and research rotations during the Biosciences Program year. The curriculum is tailored to fit each student's individual interests. For more detailed information about the program, see Biosciences (Graduate College) in the Catalog.

Students enter the Biosciences Program in fall semester. The following May, after completing three research rotations, each student is expected to select a research laboratory and program affiliation and to begin his or her thesis research project. Students who choose to pursue a Ph.D. in anatomy and cell biology may apply all credit earned in the Biosciences Program toward requirements for the degree.

By the end of their second year of graduate study, anatomy and cell biology students take the comprehensive examination, which assesses their ability to analyze, organize, and apply the information, concepts, and skills acquired during the first two years of study. They define a research problem with their major advisor and formulate a research prospectus.

Subsequent years are devoted primarily to research.

The final Ph.D. examination consists of a public oral defense of the dissertation. The dissertation is based on original research conducted with the guidance of the major advisor and at least four other faculty members on the thesis committee.

### Admission

Individuals interested in pursuing a Ph.D. in anatomy and cell biology must apply to and be accepted by the University's Biosciences Program, where they will spend their first year of graduate study. The program accepts applicants with a variety of backgrounds in the biological and physical sciences.

The Biosciences Program has specific admission requirements, including a bachelor's degree and certain undergraduate course work; specific scores on the Graduate Record Examination (GRE) General Test; and for applicants whose first language is not English, specific scores on the Test of English as a Foreign Language (TOEFL). For detailed admission requirements and application information, see Biosciences (Graduate College) in the Catalog.

Admission to the Department of Anatomy and Cell Biology, after completion of the biosciences year, is based on evaluation of each applicant's credentials by the department's faculty. In addition to having met all admission requirements of the Biosciences Program, applicants to the Ph.D. program in anatomy and cell biology must have completed a bachelor's degree with the following undergraduate course work: chemistry through organic chemistry, one semester of biochemistry or the equivalent, one semester of another advanced biology course, mathematics through calculus, one year of physics, and one semester of statistics or the equivalent. Desirable qualifications include an undergraduate major in the biological sciences or chemistry; a master's degree in the biological sciences, chemistry, or a related area; and scores from a GRE Advanced Test in the applicant's major area.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

All students in the Department of Anatomy and Cell Biology receive stipends and tuition support. Sources include training grants from the National Institutes of Health, University of Iowa and departmental fellowships and graduate research assistantships, and individual faculty research grants.

## Facilities

The department occupies more than 35,000 square feet in the Bowen Science Building on the health sciences campus. The building houses modern teaching facilities and well-equipped research laboratories. The most modern instrumentation is available, including facilities and equipment for digital microscopic imaging, confocal microscopy, molecular biological techniques, tissue culture, and protein chemistry. Other specialized equipment (e.g., electron microscopes, mass spectrophotometers) is available in other facilities. Through collaborative programs with the Holden Comprehensive Cancer Center and Iowa Cardiovascular Center, faculty and students also have access to outstanding research facilities throughout the University of Iowa health sciences campus.

## Anatomy and Cell Biology Courses

- 060:101 Human Gross Anatomy for Dental Students** 6 s.h.  
Regional dissection, lectures, demonstrations, with emphasis on head and neck; neuroanatomy. Offered spring semesters. Requirements: D.D.S. enrollment.
- 060:103 Medical Gross Human Anatomy** 6 s.h.  
Complete dissection of the body with regional emphasis stressing relationships to the living system; clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations; anatomical knowledge through lectures, small group work, independent activities. Offered fall semesters. Requirements: M.D. enrollment.
- 060:108 Human Anatomy** 5 s.h.  
Regional dissection, lectures, demonstrations; areas important to physical therapists, particularly the upper and lower extremities. Offered fall semesters. Requirements: Physical Therapy Program enrollment.
- 060:109 Human Anatomy Lab for Health Professions** 1 s.h.  
Regional and systemic approaches to the study of human anatomy, using histological (microscopic) as well as gross (macroscopic) studies. Prerequisites: 002:002. Requirements: 060:110 for pre-nursing students.
- 060:110 Principles of Human Anatomy** 3 s.h.  
Gross and microscopic human anatomy; systemic approach to regional anatomy, with emphasis on clinical relevance; optional tutorial sessions. Offered fall and spring semesters. Prerequisites: 002:002 or 002:010. Requirements: pharmacy, pre-nursing, or associated medical sciences major.
- 060:111 Gross Human Anatomy Physician Assistant Students** 6 s.h.

Focused regional dissection with clinical integration through lectures, demonstrations, and tutorials; neuroanatomy, radiology. Offered summer sessions. Requirements: Physician Assistant Program or Graduate College or M.D. enrollment.

**060:112 General Histology for Dental Students** 4 s.h.  
Microscopic study of cells, fundamental tissues, organ systems; emphasis on tooth-related structures. Offered spring semesters. Requirements: D.D.S. enrollment or anatomy and cell biology graduate standing.

**060:113 Human Anatomy Online** 4 s.h.  
Integrative systemic and regional study of the human body's structure. Prerequisites: 002:002.

**060:122 Independent Study in Anatomy and Cell Biology** arr.  
Projects arranged with department faculty members.

**060:153 Hard Cases: Science Policy and Values** 3 s.h.  
Major issues in practical ethics through difficult case studies in fields such as law, medicine, business, politics; readings in classic authors; recent contributions from several disciplines. Same as 033:153.

**060:156 Scanning Electron Microscopy and X-Ray Microanalysis** arr.  
Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as 012:156, 052:156.

**060:200 Special Topics in Genetics** 1 s.h.  
Current research in a selected field of genetics; different topic each year. Companion to a genetics seminar series. Same as 127:200.

**060:203 Gross Human Anatomy for Graduate Students** 6 s.h.  
Regional dissection, lectures, demonstrations, tutorials, discussions, seminars; clinically relevant areas of anatomical radiology, surface anatomy with clinical correlations. Requirements: anatomy and cell biology graduate standing.

**060:205 General Histology for Graduate Students** 1-4 s.h.  
Structure and function of cells, tissues, and organs studied at light and electron microscopic levels. Offered spring semesters. Requirements: anatomy and cell biology graduate standing. Corequisites: 050:240.

**060:206 Graduate Research in Anatomy and Cell Biology** arr.  
Individual laboratory research training in anatomical sciences.

**060:207 Human Organ Systems for Graduate Students** 8 s.h.  
Integration of basic concepts of the physiology and microscopic anatomy of tissues and organ systems, utilizing didactic lectures, small group discussion, and laboratory exercises; emphasis on the relevance of altered morphology and physiology to pathologic processes, at both the light and electron microscopic level. Requirements: graduate standing in anatomy and cell biology.

**060:208 Current Topics in Anatomy and Cell Biology** 2 s.h.  
Review of current literature related to a weekly topic, followed by discussion of a journal article. Requirements: enrollment in a graduate program.

**060:216 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System** 1 s.h.  
Models for translocation across the ER membrane, quality control/protein folding in the ER lumen, ER associated degradation; mechanisms of vesicle biogenesis, cargo selection, vesicle fusion, regulation of Golgi and trans-Golgi Network biogenesis; protein internalization from the cell surface. Prerequisites: 099:130. Same as 072:220, 142:220.

**060:218 Microscopy for Biomedical Research** arr.  
Preparation, analysis of biomedical projects by light and electron microscopy. Prerequisites: 002:114. Same as 061:218.

**060:220 Advanced Microscopy Biomedical Research** arr.

Technically advanced microscopy methods for research; individualized laboratory experience with opportunity to explore application of microscopy methods. Requirements: (for 060:220) an introductory microscopy course; (for 002:220) 002:218 or 060:218 or 061:218 or 012:156 or 052:156 or 060:156; (for 061:220) an introductory EM course. Same as 002:220, 061:220.

**060:221 Control of Subcellular Motility**

1 s.h.

Actin filaments and microtubules in terms of their assembly dynamics and regulation; how motor proteins are controlled and adapted for movement of specific proteins and vesicles within cells; signaling through GTPases; cell motility; biogenesis, regulation of cilia and flagella. Prerequisites: 099:130. Same as 072:221, 142:221.

**060:222 Organelle Biogenesis**

1 s.h.

Biogenesis of mitochondria, peroxisomes, nucleus, and phagosomes; membrane trafficking; mitochondrial division, mitosis and cell division, entry into lysosomes via autophagy and endocytic pathways; host/pathogen interactions, function of macrophages and neutrophils. Prerequisites: 099:130. Same as 072:222, 142:222.

**060:223 Cell Fate Decisions**

1 s.h.

Cellular fate decisions, including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Recommendations: 156:201, 156:202, and 156:203. Same as 072:227, 142:227.

**060:224 Graduate Student Seminar**

0-1 s.h.

Current research, literature. Requirements: anatomy and cell biology graduate standing.

**060:225 Growth Factor Receptor Signaling**

1 s.h.

Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Recommendations: 156:201, 156:202, and 156:203. Same as 072:225, 142:225.

**060:226 Cell Cycle Control**

1 s.h.

Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Recommendations: 156:201, 156:202, and 156:203. Same as 072:226, 142:226.

**060:227 Anatomic Study for Teaching**

2-3 s.h.

Experience completing a detailed dissection of a region of the human body; opportunity to create models depicting anatomical concepts. Requirements: enrollment in teaching certificate program.

**060:230 Molecular Basis Vertebrate Development**

2 s.h.

Fundamentals of human embryology, concepts in developmental biology; current literature. Offered fall semesters of odd years. Requirements: graduate standing.

**060:232 Advanced Human Anatomy**

arr.

Regional dissection of the body with emphasis on systems relevant to student's specialty interests; discussion, reading, clinically relevant imaging, embryology. Offered spring semesters. Requirements: fourth-year M.D. enrollment or graduate standing.

**060:234 Medical Neuroscience**

4 s.h.

Basic principles of neurophysiology, neuroanatomy; emphasis on human central nervous system; laboratory emphasis on anatomical study of spinal cord, brain. Offered spring semesters. Requirements: (for 060:234) M.D. or Physical Therapy and Rehabilitation Science Program enrollment. Same as 132:234.

**060:265 Neuroscience Seminar**

0-1 s.h.

Research presentations. Offered fall and spring semesters. Same as 002:265, 031:265, 072:265, 132:265.

**060:270 Human Anatomy, Physiology, Pathophysiology, and Assessment for Advanced Practice Nursing**

3-6 s.h.

Interrelationships between anatomic structure and physiological function in health and disease; clinical assessment of functional integrity of organ systems; implications of pathophysiology for anesthesia. Requirements: admission to anesthesia nursing program. Same as 096:270.



## Anesthesiology

**Head:** Michael M. Todd

**Professors:** Timothy J. Brennan (Samir Gergis Professor of Anesthesia), Javier H. Campos, Won W. Choi, Franklin Dexter, Robert B. Forbes, Donna L. Hammond, J. Steven Hata, Bradley J. Hindman, John R. Moyers, Richard W. Rosenquist, Franklin L. Scamman, Edward S. Thompson, Michael M. Todd

**Professors emeriti:** Mohamed Ghoneim, Peter J.R. Jebson, Martin Sokoll

**Associate professors:** Max T. Baker, James N. Bates, Robert I. Block, James Y. Choi, Deborah J. Dehring, Robert P. From, Anthony T.H. Han, Tara M. Hata, Gerald Kirk, Paul A. Leonard, Mazen A. Maktabi, Paul D. Meyer, Rashmi N. Mueller, Clark J. Obr, David P. Papworth, Kent S. Pearson, Robert Raw, Alan F. Ross, Jonathan Simmons, Shawn T. Simmons, Debra J. Szeluga, Ruth E. Wachtel, Tyrone B. Whitter

**Associate professor emeritus:** James G. Carter

**Assistant professors:** Anke Bellinger, Esther Benedetti, Yasser M.S. El-Hattab, Peter Foldes, Denisa Haret, Jeanette A. Harrington, Merete Ibsen, Yasser M.G.A. Karim, Venkateswara R. Karuparthi, Toshihiro Kitamoto, Avinash B. Kumar, John Laur, Ronald Lind, Magboul M.A. Magboul, Anil Marian, Martin Mueller, Srinivasan Rajagopal, Sundara Reddy, Rapien Siriwechadarak, John Stanec, David E. Swanson, Kokila Thenuwara, Joss Thomas, Chiedozie Udeh, Danai Udomtecha, Kenichi Ueda, Ann Willemsen-Dunlap

**Associates:** Emine Bayman, Richard Cano, Brent Hadder, Ellen King, Sundar Krishnan, Christina Spofford, Sarah Tittler

**Web site:** <http://www.anesth.uiowa.edu>

## M.D. Student Training

The Department of Anesthesiology introduces second-year medical students to anesthesia as a specialty; helps third-year students develop concepts and technical skills related to resuscitation, airway management, and care of the unconscious patient; and offers fourth-year students intensive study in the specialty. It offers the following courses for medical students. For course descriptions and prerequisite information, see "Courses" below.

116:006 Clinical Anesthesia (required)	2 s.h.
116:010 Clinical Anesthesia Senior	arr.
116:011 Intensive Care	arr.
116:333 Intensive Care off Campus	arr.
116:998 Anesthesia on Campus	arr.
116:999 Anesthesia off Campus	arr.

## Postgraduate and Residency Program

Diverse clinical experiences, seminars and teaching conferences, and ongoing research activities help postgraduate students and residents develop the knowledge and skills required of an anesthesia specialist.

## Anesthesia Nursing Program

The department coordinates the Anesthesia Nursing Program, a collaboration between the Carver College of Medicine and the College of Nursing. The program, open to nurses who hold a bachelor's degree, prepares nurse anesthetists to serve rural hospitals in Iowa and nationwide. The curriculum provides intensive training in didactic and clinical anesthesia and includes diverse clinical experience as well as classroom instruction, seminars, and clinical case conferences. It includes the following courses. For course descriptions and prerequisite information, see "Courses" below.

116:271 Chemical and Physical Principles of Anesthesia Practice	3 s.h.
116:272 Pharmacology of Anesthesia Practice I	3 s.h.
116:273 Pharmacology of Anesthesia Practice II	2 s.h.
116:274 Basic Principles of Anesthesia Practice	5 s.h.
116:275 Advanced Principles of Anesthesia Practice I	2 s.h.
116:276 Advanced Principles of Anesthesia Practice II	2 s.h.
116:277 Advanced Principles Anesthesia Practice III	1 s.h.
116:278 Professional Aspects of Anesthesia Nursing Practice	2 s.h.
116:279 Equipment and Technological Principles of Anesthesia Practice	3 s.h.
116:287 Pharmacology of Anesthesia Practice III	2 s.h.
116:290 Introductory Clinical Anesthesia	1 s.h.
116:291 Clinical Anesthesia I	1 s.h.
116:292 Clinical Anesthesia II	1 s.h.
116:293 Advanced Clinical Anesthesia	1 s.h.
116:294 Obstetrical Anesthesia	1 s.h.
116:295 Rural Anesthesia	1 s.h.

## Anesthesiology Courses

### For M.D. Students

**116:006 Clinical Anesthesia**

2 s.h.

Clinical instruction in perioperative care of the surgical patient; preoperative evaluation, consideration of coexisting medical problems, intraoperative care, postoperative management; basic airway management; introduction to clinical management of acute and chronic pain; case conferences, simulator training.

**116:010 Clinical Anesthesia Senior**

arr.

Advanced clinical experience in anesthesia management of surgical patients with coexisting medical problems; clinical experience in various forms of anesthesia; general, regional (spinal, epidural, peripheral nerve block) anesthesia; practical experience in airway management; mask ventilation, endotracheal intubation, LMA placement, other alternative airway techniques; medical management of surgical patient under anesthesia; pharmacology, cardiovascular and pulmonary physiology; case conferences.

**116:011 Intensive Care**

arr.

Evaluation, treatment of seriously ill patients in intensive care; ventilator management, evaluation of pulmonary function, monitoring of cardiovascular status, fluid balance and acid base problems, advance monitoring techniques.

**116:333 Intensive Care off Campus**

arr.

Evaluation and treatment of seriously ill patients in an intensive care unit (other than University of Iowa Hospitals and Clinics); artificial ventilation, evaluation of pulmonary function, monitoring of cardiovascular status, fluid balance and acid base problems, advance monitoring techniques. Requirements: 4 s.h. of 116:010.

**116:998 Anesthesia on Campus**

arr.

Well defined research project relating to anesthesia; arranged by student with departmental approval.

**116:999 Anesthesia off Campus**

arr.

Knowledge development in anesthesia work and monitor use; ability to identify respiratory, cardiovascular, and neurologic effects of anesthetic agents; skill in airway management; basic skills in general, spinal, epidural, and peripheral nerve block anesthesia.

### For Anesthesia Nursing Students

**116:271 Chemical and Physical Principles of Anesthesia Practice**

3 s.h.

Chemistry and physics, as applied to anesthesia. Requirements: admission to anesthesia nursing program. Same as 096:271.

**116:272 Pharmacology of Anesthesia Practice I**

3 s.h.

Mechanism and action of drugs; focus on pharmacotherapeutic principles, including pharmacokinetics, pharmacodynamics, receptor binding, cell signaling; principles of uptake, distribution, elimination of anesthetic and adjunctive agents. Requirements: grade of 2.67 or higher in 096:271 or 116:271, and admission to anesthesia nursing program. Same as 096:272.

**116:273 Pharmacology of Anesthesia Practice II**

2 s.h.

Continuation of 096:272 or 116:272; vascular, hepatic, renal, GI, endocrine aspects; cellular mechanisms, electrolytes alterations. Requirements: grade of 2.67 or higher in 096:272 or 116:272, and admission to anesthesia nursing program. Same as 096:273.

**116:274 Basic Principles of Anesthesia Practice**

5 s.h.

Overview of anesthesia as a nursing specialty; patient assessment, anesthetic planning and management, pertinent regulations; principles of general and regional anesthesia for surgical specialties. Requirements: (for 096:274) grade of 2.67 or higher in 096:272, or concurrent enrollment in 096:273; (for 116:274) grade of 2.67 or higher in 116:272 and concurrent enrollment in 116:273. Same as 096:274.

**116:275 Advanced Principles of Anesthesia Practice I**

2 s.h.

Special needs and intraoperative management of obstetric, pediatric, and neurological patients; emphasis on pathophysiology, monitoring, ancillary requirements. Prerequisites: 096:274 or 116:274. Requirements: grade of 2.67 or higher in 096:273 or 116:273. Same as 096:275.

**116:276 Advanced Principles of Anesthesia Practice II**

2 s.h.

Special needs and intraoperative management of patients in cardiac, vascular, thoracic, and other surgical specialties; focus on altered pathophysiology, anesthetic requirements; strategies for special surgical situations. Prerequisites: 096:274 or 116:274. Requirements: grade of 2.67 or higher in 096:273 or 116:273. Same as 096:276.

**116:277 Advanced Principles Anesthesia Practice III**

1 s.h.

Acute and chronic pain management; anesthetic problems with concurrent multisystem disease, advanced age, altered physical and/or mental status. Prerequisites: 096:274 or 116:274. Requirements: grade of 2.67 or higher in 096:273 or 116:273. Same as 096:277.

**116:278 Professional Aspects of Anesthesia Nursing Practice**

2 s.h.

Issues in contemporary anesthesia nursing practice: historical development; ethical, legal, and political aspects; evaluation; quality management; responsibilities; career expectations and development; role of professional organization. Requirements: anesthesia nursing program enrollment. Same as 096:278.

**116:279 Equipment and Technological Principles of Anesthesia Practice**

3 s.h.

Anesthesia delivery systems, ancillary equipment, monitoring devices; correlation of applicable chemical and physical principles for use, safe operation, care, and cleaning of anesthesia-related equipment. Prerequisites: 116:271. Requirements: anesthesia nursing program enrollment. Same as 096:279.

**116:287 Pharmacology of Anesthesia Practice III**

2 s.h.

Drugs specific to various specialty areas: tocolytics, vasoactive and cardioactive agents, drugs that alter clotting, chronic pain therapy agents. Requirements: grade of 2.67 or higher in 096:273 or 116:273, and anesthesia nursing program enrollment. Same as 096:287.

**116:290 Introductory Clinical Anesthesia**

1 s.h.

Initial anesthesia preceptorship; development of basic clinical skills for work as a nurse anesthetist. Requirements: basic science core courses and anesthesia nursing program enrollment. Same as 096:290.

**116:291 Clinical Anesthesia I**

1 s.h.

Supervised anesthesia clinical experience for general, orthopedic, gynecologic, pediatric, urologic, dental, EENT, ambulatory surgery, or invasive diagnostic procedures. Prerequisites: 096:290 or 116:290. Requirements: anesthesia nursing program enrollment. Same as 096:291.

**116:292 Clinical Anesthesia II**

1 s.h.

Clinical anesthesia experience under faculty supervision at University Hospitals and Clinics, in surgical subspecialty rotations not completed in 096:291 or 116:291. Prerequisites: 096:291 or 116:291. Requirements: anesthesia nursing program enrollment. Same as 096:292.

**116:293 Advanced Clinical Anesthesia**

1 s.h.

Clinical anesthesia experiences in neurologic surgery, cardiovascular/thoracic surgery; experience providing anesthesia for patients with complex pathophysiology in varied surgical settings. Requirements: (for 096:293) anesthesia nursing program senior standing, anesthesia nursing concentration courses, and g.p.a. of 2.67 or higher; (for 116:293) anesthesia nursing program enrollment, anesthesia nursing concentration courses, and g.p.a. of 2.67 or higher. Same as 096:293.

**116:294 Obstetrical Anesthesia**

1 s.h.

Experience providing anesthesia for the parturient, initial neonatal care; two one-month rotations off campus. Requirements: (for 096:294) anesthesia nursing program enrollment; (for 116:294) anesthesia nursing courses and anesthesia nursing program enrollment. Same as 096:294.

**116:295 Rural Anesthesia**

1 s.h.

Anesthesia experience in community hospitals; three one-month rotations at UI-affiliated clinical sites in rural Iowa. Requirements: (for 096:295) anesthesia nursing program enrollment; (for 116:295) anesthesia nursing courses and anesthesia nursing program enrollment. Same as 096:295.





# Biochemistry

**Head:** Charles M. Brenner

**Professors:** Charles M. Brenner, John E. Donelson, Pamela Geyer, George Giudice, Bryce V. Plapp, David H. Price, Peter Rubenstein, Madeline A. Shea, Lori L. Wallrath, Daniel L. Weeks, Ronald Weigel, Marc S. Wold

**Professors emeriti:** Arthur Arnone, Thomas W. Conway, Alice B. Fulton, Rex Montgomery, Arthur A. Spector, Earle Stellwagen, Charles A. Swenson

**Adjunct professors:** Theresa Gioannini, Nancy C. Stellwagen, Ramaswamy Subramanian, Joseph Walder, Liping Yu

**Associate professors:** John Dagle, Adrian Elcock, M. Todd Washington

**Assistant professors:** Sheila A. Baker, Heather L. Bartlett, Kris DeMali, Ernesto Fuentes, Shahram Khademi

**Lecturer:** Elisabeth Swain

**Undergraduate degrees:** B.A., B.S. in Biochemistry

**Graduate degrees:** M.S., Ph.D. in Biochemistry

**Web site:** <http://www.biochem.uiowa.edu/>

Biochemistry is the study of the basic chemical processes that occur in all living systems. It is one of the most active sciences, and it provides a foundation for other biosciences.

Biochemists generally work in laboratories and/or classrooms. Those with a bachelor's degree are often employed as research assistants in industry, government, education, and health service, or in secondary school teaching, for which licensure is required.

Biochemists with advanced degrees—usually a doctorate—pursue teaching, research, and/or administrative careers in universities, medical schools, hospitals, private research agencies, government laboratories, biotechnology companies, and in food, drug, cosmetics, chemical, petroleum, and allied industries.

The Department of Biochemistry offers degree programs for undergraduates and for graduate students and administers the academic curriculum at both levels. The College of Liberal Arts and Sciences grants undergraduate degrees in biochemistry and oversees undergraduate academic policy relating to the student record. The Graduate College grants graduate degrees in biochemistry.

## Undergraduate Programs

The Department of Biochemistry offers a Bachelor of Science and a Bachelor of Arts in biochemistry.

Students choose advanced science electives to supplement biochemical studies or to satisfy requirements of a double major or a minor in another discipline. In order to count science electives numbered below 100 toward a degree in biochemistry, students must have their advisor's approval.

Transfer credit for biochemistry courses requires the approval of an undergraduate advisor in biochemistry.

Students, especially those in the B.A. program, may include courses from other disciplines, such as business, pre-law, psychology, or journalism. This prepares them for one of the many vocations on which biochemistry has an impact.

### Bachelor of Science

The Bachelor of Science in biochemistry requires a total of 120 s.h., including 73 s.h. of work for the major. The program prepares students to work in positions that require a mastery of general biochemistry. It is also excellent preparation for graduate study in biochemistry and related sciences or for study toward a professional degree in the health sciences.

The B.S. major in biochemistry requires the following course work. Biochemistry students also must complete the College of Liberal Arts and Sciences General Education Program.

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
22M:025-22M:026 Calculus I-II	8 s.h.
029:081-029:082 Introductory Physics I-II	8 s.h.
099:101 Technical Communication in Biochemistry	1 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
099:140 Experimental Biochemistry	4 s.h.
099:155 Research, Independent Study (required of all honors students)	6 s.h.
Advanced science electives, chosen in consultation with advisor	9 s.h.

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
--	--------

004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred) 6 s.h.

Two of these:

004:131 Physical Chemistry I	3 s.h.
004:132 Physical Chemistry II	3 s.h.
099:241 Biophysical Chemistry I	3 s.h.
099:242 Biophysical Chemistry II	3 s.h.

One of these:

004:141 Organic Chemistry Laboratory	3 s.h.
004:142 Organic Chemistry Laboratory for Majors (preferred)	3 s.h.

Students may register for 099:155 Research, Independent Study only if they have earned an average grade of B or higher in 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, and 099:140 Experimental Biochemistry and a grade of B-minus or higher in each 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, and 099:140 Experimental Biochemistry; or have consent of advisor and instructor. Students may register for 099:115 Undergraduate Independent Study any time.

Students are encouraged to begin research by taking 099:115 Undergraduate Independent Study (may be taken for a total of 6 s.h.). There are no prerequisites. Students may arrange independently to take this course, or they may request assistance from an undergraduate advisor.

## Bachelor of Arts

The Bachelor of Arts in biochemistry requires a total of 120 s.h., including 57 s.h. of work for the major. The B.A. major requires the following course work. Biochemistry students also must complete the College of Liberal Arts and Sciences General Education Program.

All of these:

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
22M:025-22M:026 Calculus I-II	8 s.h.
029:011-029:012 College Physics I-II	8 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.
099:140 Experimental Biochemistry	4 s.h.
Advanced science electives, chosen in consultation with advisor	6 s.h.

One of these sequences:

004:121-004:122 Organic Chemistry I-II	6 s.h.
004:123-004:124 Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6 s.h.

One of these:

004:131 Physical Chemistry I	3 s.h.
004:132 Physical Chemistry II	3 s.h.
099:241 Biophysical Chemistry I	3 s.h.
099:242 Biophysical Chemistry II	3 s.h.

In addition, B.A. students intending to go on to advanced degrees in the biological or health sciences are advised to include 4 s.h. or more of 099:115 Undergraduate Independent Study or 099:155 Research, Independent Study (senior research) in their programs.

## B.A. or B.S. with Teacher Licensure

Biochemistry majors, especially those in the B.A. program, may qualify for teacher licensure by taking additional courses in teacher education. Consult the College of Education for details.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

### Bachelor of Science

**Before the third semester begins:** 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II, 22M:025 Calculus I and 22M:026 Calculus II, and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above, plus 002:010 Principles of Biology I and 002:011 Principles of Biology II; 004:121 Organic Chemistry I and 004:122 Organic Chemistry II, and 004:141 Organic Chemistry Laboratory; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, plus 029:081 Introductory Physics I and 029:082 Introductory Physics II, 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, 099:101 Technical Communication in Biochemistry, and 099:140 Experimental Biochemistry, two science electives, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, plus 004:131 Physical Chemistry I or 004:132 Physical Chemistry II or 099:241 Biophysical Chemistry I or 099:242 Biophysical Chemistry II, a science elective, and at least 3 s.h. of 099:155 Research, Independent Study

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Bachelor of Arts

**Before the third semester begins:** 004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II; math through 22M:026 Calculus II or above; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** the courses listed above, plus 002:010 Principles of Biology I and 002:011 Principles of Biology II, 004:121 Organic Chemistry I and 004:122 Organic Chemistry II, and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** the courses listed above, plus 029:011 College Physics I and 029:012 College Physics II, 099:120 Biochemistry and Molecular Biology I, 099:130 Biochemistry and Molecular Biology II, and 099:140 Experimental Biochemistry, two science electives, and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** the courses listed above, plus 004:131 Physical Chemistry I or 004:132 Physical Chemistry II or 099:241 Biophysical Chemistry I or 099:242 Biophysical Chemistry II, and a science elective

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

### Honors

Qualified students may earn an honors degree in biochemistry. They must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). Honors students in biochemistry must complete 099:155 Research, Independent Study. They must present their research results in a report written in the form of a journal article and in an oral report presented at a special open departmental seminar.

## Graduate Program

The Department of Biochemistry offers a Master of Science and a Doctor of Philosophy in biochemistry. Students admitted to the graduate program usually pursue the Ph.D. Qualified students may pursue a combined program leading to the M.D./Ph.D. (Medical Scientist Training Program).

### Master of Science

The Master of Science in biochemistry requires a minimum of 30 s.h. of graduate credit, thesis research, and a thesis. See "Doctor of Philosophy" for information about the graduate curriculum.

### Doctor of Philosophy

The Doctor of Philosophy in biochemistry requires a minimum of 72 s.h. of graduate credit. The focus of the graduate program is on the individual student.

The 72 s.h. required for the degree includes 34 s.h. of course work and 38 s.h. of research credit. Students may take courses that enhance their educational goals. All Ph.D. students take the following 19 s.h. of course work; they choose an additional 13 s.h. from courses offered by the Department of Biochemistry and other University of Iowa departments.

099:261 Research Techniques (first-year laboratory rotation)	1-5 s.h.
650:270 Principles of Scholarly Integrity	0-1 s.h.
Biophysical chemistry (students typically earn 6 s.h.)	3 s.h.
Molecular or cellular biology (students typically earn 6-8 s.h.)	4 s.h.
Graduate seminar	3 s.h.

The following is a typical first-year curriculum.

First semester:

099:243 Biophysical Chemistry Module 1	1 s.h.
099:245 Biophysical Chemistry Module 2	1 s.h.
099:247 Biophysical Chemistry Module 3	1 s.h.
099:261 Research Techniques	1-5 s.h.
156:201 Fundamentals of Gene Expression	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.
156:204 Biostatistics for Biomedical Research	1 s.h.
156:265 Biosciences Critical Thinking and Communication	2 s.h.
650:270 Principles of Scholarly Integrity	0-1 s.h.

Second semester:

099:226 Enzyme Kinetics and Bioorganic Mechanisms	1-2 s.h.
099:246 Biophysical Chemistry Module 5	1 s.h.
099:248 Biophysical Chemistry Module 6	1 s.h.
099:261 Research Techniques	1-5 s.h.
142:215 Transcription and Multifunctional Regulation by RNA	1 s.h.
142:216 Chromatin Structure and Disease	1 s.h.
142:217 Cancer, Epigenetics, and Genetic Manipulations in Mice	1 s.h.
156:205 Practical Bioinformatics	1 s.h.
156:265 Biosciences Critical Thinking and Communication	2 s.h.

099:282 Seminar	0-1 s.h.
-----------------	----------

or

156:265 Biosciences Critical Thinking and Communication	2 s.h.
---	--------

Once students are promoted to the second year of study, they choose research laboratories for Ph.D. thesis research and begin their thesis projects. They take courses that supplement their interests and preparation, including the following.

099:282 Seminar	1 s.h.
099:292 Research Biochemistry	arr.
Graduate-level science electives	6 s.h.

Students take the comprehensive examination before the end of June in their second year, after which they are admitted formally to degree candidacy and begin to concentrate on thesis research. The program culminates in successful defense of completed thesis work before an examining committee.

In addition to meeting these requirements and those of the Graduate College, students are expected, as part of their training, to assist in teaching biochemistry for one semester.

Throughout the program, students are associated with faculty-directed research groups. They receive close personal attention from the biochemistry faculty members who serve as research advisors.

## Admission

The graduate program in biochemistry is flexible enough to accommodate students with bachelor's degrees in any of the biological, biochemical, or physical sciences. Appropriate preparation includes one-year, college-level courses in

organic and physical chemistry, biology, physics, and mathematics through calculus. Students are expected to have had one or more introductory courses in biochemistry.

Applicants must have an undergraduate g.p.a. of at least 3.00 and must submit acceptable verbal, quantitative, and analytical scores on the Graduate Record Examination (GRE) General Test. Applicants are encouraged to submit their scores on the GRE Subject Test in Chemistry; Biology; or Biochemistry, Cell, and Molecular Biology.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Financial Support

Students admitted to the Ph.D. program in biochemistry routinely receive a stipend and tuition support.

## Research

The department's current research interests include protein structure and function, protein folding, DNA bending, complex carbohydrate structure and function, chromatin, regulation of gene expression, mechanisms of transcription and replication, enzyme reaction mechanisms, intracellular signaling, differentiation, and membrane determinants of cell shape and motility. Visit the Department of Biochemistry web site for details.

## Facilities

The Department of Biochemistry is located on the University of Iowa health sciences campus, where it has administrative, research, and teaching facilities in the Bowen Science Building. Departmental research groups also are located in the adjacent Medical Education and Research Facility and in other research facilities.

The University of Iowa maintains a number of central research support facilities and equipment that promote campuswide interactions between research groups. These include the facilities for electron and confocal microscopy, fermentation, image analysis, high field NMR, high resolution mass spectrometry, and academic computing (through Information Technology Services). Carver College of Medicine research facilities are available to biochemistry researchers for nuclear magnetic resonance spectroscopy, flow cytometry, DNA synthesis, tissue culture hybridoma, gene transfer, X-ray crystallography analysis, and transgenic and gene targeting.

Individual faculty research laboratories are well-equipped for modern research, and there are many common-use laboratories, including instrument rooms, a reading room, cold rooms, tissue culture areas, preparation rooms, and a stockroom. Research is supported by office staff, stockroom supervisors, and a purchasing agent.

Together, the department and the central support facilities provide virtually all of the equipment required for modern biochemical research. Examples of such equipment include analytical and preparative ultracentrifuges; fluorescence, optical rotatory dispersion, high-field NMR, and rapid kinetic instruments; tissue culture rooms, gas chromatographs, preparative high performance liquid chromatographs, liquid scintillation counters, electrophoresis equipment, instrumentation for protein X-ray crystallography and microcalorimetry, automated DNA sequencers, and facilities for microarray analysis.

The department maintains a reading room stocked with primary books and journals used by biochemists. The Hardin Library for the Health Sciences is a large, complete library located on the health sciences campus. Excellent resources also are provided by branches of the University of Iowa Libraries and by computer access to bibliographic retrieval services.

## Biochemistry Courses

### 099:001 Orientation and Introduction to the Field of Biochemistry

0 s.h.

Biochemistry and its application to other areas of basic sciences; biochemical studies, research, careers.

### 099:101 Technical Communication in Biochemistry

1 s.h.

Practical aspects of writing formal scientific papers and giving oral presentations on technical topics. Prerequisites: 099:120 or 099:130 or 099:140.

### 099:110 Biochemistry

3 s.h.

Basic concepts in modern biochemistry and molecular biology; understanding of life processes in molecular terms. Requirements: one year each of college-level biology and chemistry. Recommendations: one semester of organic chemistry.

**099:115 Undergraduate Independent Study**

arr.

Experience in an active biochemistry research lab, learning and performing experiments relevant to the current projects in that lab; exploration of scientific literature on topic of interest; arranged in advance by student and faculty member. Requirements: first-year, sophomore, or junior standing.

**099:120 Biochemistry and Molecular Biology I**

3 s.h.

Physical and chemical foundations of biochemistry, structure of biological molecules, catalysis, transport, and oxidative reactions in biology; first course of two-semester sequence that concludes with 099:130. Requirements: two semesters of general chemistry and one of organic chemistry. Recommendations: 002:010, 002:011, and an additional organic chemistry course.

**099:130 Biochemistry and Molecular Biology II**

3 s.h.

Carbohydrate biosynthesis, lipid metabolism, hormone regulation and integration of metabolism, signal transduction, genes and chromosomes, DNA replication and repair, transcription, RNA processing, protein translation and regulation of gene expression. Prerequisites: 099:120.

**099:140 Experimental Biochemistry**

2 s.h.

Use of modern instruments and techniques to fractionate, identify, and characterize constituents of biochemical systems. Prerequisites: 099:120. Requirements: two semesters of general chemistry and one semester of organic chemistry.

**099:155 Research, Independent Study**

2-6 s.h.

Independent study and research in areas of interest to the student; arranged in advance by student and biochemistry honors advisor. Requirements: grade of B- or higher in 099:120; and g.p.a. of B or higher in 099:120, 099:130, and 099:140.

**099:161 Biochemistry for Dental Students**

4 s.h.

Biochemical concepts and application to clinical problems. Prerequisites: 004:121. Requirements: D.D.S. enrollment. Recommendations: 004:122.

**099:162 Biochemistry for Pharmacy Students**

4 s.h.

Biochemical concepts and application to clinical problems. Prerequisites: 004:121. Requirements: Pharm.D. enrollment. Recommendations: 004:122.

**099:163 Medical Biochemistry**

4 s.h.

Biochemical concepts and application to clinical problems. Requirements: M.D. enrollment.

**099:164 Biochemistry for Physician Assistant Students**

3 s.h.

Aspects of general biochemistry necessary for understanding the biochemical basis of human disease; analysis of appropriate clinical cases. Prerequisites: 099:110.

**099:226 Enzyme Kinetics and Bioorganic Mechanisms**

1-2 s.h.

Principles and applications of steady-state and transient enzyme kinetics; mechanisms of catalysis of biochemical reactions. Prerequisites: 099:120.

**099:237 Topics in Biochemistry and Molecular Biology**

1-2 s.h.

Current topics in transcriptional regulation, chromatin structure and function, cell signaling pathways, regulation of development, molecular mechanisms of disease. Repeatable. Prerequisites: 156:201.

**099:238 Topics in Biophysical Chemistry**

1-2 s.h.

Current topics in structure and function of membranes or proteins; DNA-protein interactions; computational biochemistry; applications of NMR, X-ray diffraction, calorimetry, or spectroscopy. Repeatable. Prerequisites: 099:241 or 099:242.

**099:241 Biophysical Chemistry I**

3 s.h.

Experimental and theoretical techniques used to study structure and function of biological macromolecules; UV/Vis absorbance, circular dichroism, and fluorescence spectroscopies; X-ray crystallography of proteins, ultracentrifugation; application of thermodynamics to understand protein folding and protein-ligand binding. Requirements: one year of biochemistry. Recommendations: physical chemistry course.

**099:242 Biophysical Chemistry II**

3 s.h.

Enzyme kinetics and mechanisms, macromolecular interactions and dynamics, NMR spectroscopy.

**099:243 Biophysical Chemistry Module 1**

1 s.h.

Overview of basic principles and practices of biophysical chemistry; biophysical approaches to studying proteins and nucleic acids; critical evaluation of structural models derived from X-ray crystallography and NMR, quantification of molecular interactions; taken alone or as part of 099:241. Requirements: introductory course in biochemistry.

**099:244 Biophysical Chemistry Module 4**

1 s.h.

Principles and applications of steady-state and transient enzyme kinetics; mechanisms of catalysis of biochemical reactions.

**099:245 Biophysical Chemistry Module 2**

1 s.h.

In-depth examination of protein stability as well as thermodynamics and kinetics of protein folding; statistical thermodynamics, the physical chemistry of biomolecular interactions, experimental approaches to measuring protein stability, protein folding kinetics, molecular dynamics simulations, protein structural predictions; taken alone or as part of 099:241. Requirements: introductory course in biochemistry and one semester of calculus.

**099:246 Biophysical Chemistry Module 5**

1 s.h.

Overview of membrane proteins; basic principles of membrane proteins, including structure and lipid compositions of cell membranes, membrane protein folding and stability, methods of membrane proteins production, general techniques to study structure and function of membrane proteins; structure and function of biologically significant membrane transporters and receptors. Requirements: one year of biochemistry.

**099:247 Biophysical Chemistry Module 3**

1 s.h.

In-depth examination of principles and practices of studying ligand binding and macromolecular interactions; experimental approaches to study interactions with small molecules, proteins, and nucleic acids; approaches to analyze binding data; structural basis of protein/protein and protein/nucleic acid interactions; taken alone or as part of 099:241. Requirements: introductory course in biochemistry and one semester of calculus.

**099:248 Biophysical Chemistry Module 6**

1 s.h.

Basic principles of NMR and applications important for the understanding of structure and function of biological macromolecules; emphasis on methodology and experimental design, interpretation of data, and critical reading of literature; intended for advanced undergraduates and graduate students with an interest in applications of nuclear magnetic resonance (NMR) to problems of structural biology. Requirements: one year of biochemistry and one semester of calculus. Recommendations: a basic knowledge of biochemistry, spectroscopy, and some previous exposure to NMR from basic chemistry courses.

**099:261 Research Techniques**

1-5 s.h.

Laboratory rotation for first-year graduate students in biochemistry.

**099:275 Perspectives in Biocatalysis**

1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 046:275, 052:275, 053:275, 061:275.

**099:282 Seminar**

0-1 s.h.

How to evaluate reports of scientific investigations critically; techniques for presenting scientific information.

**099:283 Thesis Seminar**

1 s.h.

Preparation and oral presentation of thesis proposal. Requirements: second-year graduate standing in biochemistry.

**099:292 Research Biochemistry**

arr.

Thesis research.



# Cardiothoracic Surgery

**Head:** Mark D. Iannettoni

**Professors:** Mark Iannettoni, Wayne Richenbacher

**Associate professors:** James Davis, William Lynch

**Assistant professors:** Domenico Calcaterra, R. Saeid Farivar, Kalpaj Parekh, Yoshikazu Suzuki

**Web site:** <http://www.uihealthcare.com/depts/med/cardiothoracicsurgery/index.html>

The University of Iowa cardiothoracic surgery program is the third oldest program of its kind in the United States. Since its establishment in 1948 as the Division of Cardiothoracic Surgery, the program has advanced from providing operative interventions for patients with diseases of the chest to performing a broad range of the most current and innovative surgical procedures.

The Department of Cardiothoracic Surgery's facilities are located at University of Iowa Hospitals and Clinics. Each year cardiothoracic surgeons at the hospitals perform more than 500 adult and pediatric heart surgeries, including coronary bypasses, transplants, and placement of mechanical cardiac assist devices; minimally invasive procedures such as mitral valve replacement and epicardial lead placement; and more than 600 general thoracic surgeries with emphasis on esophageal and lung diseases. Preparations are under way for providing coronary artery bypass grafting using robotics.

## M.D. Student Training

The department trains fourth-year M.D. students in two courses, 193:232 Subinternship in Cardiothoracic Surgery and 193:233 Research in Cardiothoracic Surgery.

## Residency Program

Iowa's cardiothoracic surgery residency program was established in 1948 and is fully accredited by the Accreditation Council for Graduate Medical Education. It is the only cardiothoracic surgery training program in Iowa. Two residents are accepted into the two-year program each year.

## Postbaccalaureate Training

The department plays a primary instructional role in University of Iowa Hospitals and Clinics' 20-month postbaccalaureate Perfusion Technology Program; see the department's perfusion technology courses (193:161 through 193:171) under "Courses" later in this section. For more information about the Perfusion Technology Program, contact the Department of Cardiothoracic Surgery or visit the Perfusion Technology Program web site.

## Research

University of Iowa cardiothoracic surgeons are leaders in clinical research, particularly in oncologic surgery, diseases of the esophagus, artificial organs, pediatric cardiac surgery, and transplantation. Research also is under way in the sequence of mutations and in localization of genes predisposed to cancer.

## Facilities

The Department of Cardiothoracic Surgery has specialty laboratories in gastric motility, analytical chemistry, transplantation, tissue culture, surgical bacteriology, shock, and cardiac bypass. These facilities permit study of experimental procedures such as heart valve replacement in large animals and heterotopic heart transplantation in mice and rats.

The laboratories also are used for supervised teaching exercises in surgical technique for medical students and junior residents, and for refinement of technique for senior residents and faculty members.

## Cardiothoracic Surgery Courses

### 193:161 Instrumentation in Perfusion Technology

3 s.h.

Electrical circuitry, filters, pressure transducers, thermistors, cardiac output computers, fluid dynamics, intra-aortic balloon pumps, blood gas analyzers. Requirements: Perfusion Technology Program enrollment.

### 193:162 Pathophysiology of Perfusion Technology

5 s.h.

Hemostasis, acid base physiology, gas transfer, heart anatomy, heart embryology, congenital cardiac defects. Requirements: Perfusion Technology Program enrollment.

- 193:163 Clinical Experience I** 2 s.h.  
Perfusion in operating room: patient workup, observation, and reporting on extracorporeal setup, surgical procedure.  
Requirements: Perfusion Technology Program enrollment.
- 193:164 Clinical Experience II** 3 s.h.  
Continuation of 193:163; setup of the extracorporeal circuit, ancillary duties of perfusionist. Prerequisites: 22S:101, 069:133, 193:161, 193:162, and 193:163.
- 193:165 Clinical Experience III** 12 s.h.  
Continuation of 193:164; management of cardiopulmonary bypass system. Prerequisites: 071:130, 193:164, 193:170, and 193:171.
- 193:166 Clinical Experience IV** 12 s.h.  
Continuation of 193:165; emphasis on supply maintenance, perfusion department management. Prerequisites: 193:165.
- 193:167 Perfusion Seminar** 1 s.h.  
Ethics in perfusion. Requirements: Perfusion Technology Program enrollment.
- 193:168 Research in Perfusion** 1 s.h.  
From topic selection to manuscript. Requirements: Perfusion Technology Program enrollment.
- 193:169 Clinical Experience V** 12 s.h.  
Continuation of 193:166. Prerequisites: 193:166.
- 193:170 Principle and Practice of Perfusion Technology** 6 s.h.  
Hypothermia, hemodilution, left heart bypass, dialysis, ultrafiltration, membrane and bubbler oxygenation.  
Prerequisites: 22S:101, 069:133, 193:161, 193:162, and 193:163.
- 193:171 Devices in Perfusion Technology** 3 s.h.  
Components of extracorporeal circuit; in vitro laboratory evaluation of components. Prerequisites: 22S:101, 069:133, 193:161, 193:162, and 193:163.
- 193:232 Subinternship in Cardiothoracic Surgery** arr.  
Participation in diagnosis, preoperative, operative, and postoperative care of thoracic and cardiac patients.
- 193:233 Research in Cardiothoracic Surgery** arr.  
Participation in diagnosis, preoperative, operative, and postoperative care of thoracic and cardiac patients.

# Clinical Laboratory Sciences

**Site coordinator:** Judith Kittleson (Pathology)  
**Undergraduate degree:** B.S. in Clinical Laboratory Science  
**Web site:** <http://www.medicine.uiowa.edu/clsp>

Clinical laboratory scientists and medical technologists perform the laboratory tests that provide physicians with information vital for accurate diagnosis and proper treatment of disease. They are in demand in hospital, private, and government laboratories; clinics; physicians' offices; and industrial, pharmaceutical, biological, and environmental research laboratories. Clinical laboratory scientists and medical technologists are highly skilled health team members who use a battery of sophisticated procedures and instruments in their work and who possess specialized knowledge and skills acquired through completion of a formal program of academic and clinical study.

## Undergraduate Program

The Carver College of Medicine offers a Bachelor of Science in clinical laboratory sciences through a partnership with the University of Nebraska Medical Center (UNMC). The UNMC program is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences. All graduates are eligible for national certification examinations in clinical laboratory sciences and medical technology.

Undergraduate study in the college is guided by the academic rules and procedures outlined in the Carver College of Medicine section of the Catalog, under "Undergraduate Programs."

### Bachelor of Science

The Bachelor of Science in clinical laboratory sciences requires a minimum of 131 s.h., including 86 s.h. of preparatory study and the 45 s.h. professional (clinical) program, which consists of 12 months of didactic and practical instruction and clinical rotations.

Bachelor of Science students who have completed all preparatory study (years one through three) begin the fourth-year professional program in May with an 11-week summer session of lecture and student laboratory courses. In mid-August they begin clinical rotations in the laboratories of University of Iowa Hospitals and Clinics, the University Hygienic Laboratory, and the Iowa City Veterans Affairs Medical Center. They also complete additional University of Nebraska Medical Center course work online during fall and spring. Students complete the program the first week in May.

University of Iowa students who successfully complete the 12-month professional program graduate with a Bachelor of Science from The University of Iowa and a letter of completion from the UNMC clinical laboratory sciences program.

Non-University of Iowa students may enroll in a clinical laboratory sciences certificate-only program if they hold a baccalaureate degree from an accredited institution of higher education or are enrolled at an affiliated institution that will grant them a baccalaureate at the completion of the certificate program. Contact the Clinical Laboratory Sciences Program for more information.

### FOURTH YEAR (PROFESSIONAL PROGRAM)

The professional program requires the following course work. Students must have completed 86 s.h., including all prerequisites (see "Admission" below), in order to enter the professional program. These courses are open only to Clinical Laboratory Sciences Program students in the fourth year (professional program).

069:150 Clinical Laboratory Skills	6 s.h.
069:152 CLS Theory, Application, and Correlation	5 s.h.
069:154 Clinical Chemistry I	4 s.h.
069:155 Clinical Chemistry II	3 s.h.
069:156 Clinical Hematology I	4 s.h.
069:157 Clinical Hematology II	3 s.h.
069:158 Clinical Microbiology I	4 s.h.
069:159 Clinical Microbiology II	3 s.h.
069:160 Clinical Immunology and Molecular Diagnostics	1 s.h.
069:162 Clinical Immunohematology I	3 s.h.
069:163 Clinical Immunohematology II	2 s.h.
069:164 Phlebotomy for Clinical Laboratory Science	1 s.h.
069:166 Urine and Body Fluid Analysis	1 s.h.
069:170 Clinical Laboratory Management I	2 s.h.

## 069:171 Clinical Laboratory Management II

3 s.h.

For course descriptions and prerequisites, see Pathology in the Catalog.

**Admission**

Admission to the clinical laboratory sciences professional program is competitive; enrollment may be limited. Applications are reviewed yearly beginning October 15 for students planning to begin the program the following May. Applications are accepted until the class is filled.

Applicants must have completed all of the following prerequisites and must have earned at least 86 s.h. of college credit by the beginning of the professional program (fourth year).

Biological sciences--must include microbiology (with lab), genetics, and immunology	16 s.h.
Chemistry--must include two semesters of general chemistry, two semesters of organic chemistry, and one semester of organic chemistry lab or biochemistry	16 s.h.
Mathematics through precalculus	3 s.h.
Statistics	3 s.h.
English	6 s.h.
Public speaking/oral communication	3 s.h.

Applicants must have a cumulative grade-point average of at least 2.70 both overall and in science. Those who intend to receive a Bachelor of Science from The University of Iowa must fulfill all College of Liberal Arts and Sciences General Education Program requirements before beginning the professional program. University of Iowa students satisfy the English and public speaking requirements by fulfilling the General Education Program rhetoric requirement. Students must satisfy any English as a Second Language requirements specified by the University before beginning the professional program.

Students should consult with a Clinical Laboratory Sciences Program advisor as early as possible to plan preclinical studies that meet all requirements.

**Expenses**

Students are responsible for buying textbooks and paying University of Iowa tuition and student fees. Students who intend to receive a Bachelor of Science in clinical laboratory science from The University of Iowa at the end of the professional program must pay full-time study University tuition and fees. Students in the clinical laboratory sciences certificate-only program may pay reduced tuition and fees. Contact the Clinical Laboratory Sciences Program for more information.

Students must arrange and pay for their own meals and housing, including meals and lodging during the summer session.

The Clinical Laboratory Sciences Program provides laboratory coats for professional program students.

## Dermatology

**Head:** Janet A. Fairley

**Professors:** George J. Giudice, Kathi C. Madison, Thomas L. Ray, Mary S. Stone

**Professors emeriti:** Richard M. Caplan, John S. Strauss

**Adjunct clinical professors:** Marc E. Boddicker, Roger I. Ceilley

**Visiting professor:** C. William Hanke

**Clinical associate professor:** Vincent Liu

**Adjunct clinical associate professors:** Dan A. Bovenmyer, Robert F. Godwin, Susan Wall

**Assistant professor:** Marta J. Van Beek

**Assistant professor (research):** Kelly A. N. Messingham

**Adjunct assistant professor:** Laura M. Myers

**Clinical assistant professor:** Brian L. Swick

**Adjunct clinical assistant professors:** Timothy G. Abrahamson, Mark G. Cleveland, David A. Davis, Gary Quinby

**Web site:** <http://www.uihealthcare.com/depts/med/dermatology/>

The Department of Dermatology instructs M.D. students and trains dermatology residents in the care of patients with skin diseases. It also provides researchers with an opportunity to develop their skills in dermatology.

## M.D. Student Training

The Carver College of Medicine is one of the few medical colleges in the country with a required dermatology rotation for students. Each third-year M.D. student spends two weeks in the clinic and attends around 10 one-hour lectures. Students see a good cross-section of patients, including those receiving primary or tertiary care at University of Iowa Hospitals and Clinics and a large number of patients referred from Student Health Service. Additional patients are seen at the nearby Iowa City Veterans Affairs Medical Center.

Varied electives are open to fourth-year M.D. students, including further clinical experience, dermatologic research, and special studies.

## Dermatology Courses

### 062:001 Clinical Dermatology

2 s.h.

Basic dermatology; lectures, independent study, clinical experience. Requirements: third-year M.D. enrollment.

### 062:002 Dermatology Elective

arr.

Advanced clinical experience, dermatologic surgery, special assignments. Requirements: fourth-year M.D. enrollment.

### 062:004 Research in Dermatology

arr.

General principles of medical research; clinical or laboratory projects; individual study.

### 062:999 Dermatology off Campus

arr.

Arranged by student with departmental approval.

## Dietetic Internship

**Director:** Laurie Kroymann

**Web site:** <http://www.healthcare.uiowa.edu/fns/internship/internship.htm>

University of Iowa Hospitals and Clinics offers a Dietetic Internship Program that is fully accredited by the American Dietetic Association Commission on Accreditation for Dietetics Education. It qualifies graduates to take the exam for qualification as a Registered Dietitian (RD). Clinical dietitians and food service operation managers of the Department of Food and Nutrition Services at University of Iowa Hospitals and Clinics provide the teaching for the program. Graduate courses in the program are administered by the Carver College of Medicine and the College of Public Health. See "Associated Courses" below.

Students generally complete the program with 9 s.h. of graduate credit, which may be applied toward an advanced degree. Approximately half of the program's graduates go on to complete advanced degree programs, typically a master's degree in health promotion, public health, or business.

University of Iowa Hospitals and Clinics awards a certificate to the program's graduates.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They also must complete a didactic program in dietetics that has approval of the ADA Commission on Accreditation for Dietetics Education.

Students enter the program in the fall semester. The postmark deadline for applications is February 15.

## Associated Courses

For course descriptions, see "Nondepartmental Courses" in the Carver College of Medicine section of the Catalog and "Courses" in the Epidemiology section (College of Public Health).

050:203 Clinical Dietetics	1 s.h.
173:230 Principles of Dietary Assessment	1 s.h.
173:235 Nutritional Epidemiology	2 s.h.
173:236 Nutrition Intervention in Clinical Trials Research	2 s.h.
173:237 Nutrition Intervention in Research Lab	3 s.h.

## Emergency Medicine

**Director:** Andrew Nugent

**Clinical professor:** Mark Graber

**Associate professors (clinical):** Azeem Ahmed, Hans House, Charles Jennissen

**Assistant professors (clinical):** Agustin Aguilar, Olivia Bailey, Gregory Bell, Chris Buresh, Carlyn Christensen-Szalanski, Dana Collaguazo, Harlo Hove, Mike Miller, Christine Miyake, Bobby Peters, Shoshone Richardson, Mike Takacs, Jon Van Heukelom

**Web site:** <http://www.uihealthcare.com/emergencymedicine>

The Department of Emergency Medicine prepares new physicians to recognize and treat a variety of urgent and emergent conditions. The program fosters basic science and clinical research relevant to emergency medicine and is dedicated to the education and training of Emergency Medical Services (EMS) personnel through the Emergency Medical Services Learning Resources Center (EMSLRC).

## M.D. Student Training

Elective rotations for Doctor of Medicine students are available at University of Iowa Hospitals and Clinics and at several other sites throughout Iowa, including St. Luke's Hospital, Cedar Rapids; Great River Medical Center, Burlington; Covenant Medical Center, Waterloo; Broadlawns Medical Center, Des Moines; and Mercy Medical Center, Sioux City. Students also may arrange an off-service elective independently with established residency programs throughout the United States.

The program offers an annual introductory month to emergency medicine; advanced life support; and Wilderness Medicine, a rotation that includes a trip to wilderness areas such as the Death Valley and Mount Whitney areas of California.

## Residency Program

The emergency medicine faculty directs the Iowa Emergency Medicine Residency, Iowa's only emergency medicine residency. The residency is a three-year program that prepares residents for careers in diverse areas of emergency medicine, from rural practice to academics. The program emphasizes critical care training and rotations in a wide variety of specialties. Part of the clinical component is spent at St. Luke's Hospital, Cedar Rapids.

## Resources

The Emergency Treatment Center, located on the first floor of Roy Carver Pavilion, is a Level I Adult and Pediatric Trauma Center. It serves as a referral center for communities across Iowa.

## Emergency Medicine Courses

**184:220 Emergency Medicine: St. Luke's, Cedar Rapids** 4 s.h.

Preceptorship with full-time emergency department physicians; clinical shifts, case conferences, simulations, exams. Requirements: completion of M.D. third year.

**184:221 Emergency Medicine UIHC** arr.

Preceptorship with residents and faculty; emphasis on principles of acute medicine; clinical shifts, case conferences, simulations, exams. Requirements: completion of M.D. third year.

**184:222 Emergency Medicine off Campus** arr.

Preceptorship with residents and faculty; emphasis on principles of acute medicine. Requirements: completion of M.D. third year.

**184:223 Rural Emergency Medicine at Burlington, Iowa** 4 s.h.

In-depth clinical experience in a busy rural hospital emergency department under supervision of residency-trained emergency physicians; lectures, skill labs, projects. Requirements: completion of M.D. third year.

**184:224 Introduction to Advanced Life Support Skills** 4 s.h.

Experience managing acute threats to life, including trauma, respiratory failure, poisoning, sepsis, stupor/coma, and acute MI, using ACLS and PALS courses and clinical manikin work with EMS staff. Requirements: completion of M.D. third year.

**184:225 Wilderness Medicine** 4 s.h.

Didactic and scenario training in physiology, diagnosis, and emergency treatment of heat- and cold-related illnesses, high altitude disorders, wilderness trauma, envenomations, and immersion injuries. Taught in wilderness areas. Requirements: completion of M.D. third year.

**184:402 Emergency Medicine Des Moines**

4 s.h.

Participation in acute emergency care, management of acute illnesses, follow-up care when possible; Broadlawns Hospital, Des Moines. Requirements: completion of M.D. third year.

**184:425 Emergency Medicine Waterloo**

4 s.h.

Participation in acute emergency care, management of acute illnesses, follow-up care when possible; Covenant Medical Center, Waterloo. Requirements: completion of M.D. third year.

**184:430 Emergency Medicine Sioux City**

4 s.h.

Experience with a routine cross section of emergency problems in a regional trauma center and with functions of area resource hospitals (St. Luke's Medical Center, Mercy Medical Center); option to accompany ambulance crews. Requirements: completion of M.D. third year and basic life support certification.

**184:998 Emergency Medicine on Campus**

arr.

Clinical research experience with a mentor in the Emergency Treatment Center and the Department of Emergency Medicine; principles of design, methodology, basic statistics.



## Family Medicine

**Head:** Paul James

**Professors:** George R. Bergus, John Ely, Paul James, Gerald J. Jogerst, Clarence D. Kreiter, Barcey T. Levy

**Professors emeriti:** Arthur Hartz, Reuben B. Widmer, Glenys O. Williams

**Professors (clinical):** Richard Dobyns, Daniel Fick, Steven Wolfe

**Adjunct clinical professor:** John E. Sutherland

**Associate professor:** Marcy Rosenbaum

**Associate professors (clinical):** David Bedell, Robert Garrett, David Kearns, Michael Maharry, Anne Sullivan

**Adjunct clinical associate professors:** Gordon Baustian, Anthony Day, Robert Friedman, Scott Henderson, Michael Jung, Gerald Loos, Lawrence Matthews, Gerald McGowan, Jay Mixdorf, Kurt Rosenkrans, Larry Severidt, Craig Whittenberg, Charles Zelnick

**Assistant professor:** Rick Axelsson

**Assistant professors (clinical):** Alison Abreu, Jill Endres, Adelaide Gurwell, Matthew Lanternier, Britt Marcussen, Sandra Rosenfeld, Wendy Shen, Kelly Skelly, Jason Wilbur

**Adjunct assistant professor:** Larry Shostrom

**Adjunct clinical assistant professors:** Jon Ahrendsen, Andrew Andresen, Carlos Alarcon Schroder, John Ankeny, William Artherholt, William J. Bailey, Laurence Baker, Robert L. Bender, Timothy Blair, Jessica Bloom-Foster, Jason Booth, Douglas Boss, David Breitkreuz, Dean A. Bunting, Jerald W. Bybee, John Carroll, Kenneth Cearlock, Christopher Champion, W. David Clark, Patricia Connell, James Cummings, Timothy Daniels, Stanton Danielson, Dana Danley, Cory Dietz, Daryl Doorenbos, Roy Doorenbos, William Durbin, Laine Dvorak, Matthew Fox, Corrine Ganske, Kirk R. Gieswein, Donal Gordon, Paul Gordon, Michelle Graham, David H. Hanson, Ronnie Hawkins, Greg Hayes, Jeffrey Hoffmann, Mark Hogenson, Kayleen Hornbrook, Marvin Huff, Samuel Hunt, Charles Huss, Wenny Jean, Michael Jennings, Leah Johnson, Duane Jolivet, Richard Jongewaard, George T. Kappos, Colleen Keating, Anish Keshwani, John Klein, Kurt Klise, David Kresnicka, John Lanaghan, Kimberly Lansing, Delwyn Lassen, Todd Lawrence, Robert A. Lee, Andrew Lobuznov, Kevin Locke, Patricia Magle, Mark Mahoney, Jami Maxson, Paul McCaughey, James McConville, Robert J. Merrick, Ann Metzger, Tracy Mixdorf, Marc Molis, Kenton Moss, Merle E. Muller, Tony Myers, Donald A.F. Nelson, Stacey Neu, Richard Perry, Francis Pisney, James Pooch, Richard Posthuma, Kevin Rahner, Robert Railey, Larry W. Richard, John Roof, David Ruen, Subhash Sahai, Thomas Schroeder, Charles Semler Jr., Glenace Shank, Neal Sheeley, Robert Shires, Ronald Shirk, Andrea Silvers, Stephen Sladek, Steven Sohn, Jenny Stephen, Thor Swanson, Carol Tershak, David L. Thomas, J-Gregory Thomas, Lloyd Thurston, Matthew Ulven, Daniel T. Vanden Bosch, Bruce Van Houweling, Rose Warhank, David Wensel, Jerrold White, James C. Widmer, Marc L. Wilkinson, Douglas Workman, Jackie L. Yeager, James Young

**Adjunct instructors:** Charles Taylor, Veronica Wieland

**Associates:** Aaron Olson, Lisa Soldat

**Adjunct associates:** Glenn Abernathy, Nasser Azeez, Harriet Echternacht, Nicholas S. Galioto, Patrick Gordon, Savita Hegde, Natalie Lanternier, Jason Powers, James Putman, Katharine Saunders, Julia Swanson

**Web site:** <http://www.uihealthcare.com/familymedicine>

## M.D. Student Training

The Department of Family Medicine trains primary care physicians. The department offers course work that is included throughout the four-year M.D. program. Twenty-one elective senior rotations give students opportunities for exposure to various Iowa communities through work in affiliated hospitals or connected facilities, in the department's model office on the University campus, and in preceptorships with selected family physicians throughout the state. There also is the opportunity for independent study during the fourth year.

## Residency Program

### Family Practice Residency

The Department of Family Medicine directs a three-year residency program whose graduates are eligible for certification by the American Board of Family Medicine. The residency program trains physicians to provide continuous and comprehensive medical care to patients and their families. Residents are educated in all areas of family medicine—adult medicine, maternal and child health, behavioral science, surgical specialties, and community medicine. Training emphasizes the value of wellness and preventive medicine as well as curative medicine.

The program is organized as a progressive educational experience. It consists of formal teaching and clinical experiences on assigned rotations, structured conferences, and patient care in the Family Care Center. As residents develop clinical skills, medical judgment, and competence, their patient responsibilities increase. Some patients at the Family Care Center are assigned to residents, who provide medical care under faculty supervision. Each resident is responsible for his or her patients for the duration of the residency program.

Residents also learn the principles of practice management, including organizational and administrative decision making, patient record and bookkeeping procedures, and chart auditing methodologies.

Residents are expected to take responsibility for their learning environment, to avail themselves of the department's diverse resources, and to collaborate with the faculty in order to have the best possible learning experience.

### Family Practice-Psychiatry Residency

The Department of Family Medicine and the Department of Psychiatry cosponsor the combined Family Practice-Psychiatry Residency Program. The program's residents acquire broad-based training in both disciplines, including focused training in geriatrics and geriatric psychiatry, substance and alcohol abuse, diagnosis and treatment of depression, delirium, eating disorders, panic disorders, and neurotic and somatizing behavior. Graduates are eligible for certification by the American Board of Family Medicine and the American Board of Psychiatry and Neurology.

## Facilities

The Department of Family Medicine is located on the University of Iowa health sciences campus. Faculty offices are close to the Family Care Center, where patients are seen by appointment. The department also has community-based

clinics in southeast Iowa City and North Liberty, Iowa, and a rural satellite office located in Lone Tree, Iowa.

## Family Medicine Courses

- 115:203 Medical Education Community Orientation** 0 s.h.  
Experience in a local health care delivery system away from the University setting, between first and second year of M.D. program.
- 115:300 Preceptorship in Family Medicine** arr.  
One-on-one experience with a practicing physician in his or her office; exposure to illnesses, conditions often seen in primary care; realistic background for evaluation of family medicine as a career alternative.
- 115:401 Family Medicine Clerkship, Broadlawns Hospital, Des Moines Family Health Center** 4 s.h.  
Clinical experience in inpatient and outpatient care.
- 115:403 Lone Tree Family Medicine Clerkship** 4 s.h.  
Experience providing patient care in a rural setting; continuity of care for patients of all ages. Requirements: fourth-year M.D. enrollment.
- 115:404 Advanced Preceptorship in Family Medicine** 4 s.h.  
Experience in community practice of family medicine.
- 115:405 Subinternship in Family Medicine, University of Iowa** arr.  
Inpatient aspects of family medicine's key components; experience on the family medicine inpatient service.
- 115:406 Subinternship in Family Medicine, Iowa Lutheran** 4 s.h.  
Patient-oriented interactive experience in an inpatient family practice environment. Requirements: fourth-year M.D. enrollment.
- 115:407 Family Medicine, Iowa Lutheran** arr.  
Requirements: fourth-year M.D. enrollment.
- 115:408 U of I Family Medicine Clerkship** 4 s.h.  
Work with family practice residents and staff in day-to-day delivery of primary medical care at Family Practice Center; experience in the Family Stress Clinic observing family-centered counseling; nursing home visits, work with departmental social worker and sports medicine specialist.
- 115:409 Family Medicine, Mason City** 4 s.h.  
Work with family physicians on staff at Mercy or other affiliated community hospitals; management of all patients admitted by the family physicians, participation in care rendered by consultants; primary care experience in family practice office.
- 115:410 Independent Studies** arr.  
Work with departmental researcher on investigation in family medicine, community medicine, health care delivery, health maintenance, and other areas.
- 115:411 Rural Preceptorship in Family Medicine** 4 s.h.
- 115:415 Subinternship in Family Medicine--Cedar Rapids** 4 s.h.  
Experience as a junior resident in all areas of inpatient family medicine, including maternity care, child and adolescent health, adult medicine.
- 115:416 Clerkship in Family Medicine--Cedar Rapids** 4 s.h.  
Experience as a junior resident in all areas of family medicine, including maternity care, child and adolescent health, adult medicine.
- 115:417 Continuity of Care - Family Medicine** 4 s.h.  
Longitudinal continuity of care experience for fourth-year M.D. students in an outpatient family medicine setting.

- 115:419 Family Medicine Clerkship, Davenport** 4 s.h.  
Assignment to problems commonly seen in family practice office; supervision by residents and faculty for history and physical evaluation and diagnostic workups and treatment of each specific problem; exposure to acutely ill patients in services of medicine, surgery, obstetrics, pediatrics.
- 115:420 Family Medicine Clerkship, Sioux City** 4 s.h.  
Methods common in family practice medicine; participation in care of patients seen by family practice physicians and residents.
- 115:423 Subinternship in Family Medicine, Waterloo** 4 s.h.  
Experience working as a member of family practice inpatient team at Allen Memorial Hospital and Covenant Medical Center, following patients from admission through discharge.
- 115:424 Family Medicine Clerkship, Waterloo** 4 s.h.  
Rotation at the Northeast Iowa Family Practice Center; work with patients from outpatient care through hospitalization; basic concepts of family practice, team concept in medical care.
- 115:426 Geriatrics Elective** arr.  
Experience in monitoring and evaluating health and functional status of patients age 65 and older in the UI Geriatric Assessment Clinic and community settings. Same as 078:800.
- 115:427 FM Geriatrics Davenport** 4 s.h.  
Geriatric, palliative, and end-of-life care issues; assessment of competency in evaluation and management of patients; interdisciplinary nature of geriatric and palliative care.
- 115:429 Subinternship in Family Practice, Sioux City** 4 s.h.  
Experience as a junior resident in all areas of family medicine. Requirements: fourth-year M.D. enrollment.
- 115:430 Subinternship in Family Medicine, Davenport** 4 s.h.  
Experience in inpatient family medicine; assessing and managing hospitalized patients, evaluating and treating patients in the emergency room, participating in call coverage with family medicine residents.
- 115:431 Primary Care Sports Medicine** 4 s.h.  
Comprehensive, diverse, and educational experience in the field of sports medicine; clinical competence to diagnose and manage medical illnesses and injuries related to sports and exercise in varied patients, recreational and organized athletes, and teams. Requirements: medical student.
- 115:999 Family Medicine off Campus** arr.  
Clerkships; may include community hospitals.

# Free Radical and Radiation Biology

**Director:** Douglas R. Spitz

**Professors:** John Buatti, Garry R. Buettner, Joseph Cullen, Frederick E. Domann Jr., John F. Engelhardt, Gerry Funk, Michael Graham, Richard Hichwa, Henry T. Hoffman, Kevin C. Kregel, Larry W. Robertson, Milan Sonka, Douglas R. Spitz, Timothy Tewson

**Professors emeriti:** Frank Hsieh-Fu Cheng, James W. Osborne

**Associate professors:** Kyle E. Brown, Brent Carter, Gary E. Christensen, Prabhat C. Goswami, Aloysius J. Klingelutz, Michael Knudson, Francis J. Miller, Aliye Uc

**Assistant professors:** Paloma Giangrande, Apollina Goel, Fiorenza Ianzini, Yusuf Menda, Xiaodong Wu

**Adjunct assistant professors:** Nukhet Aykin-Burns, Andrian L. Burnett, Melissa Fath, Michael L. McCormick, Michael Schultz, Damon C. Shutt, Melissa Laitee Teoh

**Graduate degrees:** M.S., Ph.D. in Free Radical and Radiation Biology

**Web site:** <http://www.uiowa.edu/~frrbp/>

The Free Radical and Radiation Biology Program provides in-depth training and research experience in the physical, chemical, and biological effects of radiation. It also focuses on free radical biology. Free radicals, which are generated in great number by radiation, play a major role in the interaction of radiation with biological systems. Free radicals are of great interest to basic researchers and clinicians because of their role in a variety of diseases and pathological states, including aging and cancer. The program stresses the importance of all of these areas to scientific research, clinical medicine, and public health.

## Undergraduate Education

Three courses, 077:103 Radiation Biology, and 077:107 Special Topics: Advanced Undergraduates and 077:108 Special Topics: Advanced Undergraduates, are open to University of Iowa undergraduates. Students who want an overview of the biological effects of radiation, including the role of free radicals, will find 077:103 Radiation Biology especially appropriate. All three courses are appropriate for students who plan to enter medicine, nuclear medicine technology, environmental health, or related programs.

## Graduate Programs

The Carver College of Medicine administers graduate programs in free radical and radiation biology; graduate degrees are granted through the Graduate College. See Carver College of Medicine and Graduate College in the Catalog for general information about study in medicine and graduate study at the University.

The Master of Science requires a minimum of 30 s.h. of graduate credit; the Doctor of Philosophy requires a minimum of 72 s.h. of graduate credit.

The M.S. and Ph.D. programs in free radical and radiation biology are open to graduate students with a background in physics, chemistry, mathematics, biology, health sciences, veterinary medicine, or engineering.

After completing the introductory course 077:103 Radiation Biology, students typically concentrate on a particular aspect of the field. Some students elect to focus on radiation biology, while others choose to emphasize free radical biology.

In addition to formal lectures and some structured laboratory exercises, plans of study for free radical and radiation biology students involve small-group conferences, discussions, and seminars. Students are encouraged to spend at least one semester as a teaching assistant, for which no registration is required and no academic credit is given.

Many of the department's graduate students elect to take 074:220 Radiation Safety and Radiobiology, a Department of Radiology course that covers safe operation of radiation-producing equipment and handling of radioactive materials, regulations and regulatory agencies, formulas and techniques in radiation protection programs, radiation protection, and other topics.

## Postgraduate Training

Postdoctoral training is available by arrangement with the program's director and individual faculty members. Contact the Free Radical and Radiation Biology Program.

## Financial Support

Graduate students are supported as graduate assistants from funds available through research grants and contracts or from departmental funds. Individual postdoctoral awards also may be available; the candidate and his or her faculty sponsor apply for them jointly.

## Facilities

The Free Radical and Radiation Biology Program has a 300 kVp orthovoltage X-ray generator and other radiation

sources, including a kilo-Curie Cs-137 irradiator. Students and staff also have access to other radiation sources, such as the Co-60 gamma source and linear accelerators in the Department of Radiation Oncology.

The program has a number of radiation detectors and counters, including liquid scintillation counters. It also has ultraviolet/visible spectrophotometers; various types of equipment for densitometry, chromatography, and electrophoresis; molecular biology equipment, including thermal cyclers; an automatic cell counter and particle sizer; tissue culture facilities; Typhoon Phosphoimager; HPLC; Electron Spin Resonance Spectrometers; and nitric oxide analyzers.

## Free Radical and Radiation Biology Courses

<b>077:103 Radiation Biology</b> Characteristics and biological effects of ionizing radiations. Offered fall semesters.	4 s.h.
<b>077:107 Special Topics: Advanced Undergraduates</b> Readings and/or laboratory experience. Offered fall semesters.	arr.
<b>077:108 Special Topics: Advanced Undergraduates</b> Readings and/or laboratory experience. Offered spring semesters.	arr.
<b>077:207 Seminar: Free Radical and Radiation Biology</b> Offered fall semesters.	1 s.h.
<b>077:208 Seminar: Free Radical and Radiation Biology</b> Offered spring semesters.	1 s.h.
<b>077:211 Medical Physics</b> Characteristics of X-ray machines, nuclear accelerators, teletherapy devices; properties of X-rays and gamma rays, their interaction with matter; radiation exposure, depth dose measurements; radiation therapy. Offered spring semesters of even years. Requirements: 8 s.h. of physics. Same as 029:240.	4 s.h.
<b>077:222 Free Radicals in Biology and Medicine</b> Chemistry of free radicals, antioxidants; antioxidant enzymes--their structure, function, regulation; targets of free radicals--lipids, proteins, DNA; free radicals in health and disease. Offered spring semesters of odd years. Prerequisites: 004:121 or 099:120.	4 s.h.
<b>077:288 Molecular and Cellular Biology of Cancer</b> Fundamental aspects of oncology at the cellular and molecular levels; mechanisms of cancer initiation and progression, oncogene action, DNA damage and repair, carcinogenesis by radiation, chemicals, viruses; tumor immunology, anticancer therapies. Offered spring semesters of odd years. Requirements: strong basic science background. Same as 069:288.	3 s.h.
<b>077:305 Research: Free Radical and Radiation Biology</b>	arr.
<b>077:306 Research: Free Radical and Radiation Biology</b>	arr.
<b>077:307 Research: Special Topics</b>	arr.
<b>077:308 Research: Special Topics</b>	arr.
<b>077:545 Topics in Free Radical Biology and Medicine</b> New literature in area of free radicals. Offered fall semesters.	1 s.h.
<b>077:546 Topics in Free Radical Biology and Medicine</b> Offered spring semesters.	1 s.h.
<b>077:547 Topics in Radiation and Cancer Biology</b> Emerging concepts in the biological effects of radiation and cancer biology; current topics in journal club format. Offered fall semesters.	1 s.h.

**077:548 Topics in Radiation and Cancer Biology**

1 s.h.

Offered spring semesters.

# Internal Medicine

**Head:** Mark E. Anderson

**Professors:** Francois M. Abboud, Mark E. Anderson, Michael A. Apicella, Zuhair K. Ballas, Gail A. Bishop, Donald D. Brown, Kathleen C. Buckwalter, Kevin P. Campbell, Mark W. Chapleau, Alan J. Christensen, Gerald H. Clamon, John S. Cowdery, Beverly L. Davidson, Peter Densen, David E. Elliott, John F. Engelhardt, Frank M. Faraci, Robert B. Felder, Kristi J. Ferguson, Elizabeth H. Field, F. Jeffrey Field, Laurence J. Fuortes, Lois J. Geist, Fredric E. Gerr, Roger D. Gingrich, Joel A. Gordon, William G. Haynes, Donald D. Heistad, Charles M. Helms, Lorean A. Herwaldt, Eric Hoffman, Raymond J. Hohl, Gary W. Hunninghake, Lawrence G. Hunsicker, Frederick C. Jolin Jr., Lawrence P. Karniski, Richard E. Kerber, Michael G. Kienzie, Louis V. Kirchhoff, Joel N. Kline, Ulla C. Kopp, Douglas R. LaBrecque, Steven R. Lentz, Brian K. Link, Dwight C. Look, Donald E. MacFarlane, Allyn L. Mark, James B. Martins, Stephen E. McGowan, James A. Merchant, William M. Nauseef, Thomas M. O'Dorisio, Brian Olshansky, Satish S.C. Rao, Gary B. Rosenthal, James D. Rossen, Paul B. Rothman, Peter A. Rubenstein, Janet A. Schlechte, Gregory A. Schmidt, Warren N. Schmidt, Konrad S. Schulze, D. Michael Shasby, Curt D. Sigmund, William I. Sivitz, Richard J. Smith, Peter M. Snyder, Jack T. Stapleton, John B. Stokes III, Christie P. Thomas, Edwin J.R. Van Beek, Robert B. Wallace, George J. Weiner, Jerrold P. Weiss, Robert M. Weiss, Michael J. Welsh, Mary E. Wilson, Patricia L. Winokur, Fred D. Wolinsky, Mark A. Yorek, Joseph L. Zabner, Nicholas Zavazava, Craig S. Zwerling

**Professors emeriti:** Robert F. Ashman, Robert S. Bar, C. Patrick Burns, James Christensen, James A. Clifton, Richard L. DeGowin, Gerald F. DiBona, Richard Eckhardt, John W. Eckstein, Michael J. Flanagan, William B. Galbraith, Nancy E. Goeken, Daryl Granner, Kenneth A. Hubel, John E. Kasik, Victoria S. Lim, Hal B. Richerson, Phillip C. Schmid Jr., Helmut G. Schrott, Paul M. Seeböhm, Ian M. Smith, Arthur A. Spector, Robert W. Summers, John M. Weiler, Donald C. Zavala

**Professors (clinical):** Herbert A. Berger, Kanu Chatterjee, Daniel J. Diekema, Gregory C. Doelle, Jeffrey C. Dunkelberg, Mary Beth Fasano, John F. Fieselmann, Christopher J. Goerd, Ellen E.I. Gordon, Patrick G. Hartley, Douglas B. Hornick, Richard F. LeBlond, Margarida Magalhaes-Silverman, Rachel A. Miller, Paul L. Mulhausen, Nicole L. Nisly, William B. Silverman, Scott A. Vogelgesang, Michael D. Voigt, Terry L. Wahls, Jeffrey S. Wilson, Mark C. Wilson, Scott R. Wilson

**Adjunct professors:** Edgar Carvalho, Selma Jeronimo

**Adjunct clinical professors:** Steven R. Craig, Patrick H. Henry, Nathan Josephson, Udaya M. Kabadi, Thomas J. McIntosh, Barbara A. Muller

**Associate professors:** Lee-Ann H. Allen, Christopher J. Benson, Daniel J. Berg, J. Andrew Bertolatus, Kyle E. Brown, A. Brent Carter, Peter M. Cram, Joseph S. Dillon, Bradley S. Dixon, Thomas J. Gross, Peter J. Kaboli, Lauris C. Kaldjian, David A. Katz, Anne E. Kwitek, Kathryn G. Lamping, Gloria Lee, Jeffery L. Meier, Francis J. Miller Jr., Peter J. Mohler, Craig T. Morita, Jennifer G. Robinson, Christian M. Simon, Linda G. Snetelaar, Mark W. VanderWeg, Mark W. VanderWeg

**Associate professors emeriti:** James R. Flanagan, William J. Lawton, Jeanne M. Smith

**Associate professors (clinical):** Ademola K. Abiose, Lisa M. Antes, Gwen Z. Beck, Dale E. Bieber, Theresa M. Brennan, Ann Broderick, Todd L. Burstain, Thomas L. Carlisle, Thomas H. Carter, Henri A. Cuddihy, Elaine M. Demetroulis, Kevin C. Doerschug, Henning Gerke, Rebecca L. Hegeman, Phillip A. Horwitz, William L. Iverson, Katarzyna Jamieson, Frances L. Johnson, Melinda J. Johnson, Roberto S. Kalil, Mark W. Karwal, Paul D. Lindower, Alexander Mazur, Frances J. Meyer, Susan L. Roeder, Margo L. Schilling, Douglas L. Somers, Haralaine A. Stafford, Joseph F. Szot, Alexandra Thomas, Karl W. Thomas, Rebecca S. Tuetken, Daniel A. Vaena, Byron F. Vandenberg, R. Todd Wilbin, Chad L. Williams

**Adjunct clinical associate professors:** Russell Adams, Craig Bainbridge, Oscar C. Beasley, John H. Brinkman, Robert H. Caplan, M. Craig Champion, Prem K.G. Chandran, Craig B. Clark, Susan L. Espeland, Russell D. Glynn, Gregory A. Hicklin, David W. Kabel, Karl Larsen, Thomas R. Nicknisch, Mark W. Purtle, Craig A. Shadur, Nicholas W. Shammass, Richard B. Trimble, Lisa A. Veach, Javad Yans, William J. Yost

**Assistant professors:** Christopher M. Adams, Jason H. Barker, Reinhard R. Beichel, Anil Chauhan, John D. Colgan, Alejandro Comellas, Lakshmi Durairaj, Paloma Giangrande, Kevin A. Glenn, Dayna J. Groskreutz, Isabella M. Grumbach, Denise M. Hodgson-Zingman, Mirac Ince, Julia Klesney-Tait, Helena Laroche, Petar Lenert, Dana Levasseur, Yue Li, Anton P. McCaffrey, James O. McNamara, David G. Motto, Toru Nyunoya, Michael E. Ohl, Philip M. Polgreen, Steven F. Polyak, Ioana Popescu, Kamal Rahmouni, Long-Sheng Song, David A. Stoltz, Fayyaz S. Sutterwala, Cyrus P. Tamboli, Kai Tan, Yi Xing, Nelson S. Yee, Leonid Zingman

**Assistant professors (clinical):** Neeraj Agrawal, Antoine E. Azar, Kimberly Baker, Ole Behrendtsen, Mohan Brar, Jaspreet K. Chahal, John S. Chase, Bogdan Cherascu, Brian P. Daniel, Rebecca Davis, Amy M. Dowden, Rami El Abiad, Michele M. Fang, Dawn M. Flaherty, Mony Fraer, Jennifer Goerbig-Campbell, Thorvardur Halfdanarson, Jacob W. Jdo, Birgir Johannsson, Chadwick Johr, Irfan Khurram, Vicki J. Kijewski, Soma Mian, Mohammed M. Milhem, Carla M. Nester, John W. Rachow, Lori Rosenstein, Antonio J. Sanchez, Ron Schey, Amal S. Shibli-Rahhal, Gardar Sigurdsson, Judy A. Streit, Manish Suneja, Abby R. Thrower, Ahmad Wehbe, Shawna J. Westermann

**Adjunct assistant professors:** Paul Casella, Michael Cassaday, Lynda L. Hemann, Valerie F. Hoffman, Heather Reisinger

**Adjunct clinical assistant professors:** Saramma J. Alexander, Daniel P. Allen, Eduardo S. Antezano, Brad J. Archer, David A. Basel, Hriden N. Basu, Walter W. Bate, Byron T. Beasley, Susan K. Beebout, Robert J. Behrens, Mark M. Belz, John P. Bennett, Anuj Bhargava, Edward M. Bottei, Leslie M. Brettell, Michael S. Brooks, Thomas M. Brown Jr., Mark Burdett, John A. Carstensen, Charles R. Caughlan, Angela Collins, Sanjiv Dahal, James L. Donahue, Nile S. Dusdieker, John J. Ellis, Amerion L. Enriquez, John Even, Steven Eyanson, James E. Feeley, Matthew A. Flemming, Michael T. Flood, Michael Fraizer, Harsha V. Ganga, Brent F. Gerleman, Magdi G.H. Ghali, James L. Gilliland, Adam J. Glazier Jr., Angie R. Goodson, David F. Gordon, Katrina A. Guest, Philip A. Habak, Joel E. Hade, Douglas L. Hanson, Nidal H. Harb, Timothy J. Hart, Roger L. Harvey, Frank Haugland, Lisa M. Hazelton, Steven P. Hedding, Alan D. Hilgerson, Matthew L. Hill, John D. Hines, Eric N. Holm, Robert H. Hoyt, Martin Izakovic, Susan M. Jacobi, Nancy Kane-Johnson, Abul N. Khan, Tech Khoo, James A. Kvirant, Charles C. Larson, Allan P. Latcham, David R. Laughrun, Robert H. Leisy, David K. Lemon, Roshan Lewis, Charles Link, Randy N. Maigaard, Mark D. McGaughey, Sheni Meghani, Joe Moonjely, Roscoe Morton, Pamela L. Nerheim, David J. Nordstrom, Muhammad A. Pathan, Donald E. Paynter, James G. Piro, Cory B. Pittman, Deanna L. Questad, Mary A. Radia, Ronald Reider, Ramon Reyes, Christopher J. Ronkar, Jay A. Rosenberger, Johann P. Schmolck, Michael J. Slavin, Melinda A. Smith, Craig A. Stark, Christina L. Taylor, Yuvaraj Thangara, Joseph D. Thoreson, Dirk A. VerSteeg, Douglas E. Vickstrom, Devendra G. Wadvekar, Robert F. Weis, Edward R. Winga, Gholam R. Zadei

**Visiting assistant professor:** Bernard Feldman

**Adjunct clinical instructors:** Mouin S. Abdallah, Philip A. Bear, Alan L. Braun, Cam F. Campbell, Christopher M. Covert, Wilson L. Davis Jr., R. Joe Ewing, Ethel F. Faust, Michael J. Finan, Jonathan L. Fudge, Joseph O. Gilig, James E. Glasser, Shahid Habib, Thomas B. Hakes, Kristin L. Harts, Janie C. Hendricks, Shelly A. Jones, Marta M. Little, Jack M. Lockart, James P. Lovell, Lawrence J. Rettenmaier, Mark P. Runde, Tyler Schwiesow, Rebecca S. Sidney, James G. Wilde, Diana Wright, Thomas L. Zurbriggen

**Associates:** Thad Abrams, Murad Abu Rajab, Sobia Ali, Suzanne Cassel, Osama Elmhishi, Alicia K. Gerke, Ambar Haleem, Tariq Hameed, Sif Hansdotir, Thomas J. Hund, Dilek Ince, Omer Iqbal, Hamza Ismail, Bret McFarlin, Heather A. Muster, Masaru Niki, Kingston Okrah, Jane A. Rowat, Farouq Suliman, Jabeen Taj

**Visiting associate:** Uzodinma Emerenini

**Web site:** <http://www.int-med.uiowa.edu/>

Internal medicine is concerned with the diagnosis, prevention, and treatment of diseases of adults. The Department of Internal Medicine's educational, patient care, and research activities cover all facets of the discipline, including general internal medicine and primary care as well as the specialized areas of allergy and immunology, cardiology, clinical pharmacology, endocrinology and metabolism, gastroenterology and hepatology, hematology, oncology, blood and marrow transplant, infectious diseases, nephrology, pulmonary, critical care, occupational medicine, and rheumatology.

The department is committed to the complete spectrum of medical education, from didactic and clinical education of M.D. students to resident and fellowship training.

## M.D. Student Training

Department of Internal Medicine faculty members bear a major share of teaching first- and second-year M.D. students. In the first year, faculty members participate in 050:120 Medical Cell Biology, 050:240 Human Organ Systems, and 148:251 Principles of Medical Immunology. In the second year, they participate in 071:105 Pharmacology for Health Sciences: Medical and 061:103 Principles of Infectious Diseases. They are key participants in 050:162 Foundations of Clinical Practice I, 050:163 Foundations of Clinical Practice II, 050:164 Foundations of Clinical Practice III, and 050:165 Foundations of Clinical Practice IV ICD.

In the third year, the department's faculty members teach students for six focus weeks in 078:101 Inpatient Internal Medicine and for four weeks in 078:102 Outpatient Internal Medicine at University of Iowa Hospitals and Clinics, the Iowa City Veterans Affairs Medical Center, or hospitals of the Des Moines Area Medical Education Consortium. M.D.

students actively participate as members of an inpatient ward team in 078:101 Inpatient Internal Medicine and in the evaluation and management of patients at outpatient internal medicine clinics in 078:102 Outpatient Internal Medicine.

In the fourth year, M.D. students may select a clinical experience to fit their own career goals from courses offered in general medicine, subspecialties, intensive care, and a subinternship program.

## Residency Program, Postgraduate Work

The department offers a three-year residency training program in internal medicine. In addition, most of the department's specialty divisions offer two- and three-year clinical and research fellowships, in which fellows develop special knowledge and skills relevant to their specialties. Fellows who hold doctoral degrees may be accepted to programs whose major focus is laboratory research.

## Facilities

Teaching takes place in the medical services and laboratories of University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center, and in Des Moines at the Veterans Affairs Central Iowa Health Care System and Iowa Methodist Medical Center.

## Internal Medicine Courses

- |  |          |
|--|----------|
| <b>078:101 Inpatient Internal Medicine</b>   | arr.     |
| Development of knowledge, diagnostic and management skills vital to care of hospitalized patients; clinical responsibilities, educational conferences, independent study.  |          |
| <b>078:102 Outpatient Internal Medicine</b>  | 3-4 s.h. |
| Development of knowledge, diagnostic and management skills in the outpatient clinical setting; clinical activities, discussion of problems, independent study.   |          |
| <b>078:199 Learning About Living From the Dying</b>  | 1 s.h.   |
| Hospice training, monthly classes, experience volunteering in the community; focus on writing for self-reflection or publication.  |          |
| <b>078:202 Subinternship in Internal Medicine</b>  | 4 s.h.   |
| Student responsibility for evaluating, treating, and following patients admitted to inpatient general medicine services. Requirements: fourth-year medical student standing.   |          |
| <b>078:204 Community-Based General Internal Medicine</b>   | 4 s.h.   |
| Primary care internal medicine in a community setting. Requirements: fourth-year medical student standing.   |          |
| <b>078:205 Continuity of Care in Outpatient Internal Medicine</b>  | 4 s.h.   |
| Experience with longitudinal continuity of care for patients in the outpatient setting; clinical and didactic exposure to broad spectrum of general internal medicine problems. Requirements: fourth-year M.D. enrollment. |          |
| <b>078:210 Alternative and Complementary Medicine</b>  | arr.     |
| Requirements: (for 046:105) P4 standing. Same as 046:105, 096:182.   |          |
| <b>078:217 Integrated Topics in Infectious Diseases</b>  | 4 s.h.   |
| Questions in host-parasite interactions; monthly case study followed by journals club discussions.   |          |
| <b>078:218 Critical Care Rotation, IMMC, ICU, DM</b>   | 4 s.h.   |
| Subinternship on medical critical care team, with daily rounds, teaching. Requirements: fourth-year M.D. enrollment.   |          |
| <b>078:219 Subinternship in Internal Medicine at VAMC, Des Moines</b>  | arr.     |
| Rotation at the Veterans Affairs Central Iowa Health Care System; subinternship on general internal medicine ward. Requirements: fourth-year M.D. enrollment.  |          |
| <b>078:220 Subinternship in General Internal Medicine and ICU, Des Moines</b>  | arr.     |



Four-week rotation at Des Moines Medical Education Consortium; experience as a subintern in general internal medicine and the ICU. Requirements: fourth-year M.D. enrollment.

**078:221 Public Health Medicine**

arr.

Participation in ongoing projects related to public health issues of acute disease; training and career opportunities in public health practice.

**078:225 General Medicine Consult Service, IMMC**

arr.

Principles of consultative medicine provided by general internists to non-internal medicine patients; how to assess perioperative risk for patients evaluated before surgery.

**078:250 Clinical Allergy Immunology**

arr.

Pathogenesis, diagnosis, and management of asthma and allergic and immunologic diseases; conducting and interpreting relevant specialized clinical and laboratory tests; emphasis on outpatients; formal and informal teaching sessions.

**078:290 Research in Allergy Immunology**

arr.

Faculty-directed investigations for students interested in complement, peptides, molecular biology studies, molecular biology of C1 inhibitor and properdin, primary immunodeficiency diseases, tumor immunology, immune parameter of alcohol-related diseases, transplantation immunology.

**078:300 Clinical Cardiology**

arr.

Development of breadth and depth in diagnostic and therapeutic problems encountered in clinical cardiology; participation in evaluation and decisions regarding patients seen sometimes in the cardiovascular clinic, inpatient cardiology wards, and electrophysiology service.

**078:304 Electrocardiography**

arr.

Scalar electrocardiography with option of viewing exercise studies including treadmill testing; initial interpretation of current tracings and daily staff conferences.

**078:325 Clinical Cardiology Coronary Care Experience, Iowa Methodist, Des Moines**

arr.

**078:333 Internal Medicine ICU off Campus**

arr.

Experience as subintern in the ICU/MICU; daily rounds and teaching with medical critical care staff.

**078:400 Clinical Endocrinology**

arr.

New patient evaluation, inpatient referral; returning patients in diabetes, endocrine clinics; complete patient evaluations, charts; participation in clinical conferences.

**078:440 Endocrine Research**

arr.

Participation in all organized educational division activities, suitable clinical activities; work in research laboratory of senior staff member, participation in ongoing project.

**078:450 Clinical Gastroenterology**

arr.

Work in consultation service at University Hospitals and Clinics or Veterans Affairs Iowa City Health Care System; assistance in diagnostic procedures for patients examined as part of consultation service; participation in patient follow-up through weekly return clinic.

**078:490 Research in Gastroenterology**

arr.

**078:501 Hematology Oncology**

arr.

Diagnostic skills in hematology and oncology.

**078:503 Palliative Care**

4 s.h.

**078:550 Clinical Infectious Disease**

arr.

Diagnosis, treatment, follow-up, study of patients with infectious diseases, under staff guidance; techniques of diagnostic microbiology; participation in conferences, teaching activities.

**078:590 Research in Infectious Disease**

arr.

Projects in molecular pathogenesis of infectious diseases and/or cell biology of host defense mechanisms; additional projects in application of hospital epidemiology techniques to clinical aspects of infectious diseases.

**078:600 Pulmonary Disease**

arr.

Breadth, depth in diagnostic, therapeutic problems encountered in clinical pulmonary disease; evaluation of outpatients and inpatients under staff supervision; interpretation of special studies carried out in pulmonary function laboratory, fiber-optic bronchoscopy and brush biopsy of lung; exposure to diagnosis and management of acute respiratory failure in intensive care units at University of Iowa Hospitals and Clinics, Veterans Affairs Iowa City Health Care System.

**078:601 Research in Pulmonary Disease**

arr.

Faculty-directed investigations; clinical pulmonary physiology, biopsy procedures in lung disease, pulmonary pathology, metabolic behavior of mycobacterium tuberculosis, clinical pharmacology.

**078:602 Medical Intensive Care Unit**

arr.

**078:650 Nephrology**

arr.

Evaluation of patients from University of Iowa Hospitals and Clinics inpatient service, Veterans Affairs Iowa City Health Care System, clinics; emphasis on early kidney disease, all varieties of hypertension.

**078:652 Clinical Nephrology, Iowa Methodist, Des Moines**

4 s.h.

Exposure to common nephrology problems, including acute renal failure, chronic renal failure, acid-base disorders, common electrolyte disorders.

**078:653 Adult and Pediatric Nephrology and Hypertension**

arr.

Requirements: (for 070:653) fourth-year M.D. enrollment. Same as 070:653.

**078:662 Medical and Pediatric Endocrinology**

arr.

Requirements: (for 070:662) fourth-year M.D. enrollment. Same as 070:662.

**078:690 Research in Renal, Hypertension, and Electrolyte Disorders**

arr.

Laboratory investigation of renal physiology; participation in ongoing research involving large and small animals, using classical clearance methodology for studying aspects of sodium metabolism, influence of drugs. Requirements: fourth-year M.D. enrollment.

**078:700 Clinical Rheumatology**

arr.

Clinical features of rheumatic diseases, their differential diagnosis, principles of management; patients from arthritis clinic, inpatient consultation service of University of Iowa Hospitals and Clinics, Veterans Affairs Iowa City Health Care System.

**078:800 Geriatrics Elective**

arr.

Experience in monitoring and evaluating health and functional status of patients age 65 and older in the UI Geriatric Assessment Clinic and community settings. Same as 115:426.

**078:998 Internal Medicine on Campus**

arr.

**078:999 Internal Medicine off Campus**

arr.

## Medical Education Program

**Director:** Kristi J. Ferguson

**Affiliated faculty:** Rick Axelson (Family Medicine), Kristi J. Ferguson (Internal Medicine/Community and Behavioral Health), Clarence Kreiter (Family Medicine), Jeff Pettit (OCRME), Marcy Rosenbaum (Family Medicine)

**Graduate degree:** M.M.E.

**Graduate nondegree program:** Certificate in Medical Education

**Web site:** <http://www.healthcare.uiowa.edu/ocrme/masters/programoverview.htm>

The Medical Education Program is dedicated to providing medical faculty members with formal training in medical education. The program is coordinated through the Office of Consultation and Research in Medical Education.

## Graduate Program

The program offers the Master in Medical Education and the graduate Certificate in Medical Education.

### Master in Medical Education

The Master in Medical Education requires a minimum of 30 s.h. of graduate credit. The program is designed to prepare medical faculty members to educate health professionals. It offers an opportunity to specialize in theory and practice of curriculum design, effective teaching, assessment, and other aspects of medical education.

Graduates of the program should be able to:

- design evidence-based education programs and materials with appropriate scope, sequence, and focus for intended learners;
- deliver effective instruction to individuals and small or large groups in classroom, laboratory, or clinical settings;
- evaluate the effectiveness of educational instruction, using formative and summative methods;
- understand basic principles of educational measurement and be able to apply them to medical education;
- use assessments to promote learning and to assess learning progress and status; and
- understand basic principles of, and be able to interpret and use, educational research.

The M.M.E. may be completed in as few as two years or as many as five. Students may begin the program in fall semester, spring semester, or summer session. Some of the required courses are offered online, and required on-campus courses have evening meeting times.

The curriculum includes 24 s.h. of required courses and 6-9 s.h. of electives. Students must register for at least one course each academic year in order to maintain satisfactory progress toward the degree. The program's faculty provides substantial student advising and consultation.

During their first semester, students file a plan of study. Each student's plan must include a description of the student's goals, intended graduation date, and a list of courses the student plans to take each semester he or she is working toward the degree. The study plan must incorporate all of the courses required for the degree and must include any requests for transfer credit. The plan must be approved by the director of the M.M.E. program and by the student's advisor. Subsequent revisions of the plan must have the advisor's approval.

The Master in Medical Education requires the following course work.

050:701 Instructional Design and Technology	3 s.h.
050:702 Clinical Teaching in Medical Education	3 s.h.
050:703 Educational Research and Evaluation	3 s.h.
050:711 Teaching Methods in Medical Education	3 s.h.
050:712 Introduction to Educational Measurement in Medical Education	3 s.h.
050:713 Assessment in Medical Education	3 s.h.
050:714 Current Issues in Medical Education	3 s.h.
050:720 Portfolio Project	3 s.h.
Electives	6-9 s.h.

Students who do not do clinical teaching may substitute another course for 050:702 Clinical Teaching in Medical Education.

Students must have completed at least 18 s.h. before enrolling in 050:720 Portfolio Project. In the portfolio, students integrate the materials they have developed over the course of the program into a document. Three faculty members review the project and evaluate the student's participation in the program.

Electives require approval of the student's advisor. They may include courses in the M.M.E. program as well as those offered by relevant departments and programs (e.g., College of Education, Tippie College of Business). Graduate-level courses are numbered 100 or above.

For application requirements, see "Admission" below.

## **Certificate in Medical Education**

The Certificate in Medical Education requires a minimum of 12 s.h. of graduate credit. The certificate program is designed to help participants find new ways to enhance their scholarship and skills in teaching, curriculum design, and education assessment. It is intended for Carver College of Medicine faculty and professional staff as well as for University of Iowa resident physicians and fellows.

Required course work for the certificate is taken from the Master of Medical Education program. Individuals who complete the certificate and then decide they would like to earn the master's degree may apply their certificate course work toward the M.M.E.

The Certificate in Medical Education requires the following course work.

Methods—one of these:

050:701 Instructional Design and Technology	3 s.h.
050:702 Clinical Teaching in Medical Education	3 s.h.
050:711 Teaching Methods in Medical Education	3 s.h.

Research and measurement—one of these:

050:703 Educational Research and Evaluation	3 s.h.
050:712 Introduction to Educational Measurement in Medical Education	3 s.h.

And:

Additional courses chosen from M.M.E. requirements	6 s.h.
--	--------

For application requirements, see "Admission" below.

## **Admission**

Application requirements are the same for the M.M.E. degree and the certificate program. Applicants should hold an M.D. degree and must have performed satisfactorily on the Medical College Admission Test (MCAT). Basic sciences applicants without an M.D. must hold an equivalent degree and must have performed satisfactorily on an admission test equivalent to the MCAT.

Applicants whose first language is not English and who do not hold a baccalaureate or advanced degree from an accredited university in the United States, English-speaking Africa, Australia, Canada (except Quebec), New Zealand, or the United Kingdom must submit scores on the Test of English as a Foreign Language (TOEFL).

Application materials must include an official transcript showing medical course work and medical degree, or equivalent for basic sciences applicants (current and former University of Iowa students do not need to request a UI transcript or transcripts previously submitted to the University); a letter of reference from the applicant's department head and one additional letter of reference; and a 300-500 word essay describing the applicant's interest in medical education and in the Master in Medical Education program or the Certificate in Medical Education program.

Application forms for each program are available on the Medical Education Program web site; apply to the M.M.E. or apply to the Certificate in Medical Education. Application materials should be submitted to the University of Iowa Office of Admissions.

Application deadlines are July 15 for fall semester entry, November 15 for spring semester entry, and April 15 for summer session entry.

# Medical Scientist Training Program

**Codirectors:** C. Michael Knudson (Pathology), Michael Welsh (Internal Medicine)  
**Web site:** <http://www.healthcare.uiowa.edu/mstp>

## Professional/Graduate Program

The Iowa Medical Scientist Training Program (MSTP) offers a joint Doctor of Medicine/Doctor of Philosophy. The program prepares trainees for careers in academic medicine, with emphasis on basic and clinical research.

### Joint M.D./Ph.D.

The joint Doctor of Medicine/Doctor of Philosophy normally requires seven to eight years of continuous study. It provides an effective and efficient means to integrate graduate and clinical training, combining the scientific approach with clinical medicine.

In the first two years of the program, trainees enroll in the basic science and introductory clinical portions of the Carver College of Medicine Doctor of Medicine curriculum. This provides a broad exposure to the language and organizing concepts that form the foundation for a career as a physician scientist. Trainees begin the research component of the graduate phase of the program during the first two years as well, through summer laboratory rotations, enrollment in 050:213 Analyzing and Presenting Medical Research, research presentations by MSTP faculty and students, and a student-sponsored seminar series. They also attend MSTP grand rounds, a forum for patient-based discussions that emphasizes how science and medicine intersect.

The first-year curriculum addresses normal structure and function of human organ systems and emphasizes relationships among different disciplines. During the first semester, trainees take courses in biochemistry, gross anatomy, cell biology, and medical genetics. The second semester presents an integrated systemic core, which incorporates physiology, histology, and embryology and focuses on the development, structure, and function of human organ systems. Discipline-specific basic science instruction continues through the second semester with medical neuroscience and immunology courses.

The second-year curriculum emphasizes abnormal structure and function of human organ systems. Trainees take courses in pathology, microbiology, and pharmacology.

Throughout the first two years of study, students receive instruction in the foundations of clinical practice, including patient experience in medical history taking and physical examination. At the end of the second year, all trainees take Step 1 of the U.S. Medical Licensing Exam and then complete the basic core clinical clerkship in internal medicine. They gain broad exposure to the spectrum of human disease and experience with direct patient care before they enter the graduate phase of training.

At the beginning of the third year, trainees enroll in a graduate department or interdisciplinary graduate program.

The focus of the graduate years of study is engagement in academic and research experiences that promote the trainees' development into independent investigators. Clinical contact is maintained during this phase of training through participation in seminar programs, MSTP grand rounds, and 050:212 MSTP Clinical Connections, a course that provides the opportunity for mentored clinical experiences.

Upon completing the Ph.D. dissertation, trainees return to the Carver College of Medicine curriculum to complete the clinical clerkship requirements for the joint M.D./Ph.D. program. During this phase, trainees bring a sophistication in the scientific approach to problem solving that they apply to human disease. They renew and develop clinical skills acquired in their early training and reinforce their understanding of the scientific basis of disease through continued participation in MSTP grand rounds. Upon completion of the clinical curriculum, trainees are awarded the M.D. and Ph.D.

Most graduates of the program elect to enter residency programs in clinical medicine and embark on careers as medical school faculty members in clinical disciplines with opportunities for basic and applied research. Other graduates accept academic appointments in basic science departments and spend a major part of their professional activity in biomedical research and teaching.

### Admission

Applicants must meet requirements for admission to the M.D. program in the Carver College of Medicine; see "Admission to the M.D. Program" under Doctor of Medicine in the Catalog. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants should have completed requirements for a bachelor's degree at an accredited academic institution. In

addition to outstanding academic credentials, including strength in biological, physical, and mathematical sciences, they must demonstrate aptitude for and commitment to scientific research through productive research experience during their undergraduate years or after. Admission normally is made for entry to the first year of the program, but applicants already enrolled in the Carver College of Medicine may request admission with advanced standing.

### **Application**

The Carver College of Medicine participates in the American Medical College Application Service (AMCAS). Program applicants should select M.D./Ph.D. Program-Type on their AMCAS application and instruct AMCAS to forward their credentials to the Carver College of Medicine (IA131). Applications should be submitted as early as possible to allow careful review by the admissions committees of the Medical Scientist Training Program and the Carver College of Medicine.

All candidates must take the Medical College Admission Test (MCAT), according to Carver College of Medicine requirements. The Graduate Record Exam (GRE) is not required for admission.

Application to the Graduate College is not required before acceptance to the MSTP. Trainees admitted to the program receive assistance with Graduate College enrollment.

### **Financial Support**

Trainees receive stipend and full tuition support from a National Institutes of Health MSTP training grant to The University of Iowa, supplemented by other institutional and individual awards. Students in the graduate phase of training receive support from their graduate departments or interdisciplinary programs, and their research advisors. The program office also helps selected trainees apply for competitive national awards for outstanding academic and research achievement.

## **Medical Scientist Training Program Courses**

### **050:211 MSTP Research**

arr.

Research experience. Requirements: Medical Scientist Training Program enrollment.

### **050:212 MSTP Clinical Connections**

arr.

Experience with physician-scientist preceptor in medical interviewing, physical examination, patient presentation through direct patient interaction. Requirements: Medical Scientist Training Program graduate phase enrollment.

### **050:213 Analyzing and Presenting Medical Research**

1 s.h.

How to read, interpret, and present medical and scientific literature; students read and present representative papers from scientific and medical literature.

# Microbiology

**Head:** Michael A. Apicella

**Professors:** Michael A. Apicella (Internal Medicine), Gail A. Bishop (Internal Medicine), John E. Butler, Steven Clegg, Charles D. Cox, Michael G. Feiss, John T. Harty (Pathology), David M. Lubaroff (Urology), Linda L. McCarter, Paul B. McCray (Pediatrics), William Nauseef (Internal Medicine), Stanley Perlman (Pediatrics), Richard J. Roller, Paul Rothman (Internal Medicine), George V. Stauffer, Mark F. Stinski, C. Martin Stoltzfus, Jerrold P. Weiss (Internal Medicine), Mary E. Wilson (Internal Medicine)

**Professors emeriti:** Robert F. Ashman (Internal Medicine), John Cazin Jr., David T. Gibson, Louis G. Hoffmann, William Johnson, Erich W. Six, Donald P. Stahly

**Associate professors:** Lee-Ann Allen (Internal Medicine), Bradley D. Jones, John R. Kirby, Al J. Klingelhutz (Radiation Oncology), Wendy J. Maury, Steven M. Varga (Pathology), David S. Weiss, Timothy L. Yahr

**Associate professor emeritus:** Jose E. Rodriguez

**Assistant professors:** Craig D. Ellermeier, Alex Horswill, Jon Houtman, Kevin L. Legge (Pathology), Howard Xue

**Adjunct assistant professor:** Marcia L. Cordts

**Adjunct lecturers:** Jennifer D. Boddicker, Linda M. Knudtson

**Undergraduate degree:** B.S. in Microbiology

**Undergraduate nondegree program:** Minor in Microbiology

**Graduate degrees:** M.S., Ph.D. in Microbiology

**Web site:** <http://www.uiowa.edu/microbiology>

Study in the Department of Microbiology is dedicated to the branch of biological sciences that deals with the smallest living things: bacteria, archaea, fungi, algae, protozoa, and viruses. It is coupled with immunology, the study of the response of higher organisms to foreign substances.

Microbiology and immunology are at the forefront of the modern biological revolution. Microbes are often the experimental subjects of choice for examining basic genetic and biological phenomena because of their small size, rapid growth rate, and relative simplicity. A significant portion of contemporary biochemical research employs microbiological and immunological methods.

Current research is making theoretical and practical advances concerning microbial species and viruses that infect animals, including man, plants, and other microbes; the use of comparative genomics, gene expression profiling, and recombinant DNA methods to analyze basic biological processes and generate valuable products; the nature and occurrence of microbial life in extreme or unusual environments; microbial synthesis and modification of antibiotics and other natural products; the role of microbes in stabilization of the biosphere by recycling and detoxifying waste products; the genetics and regulation of metabolic processes; and the genetics and regulation of the immune response, including characterization of mechanisms used by bacteria to signal one another and characterization of interactions between different types of immune cells and their targets.

The Department of Microbiology offers degree programs for undergraduates and for graduate students and administers the academic curriculum at both levels. The College of Liberal Arts and Sciences grants undergraduate degrees in microbiology and oversees undergraduate academic policy relating to the student record. The Graduate College grants graduate degrees in microbiology.

## Undergraduate Program

The Department of Microbiology offers a Bachelor of Science and a minor in microbiology.

Microbiology is an excellent major for undergraduate students who want a good general education with emphasis on an important and interesting branch of biological sciences. Graduates find employment opportunities in government, hospitals, public health laboratories, research laboratories, and industrial laboratories (food, dairy, chemical, pharmaceutical, and genetic engineering companies). Those who pursue advanced degrees have more advanced career opportunities in these same areas as well as in college and university teaching.

### Bachelor of Science

The Bachelor of Science in microbiology requires a minimum of 120 s.h., including 64 s.h. of work for the major (21 s.h. in microbiology and 43 s.h. in supporting course work). Students also must complete the College of Liberal Arts and Sciences General Education Program.

The required 21 sh. of microbiology must include at least 12 s.h. earned in University of Iowa courses numbered 061:147 Survey of Immunology and above, except 061:164 Nursing Microbiology; students may count 061:218 Microscopy for Biomedical Research toward the requirement but not 061:220 Advanced Microscopy Biomedical Research. No more than 2 s.h. of 061:161 Undergraduate Research in Microbiology (or 061:171 Honors Undergraduate Research in Microbiology for honors students) and no more than 2 s.h. of 061:163 Seminar: Microbiology may be counted toward the requirement. In order to take microbiology courses more advanced than 061:157 General Microbiology, students must earn a grade of C or higher in 061:157 General Microbiology. The supporting science and mathematics course work required for the major may not be taken pass/nonpass.

Students must include 061:163 Seminar: Microbiology (2 s.h.) in the required 21 s.h. of microbiology; they must take the course for credit once during their last two semesters before graduation, but they are encouraged to take it for 0 s.h. during other semesters, once they have completed 061:157 General Microbiology.

In addition to the required 21 s.h. of microbiology, the major requires supporting course work as follows.

002:010-002:011 Principles of Biology I-II	8 s.h.
004:011-004:012 Principles of Chemistry I-II	8 s.h.
004:121-004:122 Organic Chemistry I-II	6 s.h.
004:141 Organic Chemistry Laboratory	3 s.h.
029:011-029:012 College Physics I-II	8 s.h.
099:120 Biochemistry and Molecular Biology I	3 s.h.
099:130 Biochemistry and Molecular Biology II	3 s.h.

One of these:

22M:016 Calculus for the Biological Sciences	4 s.h.
22M:025 Calculus I	4 s.h.
22M:031 Engineering Mathematics I: Single Variable Calculus	4 s.h.

In addition, the following courses may be recommended for some students.

08N:080 Nonfiction Writing	3 s.h.
171:161 Introduction to Biostatistics (some medical schools require a biostatistics course for admission)	3 s.h.

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

**Before the third semester begins:** 002:010 Principles of Biology I; 004:011 Principles of Chemistry I, and 004:012 Principles of Chemistry II; an approved calculus class; and at least one-quarter of the semester hours required for graduation

**Before the fifth semester begins:** 002:011 Principles of Biology II; 004:121 Organic Chemistry I, 004:122 Organic Chemistry II, and 004:141 Organic Chemistry Laboratory; 061:157 General Microbiology; and at least one-half of the semester hours required for graduation

**Before the seventh semester begins:** five more courses in the major and at least three-quarters of the semester hours required for graduation

**Before the eighth semester begins:** another 10-12 s.h. of course work

**During the eighth semester:** enrollment in all remaining course work in the major, all remaining required General Education courses, and a sufficient number of semester hours to graduate

## Honors

Microbiology majors who are members of the University of Iowa Honors Program may enroll in the honors program in microbiology. Membership in the University Honors Program requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33. Microbiology honors students also must maintain a g.p.a. of at least 3.33 in microbiology courses. The program requires 25 s.h. of course work in microbiology, including 6 s.h. in 061:171 Honors Undergraduate Research in Microbiology, which introduces students to experimental research. At the end of the research, students present written and oral reports. Students who successfully complete these requirements receive the B.S. with honors.

## Minor

The minor in microbiology requires a minimum of 15 s.h. in microbiology courses, including 12 s.h. in advanced courses taken at The University of Iowa. For the minor, courses numbered 061:147 Survey of Immunology and above, except 061:164 Nursing Microbiology, are considered advanced. Students must maintain a g.p.a. of at least 2.00 in the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 2 s.h. earned in 061:161 Undergraduate Research in Microbiology or 061:171 Honors Undergraduate Research in Microbiology, and 2 s.h. earned in 061:163 Seminar: Microbiology, toward the minor. They also may count 061:218 Microscopy for Biomedical Research, but not 061:220 Advanced Microscopy Biomedical Research.

## Graduate Programs

The Department of Microbiology offers a Master of Science and a Doctor of Philosophy in microbiology. Graduate study in the department is designed to help students become highly qualified in microbiology research and teaching.



Admitted graduate students usually pursue the Ph.D.

Graduate study is offered in six subdisciplines: pathogenic bacteriology, microbial genetics, immunology, microbial physiology, animal virology, and bioinformatics. Several areas involve interdisciplinary training both within and outside the department, so students gain broad experience during their course of study. Students also may pursue interdisciplinary Ph.D. programs in genetics, immunology, and molecular and cellular biology.

During their first year, students rotate in three laboratories of their choice and are advised by the Graduate Student Advisory Committee. At the end of the first year, they choose a research supervisor who chairs their advisory committee. The committee provides intellectual and research guidance for the student's training.

The Department of Microbiology cooperates with other University of Iowa departments to give students ample access to diverse course offerings, seminars, and research programs. For example, microbiology students may participate in courses and seminars in immunology, genetics, molecular and cellular biology, biocatalysis/biotechnology, and electron microscopy.

All students admitted to advanced degree programs are expected to assist in departmental teaching.

## Master of Science

The Master of Science in microbiology requires a minimum of 30 s.h. of graduate credit. M.S. students are required to earn a minimum of 12 s.h. in microbiology courses chosen from three of the department's six subdisciplines. They may substitute a course they have already taken (at The University of Iowa or elsewhere) for a course requirement, with the M.S. advisory committee's approval. Additional course requirements depend on students' interests and the advice of the examining committee.

Students must write a thesis based on their own research and defend it satisfactorily in an oral examination. No more than 9 s.h. of credit for thesis research may be counted toward the 30 s.h. required for the Master of Science.

## Doctor of Philosophy

The Doctor of Philosophy in microbiology requires a minimum of 72 s.h. of graduate credit. Ph.D. students are required to earn a minimum of 15 s.h. of credit in graduate-level microbiology courses. They may substitute a course they have already taken (at The University of Iowa or elsewhere) for a course requirement, with the Ph.D. advisory committee's approval.

Students must pass a comprehensive examination before their sixth semester in the program and write a thesis based on their own research. The thesis must be defended satisfactorily in an oral examination.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They should have a cumulative g.p.a. of at least 3.00 and must have completed courses in biology, chemistry (inorganic and organic), mathematics including calculus, and physics. Those admitted with deficiencies must complete the relevant course work during their first year of graduate study. Admission is determined through a review and formal vote by the faculty. Preference is given to students applying for the Ph.D. program.

## Facilities

The Department of Microbiology is situated on the University of Iowa health sciences campus, where it shares the Bowen Science Building with the Departments of Anatomy and Cell Biology, Biochemistry, Molecular Physiology and Biophysics, and Pharmacology. Laboratory space and modern equipment are available for teaching and research.

## Microbiology Courses

- |   |        |
|---|--------|
| <b>061:005 Microbes and Our World</b>   | 2 s.h. |
| Bacteria, viruses, and parasites and their role in shaping human health, industry, current affairs, history.  |        |
| <b>061:015 Web-Based Microbes and Our World</b>   | 2 s.h. |
| Bacteria, viruses, and other microorganisms; ways in which microbes affect our health, economy, and environment; how humans have harnessed microbial growth; how microbes have shaped human experience and continue to play key roles in modern life. |        |
| <b>061:103 Principles of Infectious Diseases</b>  | 5 s.h. |

Principles and methods essential to study of microorganisms, their isolation and identification; microorganisms in infectious diseases; current immunology concepts. Requirements: M.D. enrollment.

**061:104 Principles Infectious Diseases--Physician Assistant** 5 s.h.

Principles and methods essential to study of microorganisms, their isolation and identification; microorganisms in infectious diseases; current immunology concepts. Requirements: Physician Assistant Program enrollment.

**061:112 Pharmacy Microbiology** 4 s.h.

Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: pre-pharmacy standing.

**061:113 Dental Microbiology** 3 s.h.

Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: D.D.S. enrollment.

**061:147 Survey of Immunology** 4 s.h.

Major features of the evolutionary, ontogenic, and comparative development of innate and adaptive immune systems and their functions at the cellular and molecular levels. Prerequisites: 002:010 and 002:011.

**061:157 General Microbiology** 5 s.h.

Principles of microbial diversity, microbial genetics, physiology and metabolism, pathogenic microbiology, virology, immunology, industrial and environmental microbiology; laboratory emphasis on basic techniques. Prerequisites: 002:010 and 002:011. Corequisites: 004:121.

**061:159 Pathogenic Bacteriology** 5 s.h.

Pathogenic bacteria, with emphasis on mechanisms of pathogenicity, laboratory methods for isolation, identification; laboratory emphasis on advanced methods for study of pathogenic bacteria. Requirements: grade of C or higher in 061:157.

**061:160 Microbial Physiology** 3 s.h.

Bacterial genomes, cell structure, growth, energy metabolism, biosynthesis, mechanisms of signal transduction and regulation; laboratory supplement in 061:180. Requirements: grade of C or higher in 061:157.

**061:161 Undergraduate Research in Microbiology** arr.

Experimental research under faculty supervision. Requirements: grade of C or higher in 061:157.

**061:163 Seminar: Microbiology** 2 s.h.

Current topics in microbiology, immunology. Requirements: grade of C or higher in 061:157 and senior standing.

**061:164 Nursing Microbiology** 4 s.h.

Overview of bacteria, viruses, and eukaryotic microorganisms that cause human disease; microbial structure, growth control and reproduction; immunology in the context of host defense mechanisms. Requirements: pre-nursing student standing. Corequisites: 002:002 or 002:010 or 002:021, if not taken as a prerequisite.

**061:168 Introduction to Animal Viruses** 3-5 s.h.

Basic physical, chemical, biological properties of animal viruses, their association with human disease; optional laboratory with emphasis on methods in basic, clinical, and molecular virology. Requirements: grade of C or higher in 061:157.

**061:170 Microbial Genetics** 3 s.h.

Genetics of bacteria, bacteriophages. Requirements: grade of C or higher in 002:128 or 061:157.

**061:171 Honors Undergraduate Research in Microbiology** arr.

Experimental research under faculty supervision. Prerequisites: 061:157. Requirements: microbiology major, junior or senior standing, 3.33 overall g.p.a, and 3.33 g.p.a. in microbiology courses.

**061:175 Microbial Genetics Laboratory** 3 s.h.

Basic principles of genetic analysis of bacteria and bacteriophage. Prerequisites: 061:170.

**061:179 Bacterial Diversity** 3-5 s.h.

Analysis of bacteria from varied habitats; emphasis on the physiological basis and molecular characteristics of diversity. Prerequisites: 061:157.

**061:180 Microbial Physiology Laboratory** 2 s.h.  
Isolation and growth of bacteria, bacterial function products, nutrient transport, metabolic pathways, enzymes. Corequisites: 061:160.

**061:190 Web-Based Nursing Microbiology** 4 s.h.  
Nursing microbiology, principles of immunology; web-based instruction. Requirements: pre-nursing standing. Corequisites: 002:002 or 002:010 or 002:021, if not taken as a prerequisite.

**061:201 Graduate Immunology** 3 s.h.  
Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Requirements: (for 148:201) college biology, general chemistry, and introductory immunology courses; (for 061:201) courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: (for 148:201) courses in biochemistry and genetics; (for 061:201) biochemistry course. Same as 148:201.

**061:207 Advanced Topics in Immunology** 3 s.h.  
In-depth analysis of selected areas. Requirements: (for 148:221) 148:201 or 148:202; (for 061:207) 061:201 and 061:202, or 148:201 and 148:202. Same as 148:221.

**061:210 Advance Prokaryotic Molecular Biology** 3 s.h.  
Mechanism and regulation of DNA, RNA, and protein synthesis in bacteria. Requirements: (for 142:210) 156:201, or 002:128 and 099:130; (for 061:210) 002:128 and 099:130. Same as 142:210.

**061:217 Integrated Topics in Infectious Diseases** 1 s.h.  
Clinical cases used to raise questions in host-parasite interactions; case/scientific exposés followed by related journal club discussions at next class session. Same as 148:217.

**061:218 Microscopy for Biomedical Research** arr.  
Preparation, analysis of biomedical projects by light and electron microscopy. Prerequisites: 002:114. Same as 060:218.

**061:220 Advanced Microscopy Biomedical Research** arr.  
Technically advanced microscopy methods for research; individualized laboratory experience with opportunity to explore application of microscopy methods. Requirements: (for 060:220) an introductory microscopy course; (for 002:220) 002:218 or 060:218 or 061:218 or 012:156 or 052:156 or 060:156; (for 061:220) an introductory EM course. Same as 002:220, 060:220.

**061:227 Advanced Topics in Microbiology** 1 s.h.  
Presentations by graduate students on selected research topics in microbiology; different topics each semester. Offered fall and spring semesters. Requirements: graduate standing in microbiology.

**061:247 Graduate Survey of Immunology** 4 s.h.  
Major features of evolutionary, ontogenic, and comparative development of innate and adaptive immune systems; their functions at cellular and molecular levels. Offered fall semesters. Same as 148:247.

**061:259 Graduate Pathogenic Bacteriology** 4 s.h.  
Pathogenic bacteria, with emphasis on mechanisms of pathogenicity, laboratory methods for isolation, identification; laboratory emphasis on advanced methods for study of pathogenic bacteria; research literature.

**061:260 Graduate Microbial Physiology** 3 s.h.  
Bacterial genomes, cell structure, growth, energy metabolism, biosynthesis, mechanisms of signal transduction and regulation; laboratory supplement in 061:280.

**061:261 Graduate Research in Microbiology** arr.  
Requirements: microbiology graduate standing.

**061:263 Graduate Student Research Seminar**

1 s.h.

Presentation of thesis work in progress. Requirements: microbiology graduate standing.

**061:264 Directed Study in Microbiology**

arr.

**061:265 Topics in Virology Literature**

1 s.h.

Papers of current interest in primary virology literature.

**061:267 Graduate Introduction to Animal Viruses**

3-5 s.h.

Basic physical, chemical, biological properties of animal viruses, their association with human diseases; optional laboratory with emphasis on methods in basic, clinical, and molecular virology; discussion topics in the primary literature. Requirements: grade of C or higher in 061:157.

**061:268 Biology and Pathogenesis of Viruses**

2 s.h.

Molecular biology of animal DNA and RNA viruses, interaction of these viruses with eucaryotic cells; mechanisms of viral latency, persistence, cellular transformation, oncogenesis; virology literature. Prerequisites: 061:168 or 061:267.

**061:270 Graduate Microbial Genetics**

3 s.h.

Genetics of bacteria, bacteriophages.

**061:271 Graduate Microbial Genetics Laboratory**

3 s.h.

Basic principles of genetic analysis in bacteria. Prerequisites: 061:270.

**061:275 Perspectives in Biocatalysis**

1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 046:275, 052:275, 053:275, 099:275.

**061:279 Graduate Bacterial Diversity**

4-6 s.h.

Analysis of bacteria from varied habitats; emphasis on the physiological basis and molecular characteristics of diversity.

**061:280 Graduate Microbial Physiology Laboratory**

2 s.h.

Isolation and growth of bacteria, bacterial function products, nutrient transport, metabolic pathways, enzymes.

**061:299 Mechanisms of Parasitism Journal Club**

1 s.h.

Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students. Same as 142:299.

## Molecular Physiology and Biophysics

**Head:** Kevin P. Campbell

**Executive associate head:** W. Scott Moye-Rowley

**Professors:** François M. Abboud (Internal Medicine), Mark Anderson (Internal Medicine), Nikolai Artemyev, Michael Artman (Pediatrics), Kevin P. Campbell, Mark Chapleau (Internal Medicine), Beverly Davidson (Internal Medicine), Sarah England, Wayne Johnson, W. Scott Moye-Rowley, Robert Piper, Paul Rothman (Internal Medicine), Andrew Russo, Thomas J. Schmidt, Deborah Segaloff, Curt Sigmund (Internal Medicine), Peter Snyder (Internal Medicine), Michael J. Welsh (Internal Medicine)

**Professors emeriti:** Gerald DiBona (Internal Medicine), Robert E. Fellows, G. Edgar Folk Jr., Charles C. Wunder

**Visiting professors:** Darryl Granner, Francisco Mora

**Associate professors:** Michael Anderson, Michael Henry, Anne Kwitek (Internal Medicine), Amy Lee, Peter Mohler (Internal Medicine), Robert Mullins (Ophthalmology and Visual Sciences), Erwin F. Shibata, Mark Stamnes, Christopher Stipp (Biology), Rams Subramanian (Biochemistry)

**Assistant professors:** Christopher Adams (Internal Medicine), N. Charles Harata, Shahram Khademi (Biochemistry), Michael Wright

**Graduate degrees:** M.S., Ph.D. in Molecular Physiology and Biophysics

**Web site:** <http://www.physiology.uiowa.edu>

The Department of Molecular Physiology and Biophysics offers graduate study leading to the Master of Science and Doctor of Philosophy. It participates in interdisciplinary graduate programs, including the Medical Scientist Training Program, a combined M.D./Ph.D. program offered by the Graduate College and the Carver College of Medicine, and it provides instruction in molecular physiology and biophysics for M.D., D.D.S., and other health professions students. The department also conducts a co-op exchange, a vigorous training program that gives undergraduate students the opportunity to develop as independent researchers in preparation for graduate studies.

The department's principal research areas include cell biology, genetics, endocrinology, neuroscience, and membrane physiology and biophysics; the unifying theme is the understanding of signal transduction mechanisms involved in regulating function at the cellular and molecular levels.

## Graduate Program

The department offers a Master of Science and a Doctor of Philosophy in molecular physiology and biophysics.

Graduate study in molecular physiology and biophysics provides students with fundamental knowledge of life processes at molecular, cellular, and integrative levels of biological function. It also imparts knowledge of modern research skills applicable to contemporary problems.

Students may enter the graduate program through the Biosciences Program (Graduate College) or directly through the Department of Molecular Physiology and Biophysics. Those who enter directly are advised by the department's director of graduate studies, who guides them in planning required course work and introduces them to research activities of the department's faculty members.

All degree candidates have experience as classroom instructors, under faculty supervision, as part of their training.

### Master of Science

The Master of Science in molecular physiology and biophysics requires a minimum of 30 s.h. beyond the bachelor's degree and is offered with and without thesis. Thesis students complete laboratory research and write a thesis that fulfills the requirements of the Graduate College (see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog). Nonthesis students complete a library research report, and a written examination on the research report area and the graduate program in physiology.

University of Iowa research assistants may pursue an M.S. in molecular physics and biophysics while continuing to work in their research laboratories. Research assistants interested in the M.S. program must submit a letter of support from their supervisor.

### Doctor of Philosophy

The Doctor of Philosophy in molecular physiology and biophysics requires a minimum of 72 s.h. beyond the bachelor's degree. The core curriculum includes graduate-level courses in cell biology, molecular biology, human physiology, and neurophysiology. Advanced electives, offered by the Department of Molecular Physiology and Biophysics and other departments, cover a wide range of topics, including receptors and signal transduction, and developmental neurophysiology.

After successful completion of required course work and the comprehensive examination, students devote full time to thesis research, which culminates in preparation of a doctoral dissertation and its defense in a final oral exam.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They must have a bachelor's degree from an accredited institution, with an undergraduate major in one of the biological, chemical, physical, mathematical, or

engineering sciences and one or more years of course work in biology, physics, biochemistry, and calculus. They also must have a cumulative science g.p.a. of at least 3.00 and a combined verbal and quantitative score above 1200 on the Graduate Record Examination (GRE) General Test.

## Financial Support

All full-time students receive financial aid in the form of tuition and stipend support from the Department of Molecular Physiology and Biophysics. Support is renewed annually based on satisfactory progress in meeting degree requirements.

## Research

Faculty research interests in the Department of Molecular Physiology and Biophysics encompass molecular and cellular endocrinology, cellular and developmental neurophysiology, and membrane structure and function. Within these, there are multiple areas of interest, including hormone receptors, reproductive endocrinology, signal transduction, regulation of gene expression, synaptic transmission, neuronal differentiation, membrane ion channels, regulation of excitability, and cardiovascular electrophysiology and regulation. Experimental models currently being investigated include rodents, yeast, drosophila, and cultured cell lines from a variety of species.

## Facilities

Two floors of the Bowen Science Building are devoted to research and teaching in the Department of Molecular Physiology and Biophysics. Department faculty members also occupy laboratory facilities in the Eckstein Medical Research Building and the Carver Biomedical Research Building. In addition to specialized equipment in faculty research laboratories, the department provides equipment for fluorescence microscopy, isotope analysis, cell culture, and molecular biology. It also has access to the University network and the multimedia education facilities. Additional resources are available at the Hardin Library for the Health Sciences.

## Molecular Physiology and Biophysics Courses

**072:152 Human Physiology for Dental Students** 4 s.h.  
Principles of human physiology, organ systems, cell function. Offered fall semesters. Requirements: grade of C- or higher in 002:010, 004:121, and 004:122; and D.D.S. enrollment.

**072:153 Graduate Physiology** 4 s.h.  
Principles of human physiology, organ systems, cell function. Offered fall semesters. Requirements: grade of C- or higher in 002:010, 004:121, and 004:122; and graduate standing.

**072:164 Human Physiology for Physician Assistant Students** 4 s.h.  
Principles of human physiology, organ systems, cell function. Offered summer sessions. Requirements: grade of C- or higher in 002:010, 004:121, and 004:122; and Physician Assistant Program enrollment.

**072:165 Advanced Human Physiology** 4 s.h.  
Requirements: matriculation to the anesthesiology C.R.N.A. program.

**072:180 How the Brain Works** 1 s.h.  
Brief, integrated look at how the brain works, based on recent neuroscience research; how the brain's biochemistry, anatomy, and physiology change constantly due to interaction with physical, emotional, and social environments; does the world we see around us exist outside the brain; does the mind exist; is emotion necessary for learning and memory; are we born with pre-existing circuits and codes in the brain for language, recognition of faces, and other complex behaviors; can aging of the brain be delayed; approach relevant for sciences, humanities.

**072:184 Developmental Neurobiology** 3 s.h.  
Neural induction and nervous system patterning; neurogenesis, axon and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Requirements: grade of B- or higher in 002:180 or graduate standing. Same as 002:184, 132:184.

**072:199 Research, Independent Study** arr.

Recommendations: closed to molecular physiology and biophysics graduate students.

- 072:209 Steroid Receptor Signaling** 1 s.h.  
Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters. Same as 071:209, 132:209.
- 072:211 Biophysics of Excitable Membranes** 3 s.h.  
Selected electrophysiological and biophysical topics from published research. Prerequisites: 027:130.
- 072:220 Protein Biogenesis, Transport, and Degradation in the Secretory/Endocytic System** 1 s.h.  
Models for translocation across the ER membrane, quality control/protein folding in the ER lumen, ER associated degradation; mechanisms of vesicle biogenesis, cargo selection, vesicle fusion, regulation of Golgi and trans-Golgi Network biogenesis; protein internalization from the cell surface. Prerequisites: 099:130. Same as 060:216, 142:220.
- 072:221 Control of Subcellular Motility** 1 s.h.  
Actin filaments and microtubules in terms of their assembly dynamics and regulation; how motor proteins are controlled and adapted for movement of specific proteins and vesicles within cells; signaling through GTPases; cell motility; biogenesis, regulation of cilia and flagella. Prerequisites: 099:130. Same as 060:221, 142:221.
- 072:222 Organelle Biogenesis** 1 s.h.  
Biogenesis of mitochondria, peroxisomes, nucleus, and phagosomes; membrane trafficking; mitochondrial division, mitosis and cell division, entry into lysosomes via autophagy and endocytic pathways; host/pathogen interactions, function of macrophages and neutrophils. Prerequisites: 099:130. Same as 060:222, 142:222.
- 072:225 Growth Factor Receptor Signaling** 1 s.h.  
Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Recommendations: 156:201, 156:202, and 156:203. Same as 060:225, 142:225.
- 072:226 Cell Cycle Control** 1 s.h.  
Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Recommendations: 156:201, 156:202, and 156:203. Same as 060:226, 142:226.
- 072:227 Cell Fate Decisions** 1 s.h.  
Cellular fate decisions, including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Recommendations: 156:201, 156:202, and 156:203. Same as 060:223, 142:227.
- 072:240 Physiology Workshop** 1 s.h.  
Presentations by faculty, postdoctoral fellows, graduate students, and scientists. Repeatable. Requirements: graduate standing.
- 072:250 Topics in Molecular Physiology** 1 s.h.  
Current issues in molecular physiology; seminar. Prerequisites: 156:201.
- 072:265 Neuroscience Seminar** 0-1 s.h.  
Research presentations. Offered fall and spring semesters. Same as 002:265, 031:265, 060:265, 132:265.
- 072:302 Research Physiology and Biophysics** arr.  
Requirements: molecular physiology and biophysics graduate standing.
- 072:342 Biosciences Critical Thinking and Communication** 2 s.h.  
Selected papers and oral and written presentations tied to students' research rotations; introductory seminar. Repeatable. Same as 002:270, 156:265.
- 072:402 Thesis** arr.  
Requirements: molecular physiology and biophysics Ph.D. candidacy.

# Neurology

**Head:** George Richerson

**Professors:** Harold P. Adams Jr., Daniel Bonthius (Pediatrics), Kevin Campbell (Molecular Physiology and Biophysics), Beverly Davidson (Internal Medicine), Patricia Davis, Mark Granner, Matthew Howard (Neurosurgery), Jun Kimura, Katherine Matthews (Pediatrics), Peggy Nopoulos (Psychiatry), Jane Paulsen (Psychiatry), George Richerson, Matthew Rizzo, Robert L. Rodnitzky, E. Torage Shivapour, Wendy Smoker (Radiology), William Talman, Daniel Tranel (Psychology), Michael Wall (Ophthalmology and Visual Sciences), Mary Ann Werz, Thoru Yamada

**Professors emeriti:** Adel Afifi (Pediatrics/Anatomy and Cell Biology), William E. Bell (Pediatrics), Ramon Lim

**Adjunct professors:** Ralph Adolphs, Antonio Damasio, Hanna Damasio, Thomas Grabowski, Henry Paulson

**Associate professors:** Steven Anderson, Joseph Barrash, M. Eric Dyken, Deema Fattal, Robert D. Jones, Jon Tippin, Ergun Uc, James B. Worrell, Malcolm Yeh

**Adjunct associate professor:** Antoine Bechara

**Assistant professors:** Ed Aul, Natalie Denburg, Pedro Gonzalez, Enrique Leira, Ana Recober, David Rudrauf, Andrea Swenson, Teri Thomsen, Asgar Zaheer

**Associate:** Charles Callison

**Postdoctoral associates, fellows:** Bill Andrews, Shaun Christenson, Catalina Hooper, Kevin Im, Christopher Kovach, Derek Letort, Michelle Rusch, Wei Zhang

**Web site:** <http://www.uihealthcare.com/depts/med/neurology/>

Neurology is the branch of medical science concerned with diagnosis and management of disorders of the brain, spinal cord, peripheral nervous system, and muscle.

The Department of Neurology's hallmark is its history of carefully integrating patient care, scientific investigation, and the education of medical, postdoctoral, and graduate students.

## M.D. Student Training, Graduate Education

The department provides clinical and clinical research training to third- and fourth-year M.D. students. The department also offers research opportunities in various fields of neuroscience, including neuropsychology, neuroimaging, and neuroanatomy, to Ph.D. students in neuroscience and psychology.

## Residency Program

An active, four-year approved residency program qualifying physician trainees for board certification in neurology is a major aspect of the department's activity; experience in clinical electrophysiology, pediatric neurology, psychiatry, and neuropathology is part of this training.

## Research

The faculty's investigative interests center on cognitive neuroscience, degenerative diseases, cerebrovascular disease, neurogenetics, neuromuscular diseases, electrophysiological correlates of central and peripheral nervous system disease, growth factors in the nervous system, control and regulation of autonomic functions, neuro-ophthalmology, movement disorders, epilepsy, and pain management. For more information see the Department of Neurology web site.

## Neurology Courses

### 064:011 Clinical Neurology

2-4 s.h.

Experience in clinical neurology through ward work and case-based conferences linked to required reading; focus on neurologic examination, diagnosis of neurologic problems; four-week clerkship.

### 064:238 Introduction to Neuropsychological Assessment

arr.

Standard behavioral assessment procedures; administration of neuropsychological tests under staff supervision; preparation of integrated reports on collected data; involvement in research project.

### 064:239 Advanced Neuropsychological Assessment

arr.

Continuation of 064:238.

### 064:240 Topics in Cognitive Neuroscience

3 s.h.

Key topics in the neural basis of human cognition; research literature. Recommendations: graduate courses in basic neuroscience and cognitive psychology. Same as 132:240.

### 064:302 Advanced Inpatient Neurology

4 s.h.

Experience managing patients with seizure disorders, headache, cerebrovascular diseases; conferences, clinical rounds; two weeks on each inpatient service for a total of four weeks. Prerequisites: 064:011.

### 064:303 Advanced Outpatient Neurology

4 s.h.



Experience in evaluation, management of patients with various neurologic diseases; four weeks in clinic patient care.  
Prerequisites: 064:011.

**064:310 Cerebrovascular Disease**

arr.

Experience in evaluation, management of patients with cerebrovascular diseases; conferences, clinical rounds.  
Prerequisites: 064:011.

**064:365 Seminar: Neuropsychology and Neuroscience**

arr.

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as 031:365, 132:365.

**064:998 Neurology on Campus**

arr.

**064:999 Neurology off Campus**

arr.

# Neurosurgery

**Head:** Matthew A. Howard III

**Professors:** Patrick W. Hitchon, Matthew A. Howard III, Arnold H. Menezes

**Assistant professors:** Jeremy Greenlee, David Hasan, Hiroto Kawasaki, Hiroyuki Oya

**Web site:** <http://www.uihealthcare.com/depts/med/neurosurgery>

The Department of Neurosurgery provides an experience oriented toward patient care and basic research concerning diseases and physiology of the nervous system. Students develop awareness of neurosurgery's role in treating head and spine trauma, vascular disorders, brain and spinal cord tumors, pain and peripheral nerve abnormalities, degenerative spine pathology, and surgical treatment of epilepsy and movement disorders.

Clinical courses are designed around patient-centered discussions interwoven with operating room experiences. Lectures and conferences are scheduled on specific topics.

## M.D. Student Training

The department provides fourth-year M.D. students with access to special expertise in selected topics of investigation regarding the central nervous system and to a clinical course through special arrangements with the faculty.

## Faculty

Neurosurgery faculty strengths are centered in physiology of spinal cord trauma, epilepsy, auditory brain function and pain, primary brain tumor genetics, central nervous system tissue culture, spinal column biomechanics, and movement disorders. The department has expertise in clinical management across the spectrum of central nervous system diseases.

## Facilities

Multiple, fully equipped laboratory space is available to support scientific research of the central nervous system. Faculty and technical assistance is available in all laboratories.

## Neurosurgery Courses

Neurosurgery courses are open only to M.D. and qualified associated health sciences students.

### **183:227 Subinternship in Neurosurgery**

4 s.h.

Advanced clinical clerkship in neurological surgery; emphasis on diagnosis and operative management of surgical neurological disease.

### **183:228 Research in Neurological Surgery**

arr.

Laboratory investigation of spinal cord injury, spinal column biomechanics and instrumentation, electrophysiology of pain, epilepsy and hearing, molecular genetics and physiology of brain tumors.

### **183:999 Neurosurgery off Campus**

arr.

Arranged by student with department approval.

# Nuclear Medicine Technology

**Director:** Anthony W. Knight

**Medical director:** Michael M. Graham

**Technical director:** John A. Bricker

**Professors:** David L. Bushnell, Michael M. Graham, Malik E. Juweid, Daniel Kahn, Mark T. Madsen

**Professor emeritus:** Frank H. Cheng

**Clinical professor:** James A. Ponto (Pharmacy)

**Assistant professor:** Yusef Menda

**Clinical instructors:** John A. Bricker, Dean A. Clermont, Ashley B. Heid, Lisa A. Ireland, Bethany K. Johnson, Gregory T. Kelly, Richard C. Langholdt, Angela K. LaPorte, Ashley S. Long, Christine A. Mundt, Jeffrey S. Murguia, Daniel T. Petersen, Michelle L. Petersen, James A. Ponto, John C. Richmond, Julie A. Riggert, Kelli E. Schlarbaum, Jay J. Smith, Jeffery B. Snell

**Adjunct lecturers:** Gregory T. Kelly, Anthony W. Knight

**Undergraduate degree:** B.S. in Nuclear Medicine Technology

**Web site:** [http://www.medicine.uiowa.edu/RadSci/nuclear\\_medicine/index.html](http://www.medicine.uiowa.edu/RadSci/nuclear_medicine/index.html)

Nuclear medicine technologists are professionals in a medical specialty that uses radioactive tracers for diagnostic, therapeutic, and research purposes. Technologists generally are employed in hospitals and clinics. They work hand-in-hand with nuclear medicine physicians, health physicists, radiopharmacists, and radiochemists as an integral part of a highly trained specialty team.

In addition to using sophisticated detectors and computers to trace the movement and localization of radioactive tracers in the human body, nuclear medicine technologists have responsibilities that include radiation safety; quality control testing; radiopharmaceutical preparation and administration; and general patient care.

The Nuclear Medicine Technology Program is part of the Carver College of Medicine on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine in the Catalog.

## Undergraduate Program

The Carver College of Medicine offers a Bachelor of Science in nuclear medicine technology. Upon satisfactory completion of the four-year program, students receive the degree and a certificate of training. Graduates are eligible for national certification as nuclear medicine technologists.

The Nuclear Medicine Technology Program is fully accredited by the Joint Review Committee on Educational Programs in Nuclear Medical Technology (JRCNMT). Fulfillment of the requirements established by the JRCNMT Accreditation Board involves three years of preclinical work in the College of Liberal Arts and Sciences and the Carver College of Medicine, and a minimum of 12 months of professional clinical experience, available at University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center.

Undergraduate study in the college is guided by the academic rules and procedures outlined in the Carver College of Medicine section of the Catalog, under "Undergraduate Programs."

### Bachelor of Science

The Bachelor of Science in nuclear medicine technology requires a minimum of 124 s.h., including 30 s.h. in radiology course work (prefix 074). Required courses in the first and sophomore years emphasize the physical and biological sciences, which provide a basic background for further development in the junior year.

Applicants are strongly advised to pursue a course of study that is applicable to a baccalaureate degree, most commonly in biology, chemistry, biochemistry, or microbiology. In this way, students who are not admitted to the Nuclear Medicine Technology Program can complete a degree in their chosen area.

The following are recommended courses.

#### FIRST YEAR

004:011 Principles of Chemistry I	4 s.h.
004:012 Principles of Chemistry II	4 s.h.

#### SECOND YEAR

002:010 Principles of Biology I	4 s.h.
002:011 Principles of Biology II	4 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.

One of these:

22C:001 Computer Literacy	3 s.h.
22C:005 Introduction to Computer Science	3 s.h.
22C:016 Computer Science I: Fundamentals	4 s.h.

### THIRD YEAR

029:011 College Physics I	4 s.h.
029:012 College Physics II	4 s.h.
027:053 Human Anatomy	3 s.h.
027:054 Human Anatomy Laboratory	1 s.h.
027:130 Human Physiology	3 s.h.
027:132 Human Physiology Laboratory	2 s.h.

### FOURTH YEAR

The curriculum of the clinical year is organized in accordance with the JRCNMT Essentials of an Accredited Educational Program in Nuclear Medicine Technology. Courses are taught in the following areas: radiopharmacy, radiobiology, radiation safety, patient care, medical terminology, anatomic and physiologic bases of nuclear medicine procedures, physics and instrumentation, administration and management, medical and professional ethics, mathematics and statistics of nuclear medicine, and computer applications in nuclear medicine. Clinical rotations focus on nuclear and positron emission tomography (PET) imaging, clinical radiopharmacy, computer applications, and quantification of radioactivity in vivo and in vitro.

The clinical year consists of these courses.

074:101 Principles of Nuclear Medicine I	6 s.h.
074:102 Introductory Clinical Nuclear Medicine	6 s.h.
074:103 Principles of Nuclear Medicine II	3 s.h.
074:104 Intermediate Clinical Nuclear Medicine	9 s.h.
074:105 Advanced Clinical Nuclear Medicine	6 s.h.

For course descriptions and prerequisites, see Radiology in the Catalog.

### Admission

Prerequisites for admission to the Nuclear Medicine Technology Program include the following:

- a minimum of 94 s.h. of college credit, with a cumulative g.p.a. of at least 2.50;
- fulfillment of the College of Liberal Arts and Sciences General Education Program requirements in rhetoric, interpretation of literature, humanities, historical perspectives, quantitative or formal reasoning, social sciences (sociology and psychology are recommended), and distributed general education;
- a minimum of 20 s.h. in three science areas, including a complete introductory course with laboratory in chemistry, physics, and biology; and
- a minimum of 3 s.h. in mathematics, including at least elementary functions.

Fulfillment of these basic admission requirements does not guarantee acceptance into the Nuclear Medicine Technology Program.

A new class begins every August. Application deadline is February 1. Personal interviews are scheduled in February, and the class is selected by March 15. Class size is limited to 10 students. Prospective students are encouraged to consult the Nuclear Medicine Technology Program office to plan an appropriate preprofessional program.

## Obstetrics and Gynecology

**Head:** Kimberly Leslie

**Professors:** Jo Ann Benda (Pathology), Susan R. Johnson, Kimberly Leslie, Jennifer R. Niebyl, Elaine Smith (Epidemiology), Craig H. Syrop, Bradley Van Voorhis, Roger A. Williamson, Jerome Yankowitz

**Professors (clinical):** Noelle C. Bowdler, Koen DeGeest, Jane Engeldinger

**Adjunct clinical professor:** Robert M. Kretzschmar

**Associate professors:** Catherine Bradley, Donghai Dai, Stephen K. Hunter, Asha Rijhsinghani, Baoli Yang

**Associate professors (clinical):** Thomas Buekers, William Davis, Marygrace Elson, Colleen Stockdale, Jill Vibhakar

**Adjunct clinical associate professors:** Lloyd Holm, Grant Paulsen, Charles W. Schauburger, Rebecca Shaw, Gerald Shirk

**Assistant professors:** Janet I. Andrews, Kristi Borowski, Michael Goodheart, Victoria Korovkina, Xiangbing Meng, Barbara Stegmann

**Assistant professors (clinical):** David P. Bender, Laura Dellos, Andrea Greiner, Lynne Himmelreich, Veronika Kolder, Ali Luck, Rachel Maassen, Merida Miller, Elizabeth Potter, Gregory Skopec, Kelly Ward

**Associates:** Ginny Ryan, Mark Santillan

**Web site:** <http://www.uihealthcare.com/depts/med/obgyn/>

## M.D. Student Training

Courses in the Department of Obstetrics and Gynecology are designed to give M.D. students a comprehensive survey of reproductive medicine. This is done through a series of didactic lectures, inpatient and outpatient assignments, ward rounds, teaching seminars, and special elective courses.

The third-year clerkship 066:004 Clinical Obstetrics and Gynecology gives students the core knowledge, skills, and attitudes needed to provide primary health care to female patients.

The department offers fourth-year medical students a variety of electives that provide advanced training in the special areas of obstetrics and gynecology. In addition to clerkships at University of Iowa Hospitals and Clinics, these electives include a rotation at the Washington County Hospital and Clinics and other arranged off-campus courses.

## Residency Program

The department offers a four-year residency. Upon completion, graduates are eligible for the written and oral examinations leading to certification by the American Board of Obstetrics and Gynecology.

Residents are assigned to the various divisions and clinical services of the department; they care for both hospital inpatients and outpatients. Training is provided in normal and abnormal obstetrics, gynecologic surgery, office gynecology, ultrasound, reproductive endocrinology, gynecologic oncology, urogynecology, family planning, and endoscopic procedures.

## Obstetrics and Gynecology Courses

### 066:004 Clinical Obstetrics and Gynecology

arr.

Proficiency in evaluation and management of core women's health care relating to the reproductive tract; special history taking, physical examination, laboratory and imaging assessment of obstetric and/or gynecological patients, application of current concepts to well women's health care and to management of diseases and pathologies; outpatient and inpatient obstetrics and gynecology; family planning, screening and early detection of cancer and other diseases.

### 066:006 High Risk Antepartum Obstetrics Subinternship

arr.

Experience in evaluating new patients in a high-risk obstetric clinic; continuing antepartum care; doing work-up, ordering diagnostic studies, and following course of complicated patients admitted to obstetric ward; assisting in diagnostic, therapeutic procedures such as fetal heart rate testing, amniocentesis, ultrasonography, intrauterine fetal transfusion.

### 066:010 Gynecologic Oncology Subinternship

arr.

Experience on a gynecologic oncology service, including operating room, inpatient and outpatient care; team management approach to gynecologic cancer patients, treatment and follow-up of invasive gynecologic malignancies, etiology and risk factors for gynecologic neoplasias, pre- and postoperative evaluation and treatment of surgical management of gynecologic neoplasias; research project encouraged.

### 066:013 Reproductive Endocrinology Senior Elective

arr.

Experience evaluating new and returning patients in the Reproductive Endocrinology and Infertility Clinic; participation in preoperative, operative, and inpatient postoperative care; advanced gynecologic ultrasonography, in vitro fertilization services.

**066:015 Urogynecology Advanced Elective**

4 s.h.

Experience as active member of urogynecology clinical team, participating in clinical care activities including outpatient clinic, outpatient procedures, inpatient surgery, hospital care; presentation to team on topic chosen by student.

**066:017 Continuity of Care in Outpatient Gynecology**

4 s.h.

M4 students work with experienced gynecologist in longitudinal clinical experience for the academic year; students paired with faculty member to see patients in weekly clinic and provide clinical care to defined patient population.

**066:018 Community-Based Ob/Gyn, Washington**

4 s.h.

Varied out-patient and in-patient obstetric and gynecologic patients in the Washington County Hospital and Clinic; perform and master OB/GYN histories and examinations; frequent supervised active participation of procedures where appropriate.

**066:998 Ob/Gyn on Campus**

arr.

**066:999 Ob/Gyn off Campus**

arr.

# Ophthalmology and Visual Sciences

**Head:** Keith D. Carter

**Professors:** Wallace L.M. Alward, H. Culver Boldt, Keith D. Carter, Thomas L. Casavant (Electrical and Computer Engineering), James C. Folk, Kenneth M. Goins, A. Tim Johnson, Chris A. Johnson, Randy H. Kardon, Stephen A. Kuusisto (Disabilities and Diversity Awareness/Non-Fiction Writing), Young H. Kwon, Thomas A. Oetting, Steven R. Russell, Val C. Sheffield (Pediatrics/Genetics), Milan Sonka (Electrical and Computer Engineering), Edwin M. Stone, Michael D. Wagoner, Michael Wall (Neurology), Thomas A. Weingeist, Mark E. Wilkinson

**Professors emeriti:** Sohan S. Hayreh, G. Frank Judisch, Hansjoerg E. Kolder, Karl C. Ossoinig, Edward S. Perkins, William E. Scott, H. Stanley Thompson

**Associate professors:** Michael M. Abramoff, Richard C. Allen, Terry A. Braun, Arlene V. Drack, Patricia A. Kirby, Robert F. Mullins, Richard J. Olson, Todd E. Scheetz, Christine W. Sindt

**Assistant professors:** Michael G. Anderson (Physiology), John H. Fingert, Brian R. Kirschling, Anna S. Kitzmann, Markus H. Kuehn, Reid A. Longmuir, Susannah Q. Longmuir, Vinit B. Mahajan, Steven F. Stasheff (Pediatrics), Nasreen A. Syed

**Web site:** <http://webeye.ophth.uiowa.edu>

Ophthalmology is a medical and surgical specialty concerned with the diagnosis and treatment of diseases of the eye and its adnexa. The Department of Ophthalmology and Visual Sciences combines postgraduate training with research and patient care in all aspects of the visual sciences. Subspecialties represented in the department include cataract surgery, comprehensive ophthalmology, cornea and external diseases, contact lens and refraction services, genetics and molecular biology, glaucoma, laser refractive surgery, neuro-ophthalmology, oculoplastic surgery, ocular echography, ocular pathology, ocular vascular diseases, optometric services, pediatric ophthalmology and adult strabismus, vitreoretinal disorders, and vision rehabilitation.

## M.D. Student Training, Graduate Education

The department offers clinical and research training to M.D. students and limited graduate studies for Ph.D. students in Anatomy and Cell Biology, Molecular and Cellular Biology, and Genetics. A three-year residency program with clinical experience in the ophthalmic subspecialties is offered to physician trainees. Graduates qualify for the written and oral examinations leading to certification by the American Board of Ophthalmology. Postgraduate fellowships of one to two years are available for qualified ophthalmologists in most subspecialty areas.

## Continuing Education

The department sponsors clinical conferences open to community ophthalmologists in Iowa and surrounding states where physicians can earn continuing medical education credits. The department also sponsors an annual alumni meeting with participation by nationally and internationally recognized ophthalmologists and vision scientists.

## Facilities

The department maintains research laboratories for cell biology, biochemistry, morphology, tumor diagnosis, pathology, electrophysiology, pupillography, molecular biology, and vascular disease. Clinical facilities in ophthalmology are available at University of Iowa Hospitals and Clinics in the Pomerantz Family Pavilion and at the Iowa City Veterans Affairs Medical Center and the Veterans Affairs Central Iowa Health Care System in Des Moines. The department also manages an eye clinic at the Broadlawns Medical Center in Des Moines as well as outreach programs in other communities. The department houses the University of Iowa Carver Family Center for Macular Degeneration.

## Ophthalmology and Visual Sciences Courses

- |   |        |
|---|--------|
| <b>067:100 Elective in Ocular Pathology</b>   | 4 s.h. |
| Pathophysiology of eye disease; emphasis on use of Socratic method, self-study.   |        |
| <b>067:101 Elective in External Eye Disease</b>   | 4 s.h. |
| Common diseases of eyelid, conjunctiva, cornea.   |        |
| <b>067:102 Elective in Neuro-Ophthalmology</b>  | arr.   |
| Visual, ocular motor dysfunction due to neurologic disease; patient work-up, readings, neuro-ophthalmology rounds.  |        |
| <b>067:109 Molecular Ophthalmology</b>  | arr.   |
| Use of recombinant DNA, tissue culture, protein electrophoresis in study of inherited eye diseases.   |        |
| <b>067:111 Clinical Ophthalmology</b>   | 2 s.h. |
| All aspects of clinical ophthalmology; patient rounds, lectures, case presentations; clinical duties with staff, residents, faculty in UIHC and VAMC ophthalmology clinics. |        |

<b>067:998 Ophthalmology on Campus</b>	arr.
<b>067:999 Ophthalmology off Campus</b>	arr.



## Orthopaedics and Rehabilitation

**Head:** Joseph A. Buckwalter

**Professors:** Brian D. Adams, John P. Albright, Annunziato Amendola, Thomas D. Brown, Joseph A. Buckwalter, John J. Callaghan, John Canady, Charles R. Clark, Frederick R. Dietz, George Y. El-Khoury, J. Lawrence Marsh, Jerry A. Maynard, Todd O. McKinley, James V. Nepola, Richard K. Shields, Stuart L. Weinstein

**Professor emeritus:** Reginald R. Cooper

**Clinical professors:** Richard C. Johnston, Timothy A. Thomsen

**Associate professors:** Ernest M. Found, Neil Segal

**Clinical associate professors:** Joseph J. Chen, Barry DeYoung, John E. Femino, Sergio A. Mendoza

**Adjunct clinical associate professors:** Devon D. Goetz, David S. Tearse

**Assistant professors:** Nicole M. Grosland, Jose A. Morcuende, Nicolas Noiseux, Joseph D. Smucker, Glenn Williams, Brian R. Wolf

**Clinical assistant professors:** Heather Bingham, Ericka A. Lawler, Phinit Phitiskul, Robert Yang

**Adjunct clinical assistant professor:** Mark C. Mysnyk

**Web site:** <http://www.uihealthcare.com/depts/med/orthopaedicsurgery/index.html>

The Department of Orthopaedics and Rehabilitation offers training for residents and provides education for undergraduate students.

## Residency Programs

The department offers two programs for postgraduate trainees. The first is a five-year integrated clinical program, in which interns and residents participate simultaneously in inpatient and outpatient care, surgery, and sciences related to the neuromusculoskeletal system. The second provides the same training as the first, but includes an additional one to two years of research.

### Clinical Residency

Trainees enter this program directly from medical school through the National Internship Matching Plan.

During the first year, trainees gain experience not only in clinical orthopaedics but also in medicine, pediatrics, surgical specialties, intensive care, anesthesiology, and other services.

During years two through five, residents gain experience in trauma, musculoskeletal oncology, children's orthopaedics, adult orthopaedics, neuromuscular disorders, rehabilitation, prosthetics and orthotics, rheumatology, and basic science related to orthopaedics. They take specialized courses in anatomy, bone histology, biochemistry, physiology, and pathology.

Weekly seminars cover biomechanics, kinesiology, and selected clinical subjects.

### Residency with Research

In addition to the training described for the clinical program, this program includes an additional one or two years of research in a field that interests the resident and is related to the musculoskeletal system. The research may be done in one of the orthopaedic laboratories.

## Undergraduate Education

At the undergraduate level, the Department of Orthopaedics and Rehabilitation participates in the Bachelor of Science in athletic training, which is offered by the Department of Health and Human Physiology (College of Liberal Arts and Sciences). Members of the orthopaedics and rehabilitation sports medicine faculty teach 076:187 Practicum in Athletic Training IV, a two-semester advanced clinical sequence (8 s.h.). Students who complete the program are eligible to apply for national certification in athletic training and pursue employment opportunities as health care professionals for sports medicine clinics and hospitals, as well as in academic settings.

## Laboratories

The orthopaedics laboratories deal with problems in these major subject areas.

**Biochemistry:** the biochemistry of proteoglycans, collagens, and matrix proteins, both normal and altered in musculoskeletal disorders

**Biomechanics:** problems of the upper extremity; biomechanics of the spine, hip, and gait; total joint replacements (in conjunction with the College of Engineering)

**Cell and molecular biology:** studies of normal bone, cartilage, tendon, muscle, and tissues altered by experiment and disease

## Facilities

The department is housed in the John Pappajohn Pavilion of University of Iowa Hospitals and Clinics and has an active service in the Iowa City Veterans Affairs Medical Center.

Facilities include 48 orthopaedic beds, five outpatient clinics, inpatient and outpatient operating rooms, a specialty library, a specialty radiology unit, and physical therapy and rehabilitation facilities.

Specialty clinics deal with disorders such as scoliosis, club feet, congenital dislocated hip, neuromuscular disease, metabolic disease, amputation, neoplasm, trauma, and neck, back, hip, foot, knee, and hand problems.

Physicians in the outpatient clinic see approximately 175 patients per day. Approximately 5,000 major operations are performed each year under the auspices of the department.

The department provides consulting service to the Center for Disabilities and Development, Child Health Specialty Clinics, and two state programs that serve people with mental retardation.

## Orthopaedics and Rehabilitation Courses

<b>076:002 Clinical Orthopaedics</b>	arr.
<b>076:187 Practicum in Athletic Training IV</b> Clinical experience arranged through the athletic training program and the Department of Orthopaedic Surgery for athletic training majors; development of global proficiency in clinical skills. Requirements: athletic training major and grade of C or higher in 027:183 and 027:186.	4 s.h.
<b>076:201 Advanced Clinical Orthopaedics</b> Requirements: fourth-year M.D. enrollment.	arr.
<b>076:202 Musculoskeletal Trauma</b> Requirements: fourth-year M.D. enrollment.	arr.
<b>076:203 Subinternship in Orthopaedics</b> Opportunity to enhance clinical skills by taking intern-level responsibility for management of a limited number of orthopaedic patients; proficiency in perioperative patient assessment and management, including assisting in procedures and using laboratory diagnosis and radiologic studies pertinent to one faculty member's clinical practice.	4 s.h.
<b>076:205 Physical Medicine and Rehabilitation</b>	4 s.h.
<b>076:998 Orthopaedics on Campus</b> Requirements: fourth-year M.D. enrollment.	arr.
<b>076:999 Orthopaedics off Campus</b> Requirements: fourth-year M.D. enrollment.	arr.

## Otolaryngology--Head and Neck Surgery

**Head:** Bruce J. Gantz

**Professors:** Paul J. Abbas, John Buatti, John W. Canady, Keith D. Carter, Gerry F. Funk, Bruce J. Gantz, Scott M. Graham, Henry T. Hoffman, Jeffrey A. Nerad, Michael P. Karnell, Richard J.H. Smith, Richard S. Tyler

**Associate professors:** Carolyn J. Brown, Kristi E. Chang, Anjali Gupta, Marlan R. Hansen, José M. Manaligod

**Assistant professors:** Daniel F. Eberl, Eileen M. Finnegan, Grant S. Hamilton III, Erin K. O'Brien, Nitin A. Pagedar, Douglas J. Van Daele

**Clinical assistant professors:** Jeffrey Carithers, Thomas A. Ericson, Steven R. Herwig, Brenton Koch, Richard B. Merrick, Irving E. Peterson, Russell E. Schurtz, Mark K. Zlab

**Web site:** <http://www.uihealthcare.com/depts/med/otolaryngology/index.html>

The Department of Otolaryngology--Head and Neck Surgery is one of the most comprehensive otolaryngology departments in the world. Founded in 1922, it also is among the oldest in the United States. *US News & World Report* has consistently ranked the department's program among the top three in the nation.

The department's facilities are situated at University of Iowa Hospitals and Clinics.

The department's chief focus areas are education and training, patient care, and research. M.D. students in the Carver College of Medicine, residents, and fellows benefit from a faculty dedicated to providing thorough training in all aspects of otolaryngology and patient care. Patients in the otolaryngology clinic enjoy access to comprehensive care in any of five subspecialties: pediatric otolaryngology, otology/neurotology, general otolaryngology and rhinology, head and neck oncology, and facial plastic and reconstructive surgery. University of Iowa faculty members from ophthalmology and radiation oncology hold joint appointments in otolaryngology, adding depth to the department's resources.

The department is home to prominent research programs in cleft palate and other craniofacial defects, head and neck oncology, cochlear implants, and molecular genetics. It also offers fellowships in otology/neurotology, pediatric otolaryngology, and head and neck oncology.

### Residency Program

Each year the Department of Otolaryngology--Head and Neck Surgery accepts five applicants to its residency program, which is accredited by the Accreditation Council for Graduate Medical Education. Three residents are matched to the four-year clinical track, and two are matched to the six-year research track.

The clinical track provides four years of concentrated clinical study and application in all aspects of otolaryngology. Residents begin their training with a seven-week intensive basic science course divided into an anatomy component and a 160-hour lecture series. The anatomy component includes a supervised cadaver dissection, and the lecture series details the study of otolaryngology and related disciplines. Each resident also completes two research rotations in order to explore research areas that interest him or her.

The research track is a combined clinical-research program designed for residents interested in an otolaryngology research career. After an internship year, residents complete two years of research followed by four years of clinical training. The interaction of clinicians and basic scientists from several departments affords residents the opportunity for involvement in a wide spectrum of current research in areas such as electrophysiology of the auditory system, the genetics of head and neck cancer, and gene therapy.

### Fellowships

The Department of Otolaryngology--Head and Neck Surgery offers two-year fellowships in otology/neurotology and in pediatric otolaryngology, which are accredited by the Accreditation Council for Graduate Medical Education, and a one- or two-year fellowship in head and neck oncology accredited by the Advanced Training Council of the American Head and Neck Society.

One applicant is admitted to the otology/neurotology fellowship program every two years. Otolaryngology fellows spend a minimum of 20 months on the clinical service. They attend all otology/neurotology clinics and neurotology cases in the operating room and are responsible for inpatient service. They also have one day of dedicated research time each week.

The pediatric otolaryngology fellowship program admits one applicant each year. Fellows spend a minimum of 18 months on the clinical service, where they have the opportunity to train with all pediatric otolaryngology faculty members. Each fellow also has six months of dedicated time for academic research.

One applicant is accepted as a head and neck oncology fellow each year. Training is largely clinical, allowing fellows the opportunity to participate in a variety of procedures, ranging from skull base resection to laryngeal rehabilitation. Fellows routinely perform 35 to 45 free-tissue transfers during one year of training. They also complete a clinical and/or basic science research project relating to head and neck oncology.

## Otolaryngology--Head and Neck Surgery Courses

<b>068:003 Clinical Otolaryngology</b>	2 s.h.
<b>068:100 Sub-Internship in Otolaryngology</b>	arr.
<b>068:199 Basic Otolaryngologic Science</b> Supervised cadaver head and neck dissection, with 14 areas in detail. Two weeks.	arr.
<b>068:998 Otolaryngology on Campus</b>	arr.
<b>068:999 Otolaryngology off Campus</b> Arranged by student with department approval.	arr.

## Pathology

**Head:** Michael B. Cohen

**Professors:** Gary L. Baumbach, Jo Ann Benda, Michael B. Cohen, Robert T. Cook, Barry De Young, Daniel Diekema, Siegfried Janz, Chris Jensen, John D. Kemp, Patricia Kirby, Charles F. Lynch, Frank A. Mitros, Steven Moore, Marcus Nashelsky, Tom Raife, Robert A. Robinson, Nancy Rosenthal, Mary Stone, Lubomir P. Turek, Steven Vincent, Thomas Waldschmidt

**Professors emeriti:** Fred Dee, Gary Doern, James A. Goeken, George F. Johnson, Thomas H. Kent, George D. Penick, Michael Pfaller, Charles E. Platz, Earl F. Rose, Marian Schwabbauer, Ronald G. Strauss

**Adjunct clinical professor:** Oskar W. Rokhlin

**Associate professors:** Jackie R. Bickenbach, Leslie A. Bruch, Laila Dahmouch, Morris O. Dailey, Thomas H. Haugen, Michael Henry, Michael Knudson, Kevin Legge, Vincent Liu, Ramesh Nair, Dawn Quelle, Sandra Richter, Annette Schlueter, Sergei Syrbu, Robert D. Tucker, Steve Varga

**Adjunct clinical associate professor:** Julia C. Goodin

**Assistant professors:** Ryan Askeland, Vladimir Badovinac, Aaron Bossler, Adam Dupuy, Yasuko Erickson, Leana Guerin, Hasem Habelhah, Jonathan Heusel, Fiorenza Ianzini, Michael Icardi, Toshiki Itoh, Stacey Klutts, Matthew Krasowski, Tomomi Kuwana, David Meyerholz, Vishala Neppalli, Brian Swick, Nasreen Syed,

**Adjunct clinical assistant professors:** Michelle Catellier, Timothy Drevankyo, Dennis Klein, Jerri McLemore, L. Jeffrey Rissman, Jonathan Thompson

**Adjunct clinical lecturer:** Judith Kittleson

**Graduate degree:** M.S. in Pathology

**Web site:** <http://www.medicine.uiowa.edu/pathology>

The Department of Pathology offers basic pathology courses to health sciences students; a clinical training program for clinical laboratory scientists; a Master of Science in pathology; residency training programs leading to American Board of Pathology certification in anatomic pathology, clinical pathology, and neuropathology; fellowship training in pathology subspecialties; and postdoctoral research training in cellular and molecular pathology.

## Clinical Education

See Clinical Laboratory Sciences in the Catalog.

## M.D. Student Training

The department provides seven 12-month medical student fellowships for M.D. students: the Emory Warner Fellowship, a full-time research position in a facet of experimental pathology; and six pathology externships, for students interested in careers as pathologists. It also offers a varying number of clerkships for M.D. students in any of the areas of anatomical and clinical pathology.

## Residency Program

The department offers 20 residency positions in pathology, covering a training span of up to four years. Patients of University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center are integral to the program.

Residents gain experience in systematic rotation through the varied laboratory services, including surgical pathology, autopsy pathology, neuropathology, cytology, clinical chemistry, clinical microbiology, hematology, immunopathology, and transfusion medicine. They also have the opportunity to pursue one to three years of additional fellowship training in most pathology subspecialties.

## Graduate Program

The department offers a Master of Science in pathology.

### Master of Science

The Master of Science in pathology requires a minimum of 30 s.h. of graduate credit, including 21 s.h. of classroom work and 9 s.h. earned for research. The program trains graduate students in cell and molecular biology. Graduates work as research scientists in a range of academic and commercial laboratories, including those in the rapidly expanding biotechnology sector. Others advance to doctoral-level study.

M.S. students take a core curriculum in cell and molecular biology as well as electives suited to their individual interests. They acquire contemporary research skills by pursuing a laboratory thesis project under the guidance of a faculty member. Currently, there are active research programs in immunology, microbiology, neuroscience, signaling and apoptosis, inflammation and vascular biology, tumor biology and cancer, and virology.

Most M.S. students complete their course of study in three years.

The department encourages applicants with Bachelor of Science degrees in biology, chemistry, biochemistry, clinical laboratory science, microbiology, and zoology. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They should have an undergraduate g.p.a. of at least 3.00 and a combined verbal and quantitative score of at least 1100 on the Graduate Record Exam (GRE) General test.

## Postgraduate Training

The Department of Pathology offers postgraduate clinical fellowship programs in hematopathology, transfusion medicine, clinical microbiology, cytopathology, molecular genetics pathology, and surgical pathology for physicians who have completed residency training in pathology. These fellowships consist of one to two years of diagnostic work and up to two years of laboratory research.

The department provides postdoctoral research training in immunology, neuropathology, apoptosis, cancer biology, and clinical microbiology as well as in other areas of cellular and molecular pathology. These positions are open to individuals with either a Ph.D. or M.D.

## Facilities

The Department of Pathology is well-equipped to carry out the sophisticated technology of modern cellular and molecular pathology. It administers more than 90,000 square feet of clinical laboratories at University of Iowa Hospitals and Clinics and has individual research and core facility laboratories, including histopathology and laser capture microscopy for cellular and molecular pathology research, in the Medical Research Center, Medical Laboratories, and at the Iowa City Veterans Affairs Medical Center. Also available are Carver College of Medicine research facilities for nucleic acid chemistry, hybridoma production, flow cytometry, ultrastructural studies, protein structure, image analysis, electron spin resonance, mass spectroscopy, nuclear magnetic resonance, and laboratory animal care.

## Pathology Courses

- 069:130 Clinical Laboratory Medicine for Physician Assistants** 1 s.h.  
Theory and practice of selected clinical laboratory techniques and procedures; emphasis on effective use of clinical laboratory in diagnosis and management of disease. Requirements: Physician Assistant Program enrollment.
- 069:133 Introduction to Human Pathology for Graduate Students** 4 s.h.  
Human disease; basic disease processes, organ-related and multisystem diseases; case analysis. Offered fall semesters.
- 069:143 Hemostasis and Thrombosis for CLS** 0-1 s.h.  
Laboratory hemostasis and thrombosis; theory and practice.
- 069:150 Clinical Laboratory Skills** 0-6 s.h.  
Summer clinical laboratory science instruction in Iowa City. Requirements: acceptance to Clinical Laboratory Science Program.
- 069:152 CLS Theory, Application, and Correlation** 0-5 s.h.  
Theory, application, and correlation of clinical laboratory science. Prerequisites: 069:150.
- 069:154 Clinical Chemistry I** 0-4 s.h.  
Theory, practical application, technical performance, and evaluation of clinical chemistry laboratory procedures; correlation of laboratory data with diagnosis of disease. Prerequisites: 069:150.
- 069:155 Clinical Chemistry II** 0-3 s.h.  
Advanced theory, practical application, technical performance, and evaluation of clinical chemistry laboratory procedures; correlation of laboratory data with diagnosis of disease. Prerequisites: 069:154.
- 069:156 Clinical Hematology I** 0-4 s.h.  
Introduction to theory, practical application, technical performance, and evaluation of hematological and hemostasis procedures; correlation of laboratory data with disease diagnosis. Prerequisites: 069:150.
- 069:157 Clinical Hematology II** 0-3 s.h.  
Advanced theory, practical application, technical performance, and evaluation of hematological and hemostasis procedures; correlation of laboratory data with disease diagnosis. Prerequisites: 069:156.
- 069:158 Clinical Microbiology I** 0-4 s.h.  
Introduction to theory, practical application, technical performance, and evaluation of procedures for isolation, identification, and susceptibility testing of infectious disease organisms in humans. Prerequisites: 069:150.

<b>069:159 Clinical Microbiology II</b>	0-3 s.h.
Advanced theory, practical application, technical performance, and evaluation of procedures for isolation, identification, and susceptibility testing of infectious disease organisms in humans. Prerequisites: 069:158.	
<b>069:160 Clinical Immunology and Molecular Diagnostics</b>	0-1 s.h.
Theory, application, and evaluation of immunological components, principles, and methodologies used to assess immune dysfunction; theory and application of molecular diagnostic tools. Prerequisites: 069:150.	
<b>069:162 Clinical Immunohematology I</b>	0-3 s.h.
Introduction to theory, practical application, technical performance, and evaluation of blood bank procedures required for storage and transfusion of blood and blood components. Prerequisites: 069:150.	
<b>069:163 Clinical Immunohematology II</b>	0-2 s.h.
Clinical immunohematology for laboratory science. Prerequisites: 069:162.	
<b>069:164 Phlebotomy for Clinical Laboratory Science</b>	0-1 s.h.
Theory, practical application, technical performance, and evaluation of procedures used in collecting, handling, and processing blood specimens. Prerequisites: 069:150.	
<b>069:166 Urine and Body Fluid Analysis</b>	0-1 s.h.
Theory, practical application, technical performance, and evaluation of procedures used in analyzing urine and other body fluids, including cerebrospinal, synovial, serous, and amniotic fluids. Prerequisites: 069:150.	
<b>069:170 Clinical Laboratory Management I</b>	0-2 s.h.
Theory, practical application, technical performance, and evaluation of laboratory management principles and associated models; critical thinking, problem solving, leadership skills. Prerequisites: 069:150.	
<b>069:171 Clinical Laboratory Management II</b>	0-3 s.h.
Advanced theory, application, technical performance, and evaluation of laboratory management principles and associated models; critical thinking, problem solving, leadership skills. Prerequisites: 069:170.	
<b>069:205 Medical Pathology I</b>	5 s.h.
Mechanisms of disease, etiology, pathogenesis, epidemiology, major clinical manifestations of disease in organ systems. Requirements: M.D. enrollment or graduate standing.	
<b>069:206 Medical Pathology II</b>	5 s.h.
Mechanisms of disease, etiology, pathogenesis, epidemiology, major clinical manifestations of disease in organ systems. Requirements: 069:205 and M.D. enrollment, or graduate standing.	
<b>069:211 Research in Pathology</b>	arr.
Basic aspects of pathology or clinical patient material; emphasis on experimental design, methods, literature review, obtaining formal answers to specific questions. Requirements: M.D. enrollment or graduate standing.	
<b>069:220 Seminar in Pathology</b>	1 s.h.
Current research and literature. Repeatable. Requirements: pathology graduate standing.	
<b>069:240 Laboratory Medicine in Clinical Practice</b>	arr.
Issues in appropriate use of clinical laboratory and pathology resources in the primary care setting; case-based approach. Requirements: third- or fourth-year M.D. enrollment.	
<b>069:241 Autopsy Pathology Clerkship</b>	arr.
<b>069:245 Hematopathology Clerkship</b>	arr.
<b>069:246 Surgical Pathology Clerkship</b>	arr.
<b>069:247 Blood Bank Clerkship</b>	arr.

**069:260 Translational Histopathology**

3 s.h.

Didactic sessions on human comparative histology, molecular and cellular pathology, and animal model applications; laboratory sessions on microscopy, histology, histotechnology, and immunohistochemistry, with group discussions of model papers; experience in scientific writing and oral presentation skills; for students who plan to investigate experimental models of human disease. Prerequisites: 156:201, 156:202, and 156:203.

**069:270 Pathogenesis of Major Human Diseases**

3 s.h.

Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Prerequisites: 156:201, 156:202, and 156:203.

**069:272 Cancer Molecular Epidemiology Seminar**

2 s.h.

Basic tumor biology and lab-based methods applied to development of translational approaches to prevention, early diagnosis, and treatment of human cancers. Offered fall semesters of even years. Same as 173:272.

**069:288 Molecular and Cellular Biology of Cancer**

3 s.h.

Fundamental aspects of oncology at the cellular and molecular levels; mechanisms of cancer initiation and progression, oncogene action, DNA damage and repair, carcinogenesis by radiation, chemicals, viruses; tumor immunology, anticancer therapies. Offered spring semesters of odd years. Requirements: strong basic science background. Same as 077:288.

**069:290 Medical Student Fellowships in Pathology (Externships)**

0 s.h.

First-hand experience in autopsy, surgical and clinical pathology, teaching, and research to further understanding of disease mechanisms, normal and pathologic anatomy, laboratory use.

**069:291 Warner Fellowship in Experimental Pathology**

0 s.h.

One-year, full-time membership in established research laboratory in the Department of Pathology or collaborating laboratory. Requirements: M.D. enrollment.

**069:998 Pathology on Campus**

arr.

**069:999 Pathology off Campus**

arr.



## Pediatrics

**Head:** Michael Artman

**Professors:** Richard C. Ahrens, Michael Artman, Dianne L. Atkins, Edward F. Bell, Warren Bishop, Daniel Bonthius, Trudy Burns (Nursing/Epidemiology), Donna D'Alessandro, Josephine Gittler (Law), Charles Grose, Dennis C. Harper (Education), David Johnsen (Dentistry), Fred Lamb, Scott D. Lindgren, Larry T. Mahoney, Katherine Mathews, Ann Marie McCarthy (Nursing), Paul McCray, Frank H. Morriss Jr., Jeffrey C. Murray, Peg Nopoulos (Psychiatry), M. Sue O'Dorisio, Shivanand R. Patil, Stanley Perlman (Microbiology), Lynn C. Richman, Jean Robillard, Thomas D. Scholz, Jeffrey Segar, Val C. Sheffield, Richard Smith (Otolaryngology), Eva Tsalkian, Don C. Van Dyke, David P. Wacker, Miles M. Weinberger, John A. Widness, Ekhard E. Ziegler

**Professors emeriti:** Adel K. Afifi, William E. Bell, Brenda Cruikshank, Claibourne Dungy, James Hardy, Alfred Healy, Herman Hein, C. Thomas Kisker, Vera Loening-Baucke, Charles H. Read, James A. Stehbens, Robert Weir, Douglas Weismann

**Clinical professors:** Lenore Holte (Communication Sciences and Disorders), Kim Keppler-Noreuil, Jill Morriss, Mary Ann Roberts

**Visiting professors:** Ari Auron, Thomas Fagan, Judith Heggen, John Justin, Jan Loney, Kathleen Maginot

**Associate professors:** Michael J. Acarregui, Patrick Brophy, Christopher Cooper (Urology), John Dagle, Arlene Drack (Ophthalmology and Visual Sciences), Lois B. Dussdieker, Jonathan M. Klein, Andrew Lidral (Orthodontics), Jessica Moreland, Jody R. Murph, Charles Rebouche, Joel Shilyansky (Surgery), Raymond Tannous, Aliye Uc, Thomas Wassink (Psychiatry), Jerold C. Woodhead

**Clinical associate professors:** Dale Bieber (Internal Medicine), Lori Christensen, James Davis (Cardiothoracic Surgery), Abhay Divekar, R. Erik Edens, Mary Beth Fasano (Internal Medicine), Charles Jennissen (Emergency Medicine), Charuta Joshi, Mary Larew, Ian Law, Deborah Lin-Dyken, Ellen Link, Dianne McBrien, Stacy McConkey, Royann Mraz, Richard Olson (Ophthalmology and Visual Sciences), Resmiye Oral, George Phillips, Vickie Pyevich, Jeffrey Smith, Shannon Sullivan, Michael Tansey, Gretchen Vigil, Debra Waldron

**Adjunct clinical associate professors:** Vidya Chande, Ken Cheyne, Jorge Di Paola, Stephen C. Elliott, Adel F. Makar, Rizwan Shah, Peter D. Wallace, Mir Waziri, Veljko Zivkovich

**Assistant professors:** Heather Bartlett, Alexander Bassuk, Tarah Colaizy, Polly Ferguson, Oscar Gomez, Susannah Longmuir (Ophthalmology and Visual Sciences), David Motto (Internal Medicine), Peter Nagy (Pathology), Andrew Norris, Christoph Randak, Joel Ringdahl, Robert Roghair, Oleg Shchelochkov, Timothy Starner, Steven Stasheff, A. Paige Volk

**Adjunct assistant professor:** Bahri Karacay

**Clinical assistant professors:** Rolla Abu-Arja, Sunny Arikat, Nancy Bonthius, D. Keala Clark, Linda Cooper-Brown, Dawn Ebach, Ayman El-Sheikh, Eyad Hanna, Sandy Hong, Sameer Kamath, Julie Lindower, Anita Moonjely, David Myers, Carla Nester (Internal Medicine), Ram Niwas, Marguerite Oetting, Liuska Pesce, Glenda Rabe, Firas Rabi, Riad Rahhal, Benjamin Reinking, Amy Stier, Pamela Trapane, Nicholas Von Bergen, Zahi Zeidan, Christine Ziebold

**Adjunct clinical assistant professors:** Mary Ann Abrams, Nader R. Ajluni, Samir Alabsi, Baha Al-Shawwa, Naser Al-Zein, Kenneth W. Anderson, Julie Anderson-Suddarth, Siddiq M. Arab, Ari Auron, Scott Barron, William G. Bartlett, David Basel, Thomas E. Becker, Robert Bienkowski, Edward Bottei, Allison Brown, Holly Bzdega, Basaviah Chandramouli, Jennifer S. Cook, William E. Daws, Steven Dawson, Ronda Dennis-Smithart, Rhonda Dodge, Eric Dodson, Stephen Elliot, Dan Ellsbury, Ricardo Flores, Keevin J. Franzen, Gregory L. Garvin, Jennifer Groos, Stanley A. Hackbarth, Susan M. Harrell, Eric Haugen, James A. Hendrix, Jay Hinkhouse, Norma J. Hirsch, Steven Joyce, Haidar Kabbani, Jason Kessler, David L. Little, John Lozier, Asha Madia, Donald R. McCabe, Lisa J. Menzies, Debra K. Miller, Torrey Mitchell, Whitney Molis, Duangchai Narawong, Edward G. Nassif, Scott K. Nau, Kathleen Opdebeeck, Linda Ozaki, Richard Robus, Mariastella Serrano, Jaffar Shaik, Scott Sheets, Tameen Shoukhi, Daniel Sloven, Cheryl Standing, Julianne H. Thomas, David Thornston, Rajeev Vibhakar, Judy Walker

**Adjunct instructor:** Robin Paetzold-Durumeric

**Associates:** Robert Anderson, Jerome Blake, Kim Brandt, Kristin Buroker-March, Kathleen Foster-Wendel, Therese Halbur, Jay Heitsman, William Howard, Frances Jackson, David Krakenbrink, Helena Laroche (Internal Medicine), Patricia McGuire, Phillip Meyer, John O'Brien, Christopher Okiishi, Sushma Sahai, Jeannie Sims, Ray Stardevant, Jack Swanson

**Fellow associates:** Rebecca Benson, Rebecca Sand

**Web site:** <http://www.uihealthcare.com/depts/med/pediatrics/index.html>

The Department of Pediatrics provides a solid foundation for M.D. students and postgraduate trainees. It offers extensive opportunities for general pediatrics and subspecialties.

Affiliated programs add depth to the educational program in community pediatrics and primary care. The department is affiliated with the child and material health programs of the Bureau of Family Health, Iowa Department of Public Health; the University of Iowa regional Child Health Specialty Clinics and Center for Disabilities and Development; Blank Children's Hospital in Des Moines; and community sites.

## M.D. Student Training

Didactic lectures and physical examination of the newborn, toddler, and older child provide M.D. students with their initial pediatric patient contact. This experience includes taking a history, performing a physical examination, appraisal of growth and development, nutrition, and symptomatology of newborns, toddlers, and adolescents.

For junior and senior medical students, the inpatient service provides training in the complex problems of disease and critical illness. Students participate in daily rounds involving general pediatrics and all subspecialties. Challenging and interesting cases are presented for discussion of diagnosis and treatment.

Outpatient experience, available in the junior clerkship and fourth-year electives, stresses principles and practices required for the maintenance of children's health, treatment of common general pediatric disorders, and the diagnosis and treatment of subspecialty ambulatory patients.

## Residency Program, Fellowships

The department offers an accredited three-year residency program designed to prepare trainees for professional careers in general pediatrics or for further fellowship training. The program meets the eligibility requirements of the American Board of Pediatrics (ABP).

Fellowships are available in many pediatrics subspecialties. Fellowship programs encourage development of knowledge and skill through research and clinical orientations in the chosen discipline. Upon satisfactory completion of the program, fellows meet the ABP eligibility requirements in their subspecialty.

## Facilities

The Department of Pediatrics is located in the University of Iowa Children's Hospital at University of Iowa Hospitals and Clinics. Inpatient and outpatient areas are adjacent to faculty offices.

The pediatric inpatient service has approximately 120 beds, and more than 50,000 patients are seen each year in the general, specialty, continuity care, and field clinics and in the Emergency Treatment Center. The Center for Disabilities and Development provides resources for children with developmental disabilities, cerebral palsy, or mental retardation.

The department maintains laboratories that perform both clinical and research studies.

## Pediatrics Courses

- 070:002 Clinical Pediatrics** 6 s.h.  
Principles, practices of health maintenance and treatment of acute and chronic illnesses in children; emphasis on diagnosis and evaluation, nutrition, behavior problems, disorders affecting children; patient care, daily rounds, ward work. Requirements: third-year M.D. enrollment.
- 070:013 Subinternship in Pediatrics: Blank Children's Hospital, Des Moines** arr.  
Experience in the care of general pediatric inpatients; daily rounds and teaching by senior residents and faculty members; daily didactic conferences. Requirements: fourth-year M.D. enrollment.
- 070:014 Emergency Room Blank Children's Hospital, Des Moines** arr.  
Pediatric emergencies and urgent care, proficiency in pediatric medicine procedures; expansion of basic knowledge. Requirements: fourth-year M.D. enrollment.
- 070:015 Neonatal Intensive Care Unit, Blank Children's Hospital** 4 s.h.  
Experience equivalent to intern on neonatal intensive care unit teaching service at Blank Children's Hospital, Des Moines; four-week rotation.
- 070:016 Pediatric Hematology/Oncology** arr.  
Basic concepts of clinical approach to hematologic and oncologic problems in children and adolescents; primarily outpatient experience. Requirements: fourth-year M.D. enrollment.
- 070:017 Pediatric Neurology** arr.  
Participation in outpatient and inpatient activities, teaching, morning ward rounds. Requirements: fourth-year M.D. enrollment.
- 070:019 Pediatric Cardiology** arr.  
Participation in clinical activities; observation of cardiac catheterization; experience in cardiac auscultation, ECG, radiography; emphasis on physical diagnosis, approach to heart disease and murmurs in children. Requirements: fourth-year M.D. enrollment.
- 070:023 Developmental and Behavioral Pediatrics** 4 s.h.  
Normal developmental sequence of gestation and early childhood, impact of environmental influences; antecedents of developmental disabilities; methods to detect cognitive and motor delays in preschool children; long-term consequences of developmental disabilities for children, their families; advantages of interdisciplinary teamwork. Requirements: fourth-year M.D. enrollment.
- 070:025 Child Abuse and Neglect** 4 s.h.  
Hospital- and community-based multidisciplinary responses to child abuse and neglect; experience developing diagnostic skills to recognize, assess, and report cases of child abuse and neglect. Requirements: fourth-year M.D. enrollment.
- 070:027 Neonatology (NICU)** arr.  
Experience caring for ill neonates, proficiency in using diagnostic tests and procedures; responsibility for care of several infants; reference and literature review, conferences, teaching, clinical rounds. Requirements: fourth-year M.D. enrollment.
- 070:028 Pediatric Inpatient Care Subinternship** arr.  
Experience on pediatric inpatient team caring for patients ranging from infants through adolescents; evaluation, formulation of differential diagnoses, diagnostic workups, appropriate therapy programs. Requirements: fourth-year M.D. enrollment.

- 070:029 Critical Care (PICU)** 4 s.h.  
Direct care of critically ill children in a multidisciplinary medical/surgical/cardiac intensive care unit, under supervision of pediatric residents and staff; participation in educational activities and formal clinical rounds. Requirements: fourth-year M.D. enrollment.
- 070:030 Medical Genetics for the Senior Student** arr.  
Participation in diagnostic, therapeutic problems; techniques for evaluation, appropriate counseling in genetic cases; conferences. Requirements: fourth-year M.D. enrollment.
- 070:033 Pediatric Gastroenterology** arr.  
Diagnosis, management, treatment of diseases of gastrointestinal tract, liver, pancreas in children; ward rounds, consultations, clinics, diagnostic procedures, conferences. Requirements: fourth-year M.D. enrollment.
- 070:040 Infectious Disease Consults** 4 s.h.  
Requirements: fourth-year M.D. enrollment.
- 070:043 Pediatric Allergy** arr.  
Experience in evaluating and treating respiratory and allergic diseases in infants, children, and adolescents. Requirements: fourth-year M.D. enrollment.
- 070:055 General Pediatric Outpatient Clinic** 4 s.h.  
Work in general pediatric outpatient clinics with acutely or chronically ill patients and with well children. Requirements: fourth-year M.D. enrollment.
- 070:060 Continuity of Care in Outpatient General Pediatrics** 4 s.h.  
Work with experienced general pediatrician in a longitudinal clinical experience for the academic year; paired with faculty pediatrician to see patients in a weekly clinic, provide clinical care to a defined patient population; growth and development, health supervision, and management of common acute and chronic clinical problems. Requirements: fourth-year M.D. enrollment.
- 070:110 Medical Genetics** 2 s.h.  
Gene structure and function, basic genetics concepts, application to problems in human disease. Offered fall semesters. Requirements: M.D. enrollment or graduate standing in related health field.
- 070:201 Primary Care: Infants, Children, and Adolescents II** 3 s.h.  
Enhancement of clinical knowledge and skills for infant, child, adolescent care; development and refinement of knowledge and skills in primary health care delivery. Requirements: (for 096:220) 096:219 or 096:280; (for 070:201) 096:219 and 096:280. Same as 096:220.
- 070:245 Evaluation of Children with ADHD and LD** arr.  
Clinical experience in conducting pediatric neuropsychology examinations in the Pediatric Attention/Learning Disorders Clinic. Requirements: course on psychological testing (including IQ) and graduate psychology standing (school, counseling, rehabilitation, clinical). Same as 07P:207.
- 070:247 Neuropsychology of Learning Seminar** arr.  
Research and theory on varied approaches to learning disability; language disability, visual/perceptual disability, serial order and memory deficits. Prerequisites: 070:245 or 070:251. Requirements: course on psychological testing including IQ.
- 070:251 Clinical Pediatric Neuropsychology** arr.  
Learning and behavior disorders resulting from central nervous system dysfunction; clinical experience in assessment of cognitive, behavioral patterns.
- 070:252 Assessment of Attention Deficit Disorder** 3 s.h.  
Participation in clinical, research, didactic work in evaluating children with attention deficit disorder. Requirements: experience in intellectual assessment of children.
- 070:253 Assessment of Behavior Disorders** arr.  
Experience in diagnostic and behavioral assessments of children with conduct disorders.

**070:255 Autism Spectrum Disorders**

2 s.h.

Overview of autism spectrum disorders (ASDs), including autistic disorder, Asperger's disorder, other pervasive developmental disorders; ASD diagnoses and their etiology; tools used in assessing individuals with ASDs; common interventions for ASDs; resources for work with individuals who have ASDs.

**070:256 Pediatric Psychology Inpatient Practicum**

1-3 s.h.

Knowledge and practical skills in implementing psychological practice with hospitalized pediatric patients; referrals include challenging behaviors (e.g., treatment adherence, disruptive behaviors), neuropsychological assessment (e.g., child with seizure disorder, child with TBI), and social-emotional evaluation; how to consult with medical teams and work with families with children who have acute and chronic health conditions, including asthma, diabetes, cancer, brain tumors, burns, head injury. Requirements: enrollment in an applied doctoral program in a psychological field. Recommendations: completion of a practicum in an outpatient Pediatric Psychology Clinic.

**070:258 Seminar in Pediatric Psychology**

2 s.h.

Basic introduction to the field of pediatric psychology; professional issues in pediatric psychology; consultation and professional relations with physicians; psychological services in pediatric psychology; specialized populations, such as childhood chronic illness, children's hospitalization and surgery. Requirements: enrollment in an applied doctoral program in a psychological field.

**070:260 Neurobehavioral Assessment and Intervention**

1-3 s.h.

Experience evaluating the interaction between a child's neurocognitive profile and their behavior at school and home; interviews with parents/children, assessments to assist in identifying cognitive and learning disorders, behavior analyses to identify interventions; follow-up with families and school teams.

**070:261 Autism Assessment and Behavioral Intervention**

1-3 s.h.

Experience evaluating children suspected of having an autism spectrum disorder; behavioral assessments/interventions with children who have been diagnosed with an autism spectrum disorder and who display challenging behaviors in home and/or school; interviews with parents, assessments to assist in the diagnosis of autism spectrum disorders, behavioral assessments/interventions; follow-up with families and school teams.

**070:262 Biobehavioral Assessment and Intervention**

1-3 s.h.

Experience conducting brief functional assessments and behavioral treatments for children and adults with developmental disabilities; interviews with caregivers, behavioral assessments, matched treatments (e.g., functional communication training); follow-up with caregivers.

**070:263 Evaluation and Treatment of Pediatric Feeding Disorders**

1-3 s.h.

Experience evaluating children with varied feeding disorders, such as food overselectivity by texture or type, dependence on gastrostomy or nasogastrostomy tubes, failure to grow adequately due to inadequate caloric intake; methods to evaluate feeding behaviors, evaluate design interventions, and measure outcomes; caregiver training and follow-up.

**070:264 Clinical Applications of Applied Behavior Analysis**

1-3 s.h.

Experience behavioral observations, consultation, and/or conducting behavioral assessments (including preference assessments and functional analyses), matched treatments; interviews with care providers, collect behavioral data, conduct behavioral assessments, matched treatments; follow-up with care providers.

**070:265 Research in Applied Behavior Analysis**

1-3 s.h.

Experience developing and conducting research in applied behavior analysis; conduct behavioral observations, behavioral assessments, matched treatments; weekly readings and lab meetings; participate in research sessions as data collector or therapist.

**070:300 Pediatric Independent Study**

arr.

**070:333 Pediatric Intensive Care off Campus**

arr.

Arranged by student and department. Requirements: fourth-year M.D. enrollment.

**070:653 Adult and Pediatric Nephrology and Hypertension**

arr.

Requirements: (for 070:653) fourth-year M.D. enrollment. Same as 078:653.

**070:662 Medical and Pediatric Endocrinology**

arr.

Requirements: (for 070:662) fourth-year M.D. enrollment. Same as 078:662.

**070:998 Pediatrics on Campus**

arr.

Requirements: fourth-year M.D. enrollment.

**070:999 Pediatrics off Campus**

arr.

Requirements: fourth-year M.D. enrollment.

# Pharmacology

**Head:** Curt D. Sigmund

**Professors:** Mario Ascoli, Timothy Brennan, Frank Faraci, Rory Fisher, Donna L. Hammond, Donald Heistad, Raymond Hohl, A. Kim Johnson, Ulla Kopp, Curt D. Sigmund

**Professors emeriti:** Jeffrey Baron, Ranbir Bhatnagar, Gary R. Dutton, Gerald F. Gebhart, Herbert K. Proudfit, Thomas Shires, James Spratt, Thomas Tephly, Harold Williamson

**Associate professors:** Minnetta Gardinier, Barry Kasson, John Koland, Kathryn G. Lamping, Dawn E. Quelle, Frederick W. Quelle, Stefan Strack, Yuriy Usachev

**Assistant professors:** Songhai Chen, D.P. Mohapatra, David Sheff

**Graduate degrees:** M.S., Ph.D. in Pharmacology

**Web site:** <http://www.medicine.uiowa.edu/pharmacology>

The Department of Pharmacology provides professional training in pharmacology for health science students and participates with other departments in educational and research activities such as the Medical Scientist Training Program, the Physician Scientist Training Program, the Molecular and Cellular Biology Program, the Neuroscience Program, the Holden Comprehensive Cancer Center, and the Iowa Cardiovascular Center.

The department was a pioneer in offering pharmacology to undergraduate students with little or no science background. The lecture and discussion sessions in 071:120 Drugs: Their Nature, Action, and Use emphasize the mechanisms of drug action and give students a background for rational decisions concerning use of drugs. Undergraduates interested in science careers may attend an eight-week summer research program that provides opportunities for outstanding students to conduct research in faculty laboratories.

Pre- and postdoctoral students can pursue research training in all areas of pharmacology in the department in preparation for career opportunities in academia, government, and industry.

## Graduate Programs

The Department of Pharmacology offers graduate study programs leading to the M.S. and Ph.D. These programs include both didactic and research experience. Qualified students may pursue an M.S. in clinical pharmacology or a combined M.D./Ph.D. in the Medical Scientist Training Program.

### Master of Science

The Master of Science in pharmacology requires a minimum of 30 s.h. of graduate credit. Core course requirements are as follows.

071:135 Principles of Pharmacology	1 s.h.
071:136 Pharmacogenetics and Pharmacogenomics	1 s.h.
071:137 Neurotransmitters	1 s.h.
071:203 Pharmacology Research	arr.
071:204 Pharmacology Seminar	1 s.h.
071:250 Advanced Problem Solving in Pharmacological Sciences	1 s.h.
071:302 Pharmacology for Graduate Students	6 s.h.
072:153 Graduate Physiology	4 s.h.
156:201 Fundamentals of Gene Expression	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.
156:204 Biostatistics for Biomedical Research	1 s.h.

Students also are expected to gain maximum experience in laboratory research while completing their course work. Satisfactory preparation and oral defense of a thesis based on the student's own research are required for completion of the program.

### Doctor of Philosophy

The Doctor of Philosophy in pharmacology requires a minimum of 72 s.h. of graduate credit. Core course requirements are as follows.

071:135 Principles of Pharmacology	1 s.h.
071:136 Pharmacogenetics and Pharmacogenomics	1 s.h.
071:137 Neurotransmitters	1 s.h.
071:138 Ion Channels	1 s.h.
071:203 Pharmacology Research	arr.
071:204 Pharmacology Seminar	1 s.h.
071:208 G Proteins and G Protein-Coupled Receptors	1 s.h.

071:209 Steroid Receptor Signaling	1 s.h.
071:250 Advanced Problem Solving in Pharmacological Sciences	1 s.h.
071:302 Pharmacology for Graduate Students	6 s.h.
072:153 Graduate Physiology	4 s.h.
142:225 Growth Factor Receptor Signaling	1 s.h.
156:201 Fundamentals of Gene Expression	1 s.h.
156:202 Fundamentals of Protein Regulation	1 s.h.
156:203 Fundamentals of Dynamic Cell Processes	1 s.h.
156:204 Biostatistics for Biomedical Research	1 s.h.

Individual faculty research advisors may require additional courses.

During the first semester in the program, students are required to work in two different faculty laboratories before selecting a laboratory in which to pursue thesis research. Students then are expected to gain maximum laboratory research experience while completing course work. The Ph.D. comprehensive examination (written and oral) is given at the end of the fourth semester. Satisfactory preparation and oral defense of the thesis complete the program.

There is no departmental foreign language requirement.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They should have a g.p.a. of at least 3.00 and a combined verbal and quantitative score of at least 1200 on the Graduate Record Examination (GRE) General Test. They should have completed undergraduate courses in chemistry, biology, biochemistry, and mathematics.

Admission to the graduate programs is determined by the faculty after receipt of a completed formal application and interview (if appropriate) by faculty members or other designated individuals. Each application is reviewed individually. Some standard admission criteria may be set aside for applicants who possess outstanding credentials in other areas.

## Financial Support

The department provides all Ph.D. students and some M.S. students with financial support in the form of stipends and tuition support. Support is renewed annually based on satisfactory progress toward meeting degree requirements.

## Pharmacology Courses

<b>071:105 Pharmacology for Health Sciences: Medical</b>	5 s.h.
Principles of pharmacology, pharmacologic actions of drugs, correlation with therapeutic uses. Offered fall semesters. Prerequisites: 050:240 and 099:163. Requirements: M.D. enrollment.	
<b>071:111 Pharmacology for Dental Students</b>	5 s.h.
Principles of pharmacology, pharmacologic actions of drugs, correlation with therapeutic uses. Offered spring semesters. Prerequisites: 072:152 and 099:161. Requirements: D.D.S. enrollment.	
<b>071:115 Pharmacology for Health Sciences--Nurse Anesthetist</b>	5 s.h.
Principles of pharmacology; pharmacologic actions of drugs, correlation with therapeutic uses. Offered fall semesters. Prerequisites: 060:270 or 096:270. Requirements: enrollment in Anesthesia Nursing Program.	
<b>071:120 Drugs: Their Nature, Action, and Use</b>	2 s.h.
Principles of drug action, toxicity; sedatives, stimulants, hallucinogens, narcotics, over-the-counter agents, antibiotics, oral contraceptives. Offered spring semesters. Recommendations: closed to Pharm.D. students.	
<b>071:125 Pharmacology for Health Sciences: Physician Assistant Students</b>	6 s.h.
Principles of pharmacology, pharmacologic actions of drugs, correlation with therapeutic uses. Offered fall semesters. Prerequisites: 072:164 and 099:164. Requirements: Physician Assistant Program enrollment.	
<b>071:130 Drug Mechanisms and Actions</b>	3 s.h.
Introduction to principles of pharmacology, pharmacologic actions of drugs. Offered spring semesters. Requirements: undergraduate biochemistry and physiology courses.	

- 071:135 Principles of Pharmacology** 1 s.h.  
Basic pharmacological principles underlying drug absorption, drug distribution throughout the body, drug metabolism, and drug elimination; how these processes determine drug dosing and the means by which dosing parameters are characterized; drug receptor interactions and their quantitation. Offered spring semesters.
- 071:136 Pharmacogenetics and Pharmacogenomics** 1 s.h.  
Impact of genetic variation on the actions and metabolism of drugs; database search techniques to identify variants. Offered spring semesters. Prerequisites: 071:135. Recommendations: undergraduate or graduate biochemistry.
- 071:137 Neurotransmitters** 1 s.h.  
Mechanisms of neurotransmission focusing on mechanisms of synthesis, regulation of release, mechanisms of action, means of degradation, and CNS pathways for major neurotransmitters; disease states involving various neurotransmitter systems. Offered spring semesters.
- 071:138 Ion Channels** 1 s.h.  
A heuristic, semiquantitative approach to concepts in ion channel physiology and pharmacology; discussions on up-to-date physical principles, classification, and structure/function relationships for major voltage-gated ion channels that facilitate the application of abstract concepts to physiological, pharmacological, and general biological problems. Offered spring semesters.
- 071:180 Pharmacology for Pharmacy Students I** 3 s.h.  
Principles of pharmacology, toxicology; drug and toxic mechanisms; systemic and organ-specific pharmacologic and toxic responses. Offered spring semesters. Requirements: first-year Pharm.D. enrollment or graduate standing.
- 071:181 Pharmacology for Pharmacy Students II** 4 s.h.  
Continuation of 071:180. Offered fall semesters. Requirements: second-year Pharm.D. enrollment or graduate standing.
- 071:203 Pharmacology Research** arr.
- 071:204 Pharmacology Seminar** 1 s.h.
- 071:208 G Proteins and G Protein-Coupled Receptors** 1 s.h.  
Structure and function of small molecular weight G proteins; heteromeric G proteins and G protein-coupled receptors. Offered spring semesters. Prerequisites: 156:201 (BISC:5201), 156:202 (BISC:5202), and 156:203 (BISC:5203). Recommendations: 142:225 (MCB:6225).
- 071:209 Steroid Receptor Signaling** 1 s.h.  
Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters. Same as 072:209, 132:209.
- 071:210 Special Topics in Pharmacology** arr.
- 071:215 Topics in Neuropharmacology** 1 s.h.  
Recent advances in neuropharmacology, developmental neurobiology, neuroendocrinology, related neurosciences.
- 071:225 Topics in Molecular Pharmacology** 1 s.h.  
Recent advances in molecular pharmacology; receptor, postreceptor events in stimulus coupling.
- 071:235 Topics in Pain Analgesia** 1 s.h.  
Recent advances in pain research, therapy.
- 071:250 Advanced Problem Solving in Pharmacological Sciences** 1 s.h.  
Discussion of methodologies, strategies, and approaches commonly used to solve pharmacological sciences problems; use of interpersonal problem-solving skills to develop experimental study plans for solving contemporary scientific problems in pharmacology.
- 071:277 Mechanisms of Pain Transmission** 3 s.h.



Anatomical, physiological, and pharmacological mechanisms underlying peripheral and central neuronal processing of pain; emphasis on neuronal changes that occur during pathological conditions such as inflammation/arthritis, peripheral neuropathy. Offered fall semesters of even years. Same as 101:277, 132:277.

**071:302 Pharmacology for Graduate Students**

6 s.h.

Principles of pharmacology, pharmacologic actions of drugs, correlation with therapeutic uses. Offered fall semesters.

Prerequisites: 072:153, 156:201, 156:202, and 156:203.

# Physical Therapy and Rehabilitation Science

**Director:** Richard K. Shields

**Professors:** Annunziato Amendola (Orthopaedics and Rehabilitation), Thomas Cook (Occupational and Environmental Health), Warren Darling (Health and Human Physiology), Richard K. Shields, Kathleen Sluka

**Professors emeriti:** David H. Nielsen, Gary L. Smidt, Gary L. Soderberg

**Associate professors:** David Asprey (Physician Assistant Program), Kelly Cole (Health and Human Physiology), H. John Yack

**Adjunct associate professor:** Bryon Ballantyne

**Clinical associate professor:** Joseph Chen (Orthopaedics and Rehabilitation)

**Assistant professors:** Laura Frey Law, Susanne M. Morton, Barbara Rakel (Nursing), Glenn N. Williams, Brian R. Wolf (Orthopaedics and Rehabilitation)

**Adjunct assistant professor:** Pamela A. Duffy

**Lecturer:** Byron Bork

**Adjunct lecturer:** Donald Shurr

**Associates:** Karla Laubenthal, Erin Pazour, Kelly Sass, Carol Vance, David Williams

**Adjunct associates:** Lisa Ainsworth, Amy Baker, Rhonda Barr, Sarah Bengtson, Kathryn Bewyer, Wendy Craft, Kim Eppen, Richard Evans, Julie Fitzpatrick, Jerry F. Gillon, James Holte, Melanie House, Alexas Ihrig, Patrick Johnston, Carol Kelderman, Janine Kelly, Lisabeth Kestel, Jill Kilkenny, Ken Leo, Joseph A. Leone, Mary Milavetz, Bruce Miller, Joy Miller, Shelley Mockler, David Reese III, Mike Reiling, Elayne Sexsmith, Michael Shaffer, Mary Shephard, Elizabeth Vermeer

**Graduate degrees:** D.P.T.; M.A. in Physical Therapy, Ph.D. in Physical Rehabilitation Science

**Web site:** <http://www.healthcare.uiowa.edu/PhysicalTherapy>

Physical therapists provide services to patients and clients who have impairments, functional limitations, disabilities, pain, or changes in physical function resulting from injury, disease, or other causes. Physical therapists practice and collaborate with a variety of health professionals. In the area of health promotion and wellness, they provide screening examinations, prescribe fitness programs, and educate the public regarding healthy lifestyles. Research, teaching, consultation, and administration also are parts of a physical therapist's professional role.

A wide variety of opportunities exist for professional practice in inpatient, outpatient, and community-based settings. Examples include practice in general or specialized hospitals, programs for children with disabilities, private physical therapy clinics, extended care facilities, nursing homes, community and governmental agencies, rehabilitation centers, the armed forces, foreign service, home health agencies, school systems, fitness centers, and athletic facilities. Research and teaching careers in academic institutions are available for those who earn a Ph.D. in rehabilitation science.

The Physical Therapy and Rehabilitation Science Program is located in the Carver College of Medicine on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals. The program has eight state-of-the-art independent research laboratories and is well equipped for classroom and laboratory instruction and innovative research. Students have access to faculty members in the basic sciences and medicine, basic sciences courses, clinical specialty expertise, and innovative learning experiences associated with a medical college environment.

## Graduate Programs

The Physical Therapy and Rehabilitation Science Program offers the Doctor of Physical Therapy (the entry-level professional degree), Doctor of Philosophy in physical rehabilitation science, and Master of Arts in physical therapy (for students working toward the Ph.D.). The D.P.T. program admits 36 students each year. Around 20 physical therapists are enrolled in the Ph.D. program each year.

### Doctor of Physical Therapy

The Doctor of Physical Therapy (D.P.T.) professional program requires a minimum of 101 s.h. and is completed in two and one-half years. The program is fully accredited by the Commission on Accreditation in Physical Therapy Education. Satisfactory completion of the professional program qualifies candidates to take the National Physical Therapy Examination for licensure to practice. The minimum passing score on the exam is the same in all jurisdictions.

### Technical Standards for Graduation

Doctor of Physical Therapy graduates must possess and demonstrate the physical and cognitive skills and character attributes required to provide physical therapy services in a broad variety of clinical situations and environments. All D.P.T. candidates must perform, with or without reasonable accommodation, the following skills safely, effectively, efficiently, and in compliance with the legal and ethical standards set by the American Physical Therapy Association Code of Ethics and Standards of Practice.

- communicate effectively through appropriate verbal, nonverbal, and written communication with patients, families, and others;
- demonstrate ability to apply universal precautions;
- utilize appropriate tests and measures in order to perform a physical therapy examination; examples include, but are not limited to, examination and evaluation of cognitive/mental status, vital signs, skin and vascular integrity, wound status, endurance, segmental length, girth, volume, sensation, strength, tone, reflexes, movement patterns, coordination, balance, developmental stage, soft tissue, joint motion/play, cranial and peripheral nerve function, posture, gait, functional abilities, assistive devices fit/use, psychosocial needs, and the pulmonary system;

- demonstrate the ability to reach diagnostic and therapeutic judgments through analysis and synthesis of data gathered during patient/client examination in order to develop an appropriate plan of care;
- perform fully, or in a reasonably independent manner, physical therapy interventions appropriate to the patient's status and desired goals;
- apply teaching/learning theories and methods in health care and community environments;
- accept criticism and respond by appropriate behavior modification;
- possess the perseverance, diligence, and consistency to complete the physical therapy curriculum and enter the practice of physical therapy.

Applicants with health conditions or disabilities who need accommodation to meet the technical standards for graduation should contact the University's Student Disability Services office.

### Curriculum

D.P.T. students earn the required 101 s.h. by completing the following curriculum. Students have the option to earn a total of 3 s.h. in electives.

#### First Summer Session

101:140 Introduction to Physical Therapy Practice	2 s.h.
101:141 Principles of Physical Therapy I	2 s.h.
101:205 Health Promotion and Wellness	3 s.h.

#### First Semester (Fall)

060:108 Human Anatomy	5 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
101:120 Professional Issues and Ethics	1 s.h.
101:142 Principles of Physical Therapy II	2 s.h.
101:189 Clinical Education I	1 s.h.
101:209 Surface Anatomy	1 s.h.
101:210 Kinesiology and Pathomechanics	4 s.h.
101:235 Case-Based Learning I	1 s.h.

#### Second Semester (Spring)

060:234 Medical Neuroscience	4 s.h.
101:131 Therapeutic Physical Agents	2 s.h.
101:185 Musculoskeletal Therapeutics I	3 s.h.
101:190 Clinical Education II	1 s.h.
101:201 Applied Clinical Medicine	2 s.h.
101:206 Cardiopulmonary Therapeutics	3 s.h.
101:236 Case-Based Learning II	1 s.h.
Elective (optional)	1 s.h.

#### Second Summer Session

101:119 Physical Therapy Management and Administration I	2 s.h.
101:143 Selected Topics in Physical Therapy Practice	2 s.h.
101:176 Pharmacology for Physical Therapists	3 s.h.
101:194 Clinical Internship	3 s.h.

#### Third Semester (Fall)

101:122 Psychosocial Aspects of Patient Care	1 s.h.
101:133 Pain Mechanisms and Treatment	2 s.h.
101:134 Physical Therapy Management of Integumentary System	2 s.h.
101:170 Prosthetics and Orthotics	2 s.h.
101:202 Musculoskeletal Therapeutics II	3 s.h.

101:224 Principles of Motor Control	4 s.h.
101:237 Service Learning I	1 s.h.
101:248 Research in Physical Therapy	2 s.h.
Elective (optional)	1 s.h.

**Fourth Semester (Spring)**

101:121 Physical Therapy Management and Administration II	1 s.h.
101:151 Progressive Functional Exercise	2 s.h.
101:172 Radiology/Imaging for Physical Therapists	2 s.h.
101:173 Differential Diagnosis in Physical Therapy	2 s.h.
101:191 Clinical Education III	1 s.h.
101:200 Pediatric Physical Therapy	1 s.h.
101:203 Musculoskeletal Therapeutics III	4 s.h.
101:225 Neuromuscular Therapeutics	3 s.h.
101:238 Service Learning II	1 s.h.
101:251 Critical Inquiry in Physical Therapy I	2 s.h.
Elective (optional)	1 s.h.

**Third Summer Session**

101:194 Clinical Internship	7 s.h.
-----------------------------	--------

**Fifth Semester (Fall)**

101:194 Clinical Internship	5 s.h.
101:252 Critical Inquiry in Physical Therapy II	1 s.h.

**Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They must have completed a baccalaureate degree from an accredited institution in the United States, or anticipate completing the degree before enrolling in the D.P.T. program. They must have a cumulative g.p.a. of at least 3.00 and must have completed the following prerequisite course work, preferably with a g.p.a. of at least 3.00. All science courses must include the appropriate laboratory instruction. The prerequisite courses must have been taken for a letter grade. Credit awarded through advanced placement testing may be applied only to the mathematics requirement.

**Biological sciences:** a complete introductory course in principles of general biology or zoology, and advanced course work in biology or zoology (for which an introductory course is prerequisite) equivalent to 12 s.h.

**Physics:** a complete introductory course equivalent to 8 s.h.

**Chemistry:** a complete introductory course equivalent to 8 s.h.

**Physiology:** a systemic human physiology course equivalent to 3 s.h.

**Psychology:** courses equivalent to 6 s.h.

**Mathematics:** a college-level mathematics course, at the level of trigonometry or higher, equivalent to 3 s.h.

**Statistics:** a statistical methods course equivalent to 3 s.h.

The program recommends that applicants have a combined verbal and quantitative score of at least 1000 on the Graduate Record Examination (GRE) General Test. They must take the test early enough for their scores to be received by the University in time for the November 1 application deadline.

Applications are submitted online through the Physical Therapist Centralized Application Service (PTCAS). PTCAS allows applicants to use a single application and one set of materials to apply to multiple physical therapy programs. Once the application portfolio is complete, PTCAS forwards it to The University of Iowa.

Personal interviews are required of applicants selected for consideration by the admissions committee. Interviews are conducted at The University of Iowa. The physical therapy admissions committee selects applicants who appear to be best qualified for the study and practice of the profession. Some preference is given to Iowa residents.

Applications are accepted from July 1 to November 1 for entry the following summer. Prospective students should apply as early as possible.

#### **EARLY ADMISSION**

The Doctor of Physical Therapy early admission plan is available to outstanding applicants. Generally, applicants have a g.p.a. of 3.75 or higher and a combined verbal and quantitative score above 1100 on the Graduate Record Examination (GRE) General Test. Application materials are the same as those for regular admission. Application deadline is September 15; applicants are notified of admission by November 1. Those who are interviewed but are not selected for early admission are automatically placed in the final general applicant pool. Contact the Physical Therapy and Rehabilitation Science Program for more information.

#### **Background Checks**

Enrollment in the Doctor of Physical Therapy program is contingent on a successful criminal background check. Drug screening may be required for some clinical rotations.

#### **Expenses**

Applicants admitted to the D.P.T. program must make an advance tuition payment of \$300, which is forfeited if the applicant does not enroll. In addition to paying University tuition and fees, students are assessed laboratory fees for the human anatomy and medical neuroscience courses and are responsible for purchasing lab coats, patient evaluation kits, and course syllabi.

All students are required to comply with the pre-entry and periodic health screening program developed by Student Health Service in cooperation with University of Iowa Hospitals and Clinics. Students must pay for the health screenings. Students also are required to have health insurance.

#### **Ph.D. in Physical Rehabilitation Science**

The Doctor of Philosophy in physical rehabilitation science requires a minimum of 72 s.h. of graduate credit. The program is designed to advance the student's ability to independently develop and carry out research that establishes the scientific basis for prevention, evaluation, and treatment of impairments, functional limitations, and disability. The curriculum is flexible enough to accommodate research focusing on basic, applied, or clinical studies in the rehabilitation sciences. Students have access to the program's research laboratories (see "Research Facilities" later in this section).

Graduates who complete the program are prepared for academic appointments that emphasize research, scholarship, and teaching. They possess:

- theoretical and scientific knowledge to perform basic, applied, or clinical-level original research that leads to scientific presentations, publication in peer-reviewed journals, and competition for extramural funding through scientific grant writing;
- breadth of knowledge in exercise physiology, biomechanic, neuroscience, or motor control specialty areas as they relate to impairment, functional limitation, and disability; and
- theoretical and practical skills required for college or university teaching at the professional entry and advanced graduate levels.

#### **Curriculum**

Ph.D. students complete a minimum of 72 s.h. beyond the baccalaureate. Each student and his or her faculty advisor develop an individualized study plan. A preliminary study plan is developed within the first 9 s.h. of graduate study; a final plan is submitted to the Graduate College when the Ph.D. comprehensive examination is scheduled.

To ensure breadth of knowledge, all students complete specific core, research, and scientific specialty area content courses. Elective courses are selected to provide in-depth study of the specialty; they are complemented by an advanced seminar course specific to the student's specialty and taken in preparation for the comprehensive examination.

Students must satisfactorily complete the comprehensive examination, which is taken after all required course work is completed. Doctoral study culminates with 12 s.h. of thesis research and an oral examination.

#### **GENERAL CORE REQUIREMENT**

Ph.D. students must complete the following core requirements. Exception: the capstone course (101:300 Rehabilitation Research Capstone Project) is recommended but not required for students who enter the program with a master's or doctoral-level degree; however, it is required for all students who enter the program with a bachelor's degree.

101:212 Biomedical Instrumentation and Measurement	3 s.h.
101:220 Seminar in Rehabilitation Science (taken twice)	2 s.h.
101:280 Teaching Practicum	arr.
101:300 Rehabilitation Research Capstone Project	arr.
101:326 Scientific Writing in Rehabilitation Science	3 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.

171:161 Introduction to Biostatistics	3 s.h.
or	
22S:102 Introduction to Statistical Methods	3 s.h.

171:162 Design and Analysis of Biomedical Studies	3 s.h.
or	
22S:148 Intermediate Statistical Methods	4 s.h.

#### RESEARCH REQUIREMENT

Students complete at least 24 s.h. from the following.

101:214 Advanced Seminar in Rehabilitation Science	3 s.h.
101:284 Practicum in Research	arr.
101:301 Thesis: Rehabilitation Science	12 s.h.
101:325 Independent Study	arr.
101:327 Research in Rehabilitation Science	arr.

#### SPECIALTY CONTENT REQUIREMENT

Each student must complete at least 9 s.h. in his or her scientific specialty area. Students may choose courses from the following list, but other courses suited to the student's background knowledge and interest area are considered.

##### Physical Therapy

101:210 Kinesiology and Pathomechanics	4 s.h.
101:224 Principles of Motor Control	4 s.h.
101:275 Analysis of Sensori-Motor Systems in Health and Disease	3 s.h.
101:277 Mechanisms of Pain Transmission	3 s.h.
101:285 Biomechanical Analysis in Rehabilitation	3 s.h.

##### Health and Human Physiology

027:141 Exercise Physiology	3 s.h.
027:145 Cardiovascular Physiology	3 s.h.
027:155 Skeletal Muscle Biology	3 s.h.
027:160 Motor Control I: Neurophysiological Basis	3 s.h.
027:197 Biomechanics of Human Motion	4 s.h.
027:314 Seminar in Motor Control	1 s.h.

##### Pharmacology

071:235 Topics in Pain Analgesia	1 s.h.
071:250 Advanced Problem Solving in Pharmacological Sciences	1 s.h.

##### Neuroscience

132:180 Fundamental Neurobiology	4 s.h.
132:234 Medical Neuroscience	4 s.h.
132:235 Neurobiology of Disease	3 s.h.

**Epidemiology**

173:290 Intervention and Clinical Trials 3 s.h.

**Occupational and Environmental Health**

175:190 Occupational Ergonomics I 3 s.h.

175:294 Occupational Ergonomics II 3 s.h.

175:295 Clinical Ergonomics 3 s.h.

**Civil and Environmental Engineering**

053:190 Readings in Civil and Environmental Engineering 2 s.h.

**Biomedical Engineering**

051:121 Introduction to Bioinformatics 4 s.h.

**Anatomy and Cell Biology**

060:232 Advanced Human Anatomy arr.

**Admission**

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. They should have a cumulative g.p.a. of at least 3.00 and a combined verbal and quantitative score of at least 1100 on the Graduate Record Exam (GRE) General Test. A minimum of two years of clinical experience is desirable.

Applicants whose first language is not English must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Application materials must include a complete Graduate College application form, test scores, transcripts, three letters of recommendation, and a statement of purpose. Completed applications should be sent to the Physical Therapy and Rehabilitation Science Program.

Personal interviews are required of all applicants selected for consideration by the admissions committee. On-campus interviews are preferred, but telephone interviews may be substituted when necessary.

Application deadlines are October 15 for spring semester entry (notification by December 15); March 15 for summer entry (notification by May 15); and May 15 for fall semester entry (notification by July 15).

**Financial Support**

A number of research assistantships are available for Ph.D. students. Faculty advisors provide guidance for students seeking external scholarship support through foundations and federal programs that support Ph.D. training.

**Research Facilities**

The program's state-of-the-art research facilities include the Orthopedic Gait Analysis Laboratory and a spinal cord research laboratory at University Hospitals and Clinics; the Neuromuscular Research/Motor Control Laboratory; the Musculoskeletal Biomechanics and Sports Medicine Research Laboratory; the Neurobiology of Pain Laboratory; the Neural Control of Movement Laboratory; and the Neuromuscular Biomechanics Laboratory. Use of other laboratories may be arranged.

**Physical Therapy and Rehabilitation Courses**

- 101:119 Physical Therapy Management and Administration I** 2 s.h.  
The changing U.S. health care system; access to physical therapy services, reimbursement to health care providers, mechanisms for controlling costs while providing quality care; clinical vignettes, small group problem solving. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:120 Professional Issues and Ethics** 1 s.h.  
Evolution of physical therapy and rehabilitation science as a profession; contemporary issues in education and practice; ethical theory and approaches to analyzing and acting on ethical problems; professional and peer relationships. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:121 Physical Therapy Management and Administration II** 1 s.h.  
Principles of management in physical therapy practice; historical perspective, current health care environment; business principles; marketing, managing risk, medical/legal concerns, preparing for the future. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:122 Psychosocial Aspects of Patient Care** 1 s.h.  
Emotional reactions to disability, psychosocial aspects of disability as they relate to patient-physical therapist interaction; specific problems of the angry, non-compliant, or chronic-pain patient; complementary roles of other health professionals; cultural competence in professional behavior and patient treatment; importance of holistic health care. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:131 Therapeutic Physical Agents** 2 s.h.  
Theoretical and practical applications for safe, effective use of physical agents (superficial and deep heat, cold, hydrotherapy), electrotherapeutic modalities (biofeedback, NMES, TENS, iontophoresis); massage and soft tissue mobilization; emphasis on problem solving, clinical decision making. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:133 Pain Mechanisms and Treatment** 2 s.h.  
Introduction to basic science mechanisms, assessment, and management of pain; basic science mechanism involved in transmission and perception of painful stimuli after tissue injury, assessment and physical therapy management of pain; emphasis on scientific principles and published literature to support treatment techniques. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:134 Physical Therapy Management of Integumentary System** 2 s.h.  
Overview of physical therapy examination and management of the integumentary system; wound pathology, diagnosis associated with the integumentary system, inflammation and repair, examination and reexamination techniques, documentation, clinical decision making, lecture and laboratory formats; interventions, including patient/client information, physical agents, electrotherapy, wound dressing. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:140 Introduction to Physical Therapy Practice** 2 s.h.  
Lectures, case presentations, and group activities using the Guide to Physical Therapist Practice; elements of the patient/client management model, concepts of the disablement model, preferred practice patterns as applied in clinical problems; importance of professionalism, professional socialization; introduction to evidence-based practice; competence in medical terminology. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:141 Principles of Physical Therapy I** 2 s.h.  
Patient management skills: interviewing, medical history taking, vital signs, positioning, draping, transfers, body mechanics, assisted gait, wheelchairs, and negotiation of architectural barriers. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:142 Principles of Physical Therapy II** 2 s.h.  
Continuation of 101:141; expansion of existing skills and provides new learning experiences in documentation, assessment of joint range of motion/goniometry, manual muscle testing, preambulatory intervention strategies, gait analysis; musculoskeletal, neuromuscular, and integumentary systems review. Prerequisites: 101:141. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:143 Selected Topics in Physical Therapy Practice** 2 s.h.  
Specialty topics in physical therapy, such as women's health, aquatic therapy, patient care across the lifespan, alternative or new treatments; guest lectures, lab component.



- 101:151 Progressive Functional Exercise** 2 s.h.  
Therapeutic exercise options (e.g., isometrics, isotonic, isokinetic, plyometric, endurance exercises, stretching exercises) and training principles; application to functional activities, including those of daily living, work, recreation, and sport; laboratory component. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:170 Prosthetics and Orthotics** 2 s.h.  
Physical therapy management and assessment of patients in need of prosthetic and orthotic devices; principles and components of prosthetic and orthotic design and use. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:172 Radiology/Imaging for Physical Therapists** 2 s.h.  
Basic principles and procedures for acquisition and interpretation of radiology and imaging in clinical practice and research; plain film radiographs, CT, MRI, other common imaging modalities; case-based, multidisciplinary approach. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:173 Differential Diagnosis in Physical Therapy** 2 s.h.  
Use of physical therapy examination and evaluation skills to diagnose physical therapy problems; focus on use of good clinical decision-making skills when analyzing a patient's history and administering physical therapy tests and measures to confirm or rule out differential diagnoses; components of the medical examination; importance of collaboration between therapists and other health professionals; interactive case studies presented by clinical experts. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:176 Pharmacology for Physical Therapists** 3 s.h.  
Contemporary pharmacology; overview of basic pharmacokinetic and pharmacodynamic principles; relation of drug therapy to therapeutic interventions provided by physical therapists; small group clinical case presentations. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:185 Musculoskeletal Therapeutics I** 3 s.h.  
Musculoskeletal techniques and biomechanical principles applied to assessment and evaluation of common orthopedic problems of the spine; problem solving, case-study approach to clinical methods, skill acquisition. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:189 Clinical Education I** 1 s.h.  
Integrated clinical experiences in area physical therapy clinics; overview of the diverse nature of practice through half- or full-day experience; basic skills in examination, intervention, documentation. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:190 Clinical Education II** 1 s.h.  
Continuation of 101:189; integrated half-day clinical experiences. Prerequisites: 101:189. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:191 Clinical Education III** 1 s.h.  
Two-week, full-time clinical experience in physical therapy clinics in Iowa, under the guidance of physical therapists; theory and practice of physical therapy procedures, competence building in basic skills. Prerequisites: 101:190. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:194 Clinical Internship** arr.  
Full-time clinical education divided among varied settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:200 Pediatric Physical Therapy** arr.  
Preparation for physical therapy practice in pediatric settings using interdisciplinary family-centered practice; normal and abnormal development, standardized assessment, service-delivery settings, interventions, management strategies specific to pediatrics. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.
- 101:201 Applied Clinical Medicine** 2 s.h.

Pathological disorders frequently encountered by physical therapists in clinical practice, addressed by physicians and health professionals who are not physical therapists; physical therapy management. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:202 Musculoskeletal Therapeutics II** 3 s.h.

Pathology, assessment, management of orthopedic disorders of the upper quarter; problem-solving approach to evaluation and management of patients with musculoskeletal conditions. Prerequisites: 101:185. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:203 Musculoskeletal Therapeutics III** 4 s.h.

Pathology, assessment, management of orthopedic disorders of the lower quarter; problem-solving approach to evaluation and management of patients with musculoskeletal conditions. Prerequisites: 101:202. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:205 Health Promotion and Wellness** 3 s.h.

Overview of health promotion, fitness, and wellness strategies, including information on levels of health promotion, risk assessment, applied physiology (skeletal muscle, energy metabolism, and physiological responses to exercise), exercise testing and training guidelines, body composition assessment, and development of individual weight management and exercise training programs; classroom and laboratory experiences. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:206 Cardiopulmonary Therapeutics** 3 s.h.

Cardiorespiratory anatomy, physiology, and application of basic concepts, techniques in management of patients with acute and chronic cardiac, pulmonary disorders; laboratories. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:209 Surface Anatomy** 1 s.h.

Laboratory teaching activities that parallel the human anatomy course; observation, palpation, and problem solving skills; upper- and lower-limb, head and neck, thorax, and abdomen. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:210 Kinesiology and Pathomechanics** 4 s.h.

Normal and pathological movement based on understanding of muscle mechanics, segment and joint mechanics, muscle function; instructor- and student-centered learning experiences; EMG laboratories. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:212 Biomedical Instrumentation and Measurement** 3 s.h.

Introduction to biomedical instrumentation and measurement, with focus on understanding sources of error and noise in biomedical research applications; basic circuit analysis, calibration of measurement tools, A/D conversion, digital filtering; lab components. Offered fall semesters of even years.

**101:214 Advanced Seminar in Rehabilitation Science** arr.

Current status of research for biological, mechanical, psychological components pertinent to cardiopulmonary, musculoskeletal, neuromuscular areas of rehabilitation science; preparation for comprehensive exam.

**101:220 Seminar in Rehabilitation Science** 1 s.h.

Exploration of research related to rehabilitation science; lectures by faculty, graduate students, and guest scholars with expertise in areas relevant to rehabilitation science (e.g., neuroscience, physiology, medicine, engineering, pharmacology, integrated physiology).

**101:224 Principles of Motor Control** 4 s.h.

Sensorimotor mechanisms involved with normal and abnormal neuromuscular systems function; skeletal muscle properties/plasticity, muscle fatigue, neural mechanisms of muscle strengthening, spinal circuitry, simple and complex reflexes, spasticity, rigidity, posture control/balance, motor learning, applied neurological assessment of pathological conditions, such as stroke, SCI. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:225 Neuromuscular Therapeutics** 3 s.h.

Application of clinical neuroscience knowledge and motor control and motor learning concepts to the practice of neurological physical therapy; emphasis on diagnosis and therapeutic intervention for persons with central nervous system dysfunction of adult onset. Prerequisites: 101:224. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:235 Case-Based Learning I**

1 s.h.

Small group case study seminars and simulated patient instructor learning experiences; clinical problems coordinated with concurrent courses; student-centered, problem-based learning format with emphasis on evidence-based practice objectives. First in a two-course sequence. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:236 Case-Based Learning II**

1 s.h.

Small-group seminars, consisting of six students and one faculty facilitator per group, and simulated patient clinical assessment labs; three clinical cases presented each semester with three one-and-one-half hour seminars per case; simulated patient experience; clinical problems coordinated with concurrent courses taken in the curriculum; student centered, problem-based learning format; emphasis on evidence-based practice objectives. Second in a two-part series of integrated courses. Prerequisites: 101:235. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:237 Service Learning I**

1 s.h.

Service-learning work experience with one of four community partners (Miracles in Motion, Camp Courageous, Elder Services, Pathways Adult Daycare); students develop individual learning goals for the semester-long experiences; classroom reflection on service activities, experiences with the elderly and/or disabled, and on social responsibility, advocacy, and professionalism in physical therapy; written reflection assignments. First in a two-course sequence. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:238 Service Learning II**

1 s.h.

Service-learning work experience with a community partner; learning goals, papers, journals, final project poster presentation. Prerequisites: 101:237. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:248 Research in Physical Therapy**

2 s.h.

Topics relevant to evidence-based practice and research design; identification of appropriate questions for research and clinical applications, location and evaluation of available evidence, identification of issues that affect validity of research designs, interpretation of basic statistical analyses. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:251 Critical Inquiry in Physical Therapy I**

2 s.h.

Experience conducting group research projects under faculty supervision; data collection and analysis, manuscript preparation, oral defense of research findings during a formal poster presentation. Prerequisites: 101:248. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:252 Critical Inquiry in Physical Therapy II**

1 s.h.

Principles and procedures learned in 101:248 and 101:251 applied to a clinical setting; students write and present a case report with an evidence-based practice focus, using a clinical case from their final internships. Requirements: Physical Therapy and Rehabilitation Science Program enrollment.

**101:275 Analysis of Sensori-Motor Systems in Health and Disease**

3 s.h.

Neurophysiological mechanisms underlying posture, movement in normal and pathologic conditions; systems approach to neuromuscular system function, including skeletal muscle plasticity, muscle fatigue, neurological adaptations to strengthening, spinal circuitry, complex reflexes, spasticity, rigidity, posture/balance, motor learning; specific applications to CNS disease states (SCI, stroke, degenerative diseases). Offered fall semesters.

**101:277 Mechanisms of Pain Transmission**

3 s.h.

Anatomical, physiological, and pharmacological mechanisms underlying peripheral and central neuronal processing of pain; emphasis on neuronal changes that occur during pathological conditions such as inflammation/arthritis, peripheral neuropathy. Offered fall semesters of even years. Same as 071:277, 132:277.

**101:280 Teaching Practicum**

arr.

Individual instruction, observation, experimentation in teaching, guidance, analysis of evaluation processes in Physical Therapy and Rehabilitation Science Program.

**101:284 Practicum in Research**

arr.

Laboratory experiences connected with investigative process; individual instruction, observation, activities in methodological development, data acquisition, data analysis aspects of research.

**101:285 Biomechanical Analysis in Rehabilitation**

3 s.h.

Assessment of pathological movement through human movement analysis techniques, including link segment modeling and analysis, mechanical energy and power analysis, electromyography and muscle modeling.

**101:300 Rehabilitation Research Capstone Project**

arr.

Specific phases of the research process; development of a research question and associated hypotheses, collection and analysis of data, interpretation and discussion of the information's meaning; presentation to sponsoring mentor's laboratory/program, and written document.

**101:301 Thesis: Rehabilitation Science**

arr.

Investigative process: formulation of problem, literature search and analysis, procedure for collecting data, data analysis, organization and writing of thesis proposal, thesis.

**101:325 Independent Study**

arr.

Problem-solving experience in physical therapy; commensurate with student's interest, ability.

**101:326 Scientific Writing in Rehabilitation Science**

3 s.h.

Knowledge of and experience related to scientific writing, critical review of scientific literature, publication in the biomedical sciences, thesis/dissertation writing, grant writing, scientific presentation, writing used in academic and scientific careers.

**101:327 Research in Rehabilitation Science**

arr.

Placement of physical therapy on sound scientific base; therapy; initiation, refinement, establishment of methods in physical therapy evaluation, treatment; direct clinical and laboratory approach, philosophical treatise, or research proposal.

## Physician Assistant Program

**Director:** David P. Asprey  
**Associate director:** Anthony Brenneman  
**Director, clinical education:** Carol Gorney  
**Director, curriculum and evaluation:** Theresa Hegmann  
**Medical director:** Daniel Fick  
**Professor:** David P. Asprey  
**Associate professors (clinical):** Anthony Brenneman, Theresa Hegmann  
**Assistant professor (clinical):** Carol Gorney  
**Associate:** Katie Iverson  
**Graduate degree:** M.P.A.S.  
**Web site:** <http://paprogram.medicine.uiowa.edu/>

The physician assistant profession is one of the newest and most exciting in health care. Physician assistants (PAs) are licensed to practice medicine with physician supervision. They are responsible for making medical decisions and providing a broad range of diagnostic and therapeutic services.

Physician assistants work in a variety of settings, including medical offices, hospital emergency rooms, nursing homes, rural satellite clinics, health maintenance organizations, and patients' homes.

In the traditional office setting, PAs see patients, obtain histories, perform physical examinations, and order necessary laboratory and/or radiological studies. Based on this information, the PA establishes a diagnosis, develops an appropriate management plan, and initiates treatment that may include prescribing medications. The physician is consulted as needed and remains ultimately responsible for the care provided by the physician/PA team. PAs also are involved in both patient and community health education.

The Physician Assistant Program is part of the Carver College of Medicine on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine in the Catalog.

## Graduate Program

The Physician Assistant Program offers the Master of Physician Assistant Studies (M.P.A.S.). The program emphasizes primary care medicine, particularly family medicine. It also offers elective clinical rotations in selected medical subspecialties.

Students who complete the program are eligible to take the National Certifying Examination for Primary Care Physician Assistants, which they must complete successfully in order to register as physician assistants in the United States.

The Physician Assistant Program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc., and is a member of the Physician Assistant Education Association.

### Master of Physician Assistant Studies

The Master of Physician Assistant Studies requires a minimum of 104 s.h. The curriculum spans 25 months and is divided into two phases: didactic and clinical. Both phases emphasize primary health care delivery and the physician assistant's role as a member of the health care team. The program is integrated with teaching at the Carver College of Medicine, permitting interdisciplinary activities between Doctor of Medicine and health care professions students. Physician assistant students complete approximately 65 percent of the curriculum's didactic phase with second-year M.D. students.

The first phase is conducted on the University's health sciences campus. It begins in late May with seven months of course work in a number of basic science areas, including anatomy, biochemistry, infectious disease, pathology, pharmacology, and physiology. Whenever appropriate, related subjects are integrated to provide sequential lecture and laboratory experience. This session also includes courses in clinical decision making and an introductory course on taking a medical history and performing a physical examination.

The program's patient assessment curriculum couples a sequence of didactic instruction with practical experiences involving simulated and real patients. The level and intensity of patient interactions increase throughout the curriculum as the student gains confidence and clinical competence.

The spring semester of the first phase consists of 050:175 Foundations of Clinical Practice IV for Physician Assistants for Physician Assistants, an 18-week course. Three interrelated courses focus on the application of basic science knowledge to understanding clinical-pathologic correlations of common and/or catastrophic disorders encountered in clinical medicine's major disciplines. The courses continue with instruction in obtaining a problem-oriented medical history and performing a physical examination. The semester also includes continuation of the clinical decision-making course and a short course in clinical pathology.

Before clinical rotations begin, students complete 117:110 Introduction to Clinical Skills, which includes instruction in

several skill areas (e.g., suturing, injections, prescription writing, medical orders, Advanced Cardiac Life Support).

The program's second phase concentrates on clinical education. In 117:201 Clinical Decision Making III, students select a pertinent health question and apply an evidence-based medicine review of the data. They give a PowerPoint presentation of their findings to their colleagues, write a paper for submission to a journal, or prepare a poster presentation for a conference. They also complete 117:107 Seminar for Physician Assistant Students, in which they research and discuss professional issues that will affect their practice as physician assistants.

Students complete a 40-week core of required primary care clinical rotations, including six weeks each of general internal medicine and surgery and four weeks each of family medicine I, family medicine II, pediatrics, long-term care, emergency medicine, gynecology, and psychiatry. Students also select eight weeks of electives, which may include rotations such as geriatrics, cardiology, dermatology, and orthopaedics.

The primary care clinical rotations are designed to provide instruction and experience in caring for patients in a way that enables students to integrate the knowledge, skills, behaviors, and attitudes they learned in the program's didactic phase. Clinical training is provided at University of Iowa Hospitals and Clinics, the Iowa City Veterans Affairs Medical Center, the Veterans Affairs Central Iowa Health Care System and Broadlawns Medical Center in Des Moines, and other affiliated hospitals throughout Iowa. In elective rotations, students gain additional clinical experience through placement with selected preceptors involved in office-based practices, typically in medically underserved rural areas.

The curriculum is as follows.

### **FIRST YEAR (PHASE I)**

#### **Summer and Fall**

050:174 Foundations of Clinical Practice for Physician Assistants	5 s.h.
060:111 Gross Human Anatomy Physician Assistant Students	6 s.h.
061:104 Principles Infectious Diseases--Physician Assistant	5 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
071:125 Pharmacology for Health Sciences: Physician Assistant Students	6 s.h.
072:164 Human Physiology for Physician Assistant Students	4 s.h.
099:164 Biochemistry for Physician Assistant Students	3 s.h.
117:101 Introduction to Medical History and Physical Examination for Physician Assistant Students	3 s.h.
117:103 Clinical Decision Making I	1 s.h.

#### **Spring**

050:175 Foundations of Clinical Practice IV for Physician Assistants	13 s.h.
050:183 Healthcare Ethics, Law, and Policy	2 s.h.
069:130 Clinical Laboratory Medicine for Physician Assistants	1 s.h.
117:104 Clinical Decision Making II	1 s.h.

### **SECOND YEAR (PHASE II)**

117:107 Seminar for Physician Assistant Students	1 s.h.
117:110 Introduction to Clinical Skills	1 s.h.
117:201 Clinical Decision Making III	1 s.h.

The following are required clinical rotations.

117:300 Emergency Medicine for Physician Assistant Students	4 s.h.
117:301 Gynecology for Physician Assistant Students	4 s.h.
117:302 Family Practice I for Physician Assistant Students	4 s.h.
117:303 Family Practice II for Physician Assistant Students	4 s.h.
117:304 General Surgery for Physician Assistant Students	6 s.h.
117:305 Internal Medicine for Physician Assistant Students	6 s.h.
117:306 Pediatrics for Physician Assistant Students	4 s.h.
117:307 Psychiatry for Physician Assistant Students	4 s.h.

## 117:308 Long-Term Care for Physician Assistant Students

4 s.h.

Elective clinical rotations are selected from the following.

117:321 Dermatology Elective for Physician Assistant Students	arr.
117:322 Neurology Elective for Physician Assistant Students	arr.
117:323 Obstetrics for Physician Assistant Students	arr.
117:324 Ophthalmology Elective for Physician Assistant Students	arr.
117:325 Otolaryngology Elective for Physician Assistant Students	arr.
117:326 Pediatric Elective for Physician Assistant Students	arr.
117:327 Radiology Elective for Physician Assistant Students	arr.
117:328 Pediatric Elective (Bone Marrow Transplant) for Physician Assistant Students	arr.
117:329 Pediatric (Cardiology) Elective for Physician Assistant Students	arr.
117:330 Psychiatry Elective for Physician Assistant Students	arr.
117:331 Surgery Elective for Physician Assistant Students	arr.
117:332 Surgery Elective (Transplant/Organ Retrieval) for Physician Assistant Students	arr.
117:333 Surgery Elective (Burn Unit) for Physician Assistant Students	arr.
117:334 Surgery Elective (Cardiac Surgery) for Physician Assistant Students	arr.
117:335 Orthopedics Elective for Physician Assistant Students	arr.
117:336 Internal Medicine Elective for Physician Assistant Students	arr.
117:337 Internal Medicine (Cardiology) Elective for Physician Assistant Students	arr.
117:338 Internal Medicine (EKG) Elective for Physician Assistant Students	arr.
117:339 Internal Medicine (Gastroenterology) Elective for Physician Assistant Students	arr.
117:340 Internal Medicine (Oncology) Elective for Physician Assistant Students	arr.
117:341 Internal Medicine (Geriatrics) Elective for Physician Assistant Students	arr.
117:342 Internal Medicine (Pulmonary) Elective for Physician Assistant Students	arr.
117:343 Internal Medicine (Hospice) Elective for Physician Assistant Students	arr.
117:344 Internal Medicine (Infectious Disease) Elective for Physician Assistant Students	arr.
117:345 Internal Medicine (Correctional Medicine) Elective for Physician Assistant Students	arr.
117:347 Urology Elective for Physician Assistant Students	arr.
117:348 Family Practice Elective for Physician Assistant Students	arr.
117:349 Gynecology Elective (Women's Health) for Physician Assistant Students	arr.
117:350 Migrant Health Elective for Physician Assistant Students	arr.
117:351 Occupational Medicine Elective for Physician Assistant Students	arr.
117:352 Pediatrics (Neonatology) Elective for Physician Assistant Students	arr.
117:353 Internal Medicine (Rheumatology) for Physician Assistant Students	arr.
117:354 Medical Intensive Care for Physician Assistant Students	arr.
117:355 International Medicine for Physician Assistant Students	arr.
117:356 Interventional Radiology for Physician Assistant Students	arr.
117:357 Gynecologic Oncology Elective for Physician Assistant Students	arr.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Applicants must be citizens or permanent residents of the United States. Applicants whose first language is not English and who do not hold a master's or doctoral degree from an accredited U.S. institution must score at least 93 (total score, Internet-based) and 26 (speaking score, Internet-based) on the Test of English as a Foreign Language (TOEFL). Only the Internet-based test is accepted. Scores must be sent to the Physician Assistant Program by the Educational Testing Service.

Applicants must have taken the Graduate Record Examination (GRE) General Test or the Medical College Admission Test (MCAT) within the 10 years before they apply. They must hold a baccalaureate degree from an accredited institution in the United States and have a cumulative g.p.a. and a science g.p.a. of at least 3.00 on a 4.00 scale or a g.p.a. of at least 3.00 on their last 40 s.h. of college-level science course work. They must have completed preparatory science courses in organic and inorganic chemistry, introductory animal biology or zoology, and general statistics or biostatistics. They also must have completed upper-level courses in human or animal physiology (lower-level combined anatomy/physiology courses do not satisfy this requirement); three upper-level courses in endocrinology, microbiology, histology, and/or related disciplines; and an introductory biochemistry course (combined organic/biochemistry courses do not satisfy this requirement). Courses in cell biology, cell physiology, genetics, immunology, molecular biology,

neurobiology, and parasitology are recommended.

Applicants must have at least 1,200 hours of health care experience.

The admissions committee gives special attention to applicants' performance in science courses. Some successful applicants have had a cumulative and science g.p.a. of at least 3.70; up to 141 s.h. of college credit, including at least 81 s.h. in the sciences; and more than 3,000 hours of clinical and/or research experience.

Satisfaction of the basic admission requirements does not ensure acceptance to the program. The admissions committee selects the applicants it considers best qualified. Previous health care experience involving direct patient contact is preferred. The committee requests interviews with the most qualified applicants.

Applications are accepted from April 1 to November 1 for entry the following May. Each applicant must complete the Physician Assistant Education Association centralized application, which includes three letters of recommendation, GRE scores, and transcripts. The majority of prerequisite course requirements must be completed by the November 1 application deadline.

## Expenses

In addition to University of Iowa tuition and fees, Physician Assistant Program students must purchase their medical uniforms and diagnostic equipment, an expense of approximately \$1,700. Microscopes are not required.

## Physician Assistant Program Courses

- 117:001 Physician Assistant Clinical Second Year** arr.
- 117:101 Introduction to Medical History and Physical Examination for Physician Assistant Students** 0-3 s.h.  
Development of skills vital to taking a comprehensive medical history, psychomotor skills, and physical examination techniques necessary for conducting a comprehensive physical exam.
- 117:103 Clinical Decision Making I** 1 s.h.  
Review of basic concepts of research design and statistics as they apply to medical research literature; formation of a basis for sound, evidence-based, clinical decision making. Repeatable.
- 117:104 Clinical Decision Making II** 1 s.h.  
Core concepts of evidence-based medicine; development of the knowledge and practical skills to search the medical literature for answers to clinical questions and critically appraise the evidence found. Repeatable.
- 117:107 Seminar for Physician Assistant Students** 1 s.h.  
Professional issues that affect the physician assistant's practice of medicine.
- 117:110 Introduction to Clinical Skills** 1 s.h.  
Suturing, injections, prescription and order writing, medical records, patient confidentiality, Iowa Law governing physician assistant practice, completion of the American Heart Association's Advanced Cardiac Life Support Program. Requirements: completion of physician assistant curriculum phase I.
- 117:201 Clinical Decision Making III** 1 s.h.  
Asking appropriate clinical questions in the course of patient care; gathering information from multiple sources to answer questions.
- 117:300 Emergency Medicine for Physician Assistant Students** arr.  
Obtaining and recording pertinent historical data, obtaining indicated laboratory studies, assessing the results, arriving at a diagnosis, formulating a treatment plan, implementing appropriate therapy.
- 117:301 Gynecology for Physician Assistant Students** 4 s.h.  
Opportunity to develop proficiency in history and physical exams of gynecological patients; outpatient, family planning, gynecological cancer, concepts of diagnostic techniques and therapy.
- 117:302 Family Practice I for Physician Assistant Students** 4 s.h.



Obtaining and recording complete history and physical exams; formulation of differential diagnosis and problem list; ordering, obtaining, and interpreting lab and diagnostic studies; implementation of therapeutic procedures and treatment plans.

**117:303 Family Practice II for Physician Assistant Students** 4 s.h.  
Opportunity to participate in delivery of ambulatory primary care; at a different site from 117:302.

**117:304 General Surgery for Physician Assistant Students** 6 s.h.  
Preparation for work as an assistant to the generalist; outpatient and inpatient surgical services, including surgical procedures and management of postoperative course.

**117:305 Internal Medicine for Physician Assistant Students** 6 s.h.  
Eliciting a medical history, doing a pertinent physical exam, obtaining indicated lab studies, assessment of results, formulation of management plan and implementation of appropriate therapy for common internal medicine problems.

**117:306 Pediatrics for Physician Assistant Students** arr.  
Knowledge and skills required for providing appropriate medical care to infants, children, and adolescents; initiation and promotion of interpersonal relationships.

**117:307 Psychiatry for Physician Assistant Students** 4 s.h.  
Training in history and physical exams of psychiatry patients, including individual and family therapy, vocational testing and guidance, development of interviewing skills.

**117:308 Long-Term Care for Physician Assistant Students** arr.  
Development of clinical knowledge and skill in diagnosing, treating, and performing procedures for patients of long-term care settings; knowledge of relevant conditions.

**117:321 Dermatology Elective for Physician Assistant Students** arr.  
Recognizing dermatologic diseases and disorders, instituting appropriate management of patients with dermatologic problems.

**117:322 Neurology Elective for Physician Assistant Students** arr.  
Performing general and neurological exams, establishing diagnosis, recommending lab studies, instituting appropriate management of common neurological diseases and disorders, recognizing the need for urgent treatment.

**117:323 Obstetrics for Physician Assistant Students** arr.  
Proficiency in physical exam of OB patients; applying concepts of diagnostic techniques and therapy; following patients' course, including labor, delivery, and postpartum care.

**117:324 Ophthalmology Elective for Physician Assistant Students** arr.  
Proficiency in recognizing ophthalmology problems; how to institute appropriate management of these conditions.

**117:325 Otolaryngology Elective for Physician Assistant Students** arr.  
Proficiency in recognizing otolaryngology problems; how to institute appropriate management of these conditions; opportunity for involvement in varied surgical procedures.

**117:326 Pediatric Elective for Physician Assistant Students** arr.  
Experience working with children and adolescents.

**117:327 Radiology Elective for Physician Assistant Students** arr.  
Proficiency in systematic evaluation of normal and abnormal routine radiologic examinations; listing indications for special exam procedures, including details of prepping the patient.

**117:328 Pediatric Elective (Bone Marrow Transplant) for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis, treatment, and management of pre- and post-bone-marrow transplant patients.

**117:329 Pediatric (Cardiology) Elective for Physician Assistant Students** arr.  
Cardiovascular assessment and problem management of pediatric patients; experience with a range of acute, chronic, common, and rare cardiology diseases.

- 117:330 Psychiatry Elective for Physician Assistant Students** arr.  
Training in evaluation and treatment of psychiatry patients.
- 117:331 Surgery Elective for Physician Assistant Students** arr.  
Experience in a wide range of surgical problems, procedures, and treatments, including diagnosis, care and treatment, and postoperative courses of surgical patients.
- 117:332 Surgery Elective (Transplant/Organ Retrieval) for Physician Assistant Students** arr.  
Extensive experience in care of patients with end-stage organ failure; evaluation of potential transplant candidates, participation in surgical procedures on transplant service.
- 117:333 Surgery Elective (Burn Unit) for Physician Assistant Students** arr.  
Involvement in care on burn unit and in operating room; skills in burn debridement, grafting techniques, skin storage techniques, dressing changes, tub baths, and physical therapy procedures.
- 117:334 Surgery Elective (Cardiac Surgery) for Physician Assistant Students** arr.  
Development of technical skills in operating room; essentials of preoperative evaluation and postoperative management of cardiac surgical patient.
- 117:335 Orthopedics Elective for Physician Assistant Students** arr.  
Recognition of varied orthopedic problems and treatments; musculoskeletal diseases and disorders, both emergencies and common conditions, and how to establish appropriate management.
- 117:336 Internal Medicine Elective for Physician Assistant Students** arr.  
Training in varied internal medicine problems; recognition, appropriate treatment.
- 117:337 Internal Medicine (Cardiology) Elective for Physician Assistant Students** arr.  
Cardiovascular assessment and problem management; experience with wide range of acute, chronic, common, and rare diseases.
- 117:338 Internal Medicine (EKG) Elective for Physician Assistant Students** arr.  
Experience reading electrocardiograms, interpreting cardiac arrhythmias, performing and evaluating EKG stress tests.
- 117:339 Internal Medicine (Gastroenterology) Elective for Physician Assistant Students** arr.  
Experience with a wide range of gastrointestinal pathology; history and physical exams of gastrointestinal diagnostic procedures, follow-up care of patients through outpatient clinics.
- 117:340 Internal Medicine (Oncology) Elective for Physician Assistant Students** arr.  
Experience to develop diagnostic skills in clinical oncology and gain familiarity with methods of staging common cancers; assistance in therapy and outpatient management of cancer patients.
- 117:341 Internal Medicine (Geriatrics) Elective for Physician Assistant Students** arr.  
Familiarity with broad spectrum of medical conditions among the elderly; experience in history and physical exams, diagnosis of geriatric patients along with follow-up visits.
- 117:342 Internal Medicine (Pulmonary) Elective for Physician Assistant Students** arr.  
Development of basic clinical knowledge and skills for diagnosis, treatment, and management of pulmonary diseases.
- 117:343 Internal Medicine (Hospice) Elective for Physician Assistant Students** arr.  
Work on a hospice care team performing evaluation, treatment, and education of patients with terminal illnesses; dealing with the prospect of death.
- 117:344 Internal Medicine (Infectious Disease) Elective for Physician Assistant Students** arr.  
Development of basic clinical knowledge and skills for diagnoses, treatment, and management of infectious diseases.
- 117:345 Internal Medicine (Correctional Medicine) Elective for Physician Assistant Students** arr.  
Experience with ambulatory medicine in a correctional institution; management of acute and chronic diseases, including HIV, hepatitis B&C, psychiatric conditions; focus on confidentiality, security.

- 117:347 Urology Elective for Physician Assistant Students** arr.  
Proficiency in managing patients with urologic conditions; skill in taking a urologic history, performing physical exams, interpreting laboratory studies and data.
- 117:348 Family Practice Elective for Physician Assistant Students** arr.  
Proficiency in delivering ambulatory primary care.
- 117:349 Gynecology Elective (Women's Health) for Physician Assistant Students** arr.  
Experience in annual gynecologic exams, PAP screening, gynecology problems, contraception issues, STD screening and counseling, common gynecologic procedures.
- 117:350 Migrant Health Elective for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis, treatment, and prevention of diseases, injuries, and conditions related to environmental exposure in migrant worker populations.
- 117:351 Occupational Medicine Elective for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis, treatment, and prevention of work-related diseases, injuries, and conditions related to environmental exposure.
- 117:352 Pediatrics (Neonatology) Elective for Physician Assistant Students** arr.  
Basic clinical knowledge and skill for diagnosis, treatment, and management of critically ill infants.
- 117:353 Internal Medicine (Rheumatology) for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis, treatment, and management of rheumatologic diseases.
- 117:354 Medical Intensive Care for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis, treatment, and management of critically ill patients.
- 117:355 International Medicine for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis, treatment, and prevention of diseases, injuries, and conditions relevant to international medicine. Repeatable.
- 117:356 Interventional Radiology for Physician Assistant Students** arr.  
Basic clinical knowledge and skills for diagnosis and treatment of conditions requiring interventional therapy. Repeatable.
- 117:357 Gynecologic Oncology Elective for Physician Assistant Students** arr.  
Experience developing diagnostic skills in clinical gynecologic oncology, learning methods of staging specific cancers; and assisting in therapy and outpatient management of patients with varied cancers.
- 117:358 Wilderness Medicine for Physician Assistant Students** arr.  
Four-week emergency medicine elective taken in conjunction with Carver College of Medicine; mix of didactic and experiential learning; ten-day trip to Colorado to learn about hypothermia, altitude medicine, search and rescue, field evaluation, treatment and evacuation of common back country injuries; lectures and simulations.

## Psychiatry

**Head:** Robert G. Robinson

**Professors:** Nancy Andreasen, Stephan Arndt, George Bergus, Donald Black, Kathleen Buckwalter, Brian Cook, William Coryell, Samuel Kuperman, Douglas Langbehn, Delwyn Miller, Peggy Nopoulos, Daniel O'Leary, Jane S. Paulsen, Bruce Pfohl, Robert Philibert, Susan Schultz, Scott Stuart

**Professors emeriti:** Arnold Andersen, Arthur Canter, Raymond Crowe, Michael Garvey, Harold Mulford, Herbert Nelson, Russell Noyes, Paul Perry, Robert Smith

**Clinical professors:** Bruce Alexander, John Bayless, Wayne Bowers, Judith Crossett, Michael Flaum, Jerry Lewis, Scott Temple

**Associate professors:** Thad Abrams, Leigh Beglinger, Yelena Chistyakova, Gary Gaffney, Beng Choon Ho, Ricardo Jorge, David Moser, Sergio Paradiso, Victor Swayze, Carolyn Turvey, Thomas Wassink, John Wemmie, Catherine Woodman

**Adjunct associate professors:** Tracy Gunter, Janeta Tansey, Kevin Took

**Clinical associate professors:** James Amos, James Beeghly, Thomas Brashers-Krug, Jill Liesveld, Linda Madson, Anthony Miller, Karen Nelson, Debra Suda, Jodi Tate, Beth Troutman, Nancy Williams

**Assistant professors:** Chadi Calarge, Lilian Dindo, Eric Epping, Jess Fiedorowicz, Hans Johnson, Laurie McCormick, Megan Smith

**Adjunct assistant professors:** Raja Akbar, Tami Argo, Eric Barlow, Bridget Buck, Martin Carpenter, Donner Dewdney, Michael Hall, John Hartson, Adnan Iqbal, Kent Kunze, Polly Nichols, Mark Preston, Larry Richards, Ara Robinson, Kevin Satisky, Bruce Sieleni, Manmohan Singh, Douglas Steenblock, Christopher Welsh

**Clinical assistant professors:** Allison Abreu, Nancy Beyer, Patricia Espe-Pfeifer, Vicki Kjewski, Anne Kolar, Hristina Koleva, Robin Kopelman, Jennifer McWilliams, Anthony Miller, Angeles Morcuende, Susan Pike, Richard Rinehart, Afshin Shirani, Allison Williams, Jessica Wood

**Adjunct instructors:** Nancee Blum, Dan Grinstead, Bev Klug, Betty Moore

**Web site:** <http://www.uihealthcare.com/depts/med/psychiatry/index.html>

The Department of Psychiatry teaches M.D. students, principally during their third year, and trains resident physicians for academic and clinical careers in psychiatry. It offers no degree program.

## Residency Programs

The department maintains a four-year training program approved by the Residency Review Committee of the American Medical Association. Training experiences are available at University of Iowa Hospitals and Clinics and at the Iowa City Veterans Affairs Medical Center. Additional experiences are available at affiliated institutions: Broadlawns Medical Center in Des Moines, the Iowa Medical and Classification Center at Oakdale, the Mid-Eastern Iowa Community Mental Health Center in Iowa City, and the Independence Mental Health Institute (Iowa Department of Human Services).

The department also offers an approved two-year residency in child psychiatry. Fellowships in geriatrics and psychosomatic medicine are available after residency training.

## Research

Department of Psychiatry staff members are involved in genetic and family studies of psychiatric disorders, and research in genetic and biological psychiatry, neurochemistry, neuroimaging, neurophysiology, neuropsychiatry, and psychosocial aspects of behavior.

Many research opportunities in psychiatry are available to students and residents, and the basic science areas of neurochemistry, neurophysiology, and electrophysiology offer additional opportunities. The clinical areas of psychology, child psychiatry, and psychotherapy also offer opportunities to a limited number of students for research and further study.

## Psychiatry Courses

### 073:255 Psychiatric Epidemiology

3 s.h.

Population-based studies of psychiatric disorders and associated etiologic tools; diagnostic criteria used in psychiatric research, common structured interviews and rating scales; recent research relevant to common psychiatric disorders; experience writing a research idea using NIH PHS grant form. Offered spring semesters. Prerequisites: 173:140. Recommendations: 173:240 or two years of resident training in psychiatry. Same as 173:267.

### For M.D. Students

#### 073:005 Clinical Psychiatry

4 s.h.

Requirements: third-year M.D. enrollment.

#### 073:033 Adult Psychiatry, Pappajohn Pavilion

arr.

Requirements: M.D. enrollment.

#### 073:035 Child Psychiatry, Pappajohn Pavilion

arr.

Roles of child psychiatry as a consultation service. Requirements: M.D. enrollment.

#### 073:045 Adult Outpatient Psychiatry and Psychotherapy

4 s.h.

Diagnostic assessment, evaluation, treatment of psychiatric patients; exposure to both psychotherapeutic, psychopharmacologic treatments. Requirements: M.D. enrollment.

**073:047 Women's Wellness and Counseling Service**

4 s.h.

Experience evaluating and treating women with mental illness, with some emphasis on practitioner's autonomy; four-week rotation. Requirements: psychiatry clerkship.

**073:049 Eating Disorders**

4 s.h.

Inpatient rotation emphasis on co-occurring psychiatric and comorbid medical conditions associated with eating disorders; patient assessment and management at an advanced level; direct patient care and engagement in clinical decision making for complex patients with substantial comorbidity; call is required; student experience maximizes autonomy and responsibility; didactic curriculum; focus on critical appraisal of relevant medical literature. Prerequisites: 073:005. Requirements: fourth-year M.D. enrollment.

**073:053 Advanced Clinical Psychiatry, Des Moines**

4 s.h.

Work in adult psychiatry setting and/or child-adolescent psychiatry setting for a four-week rotation; optional participation in psychiatric emergency/crisis care team, substance abuse clinics, and/or ECT treatment sessions.

**073:105 Research Psychiatry**

arr.

Experience, training in practical application of scientific methodology; work with research project at Psychiatric Service or affiliated cooperating research centers. Requirements: fourth-year M.D. enrollment.

**073:835 Subinternship in Medical Psychiatry**

4 s.h.

Hands-on experience in evaluation and treatment of patients with combined medical and psychiatric disease; decisions regarding appropriate consultations, diagnostic tests, treatment; etiology and pathophysiology. Requirements: M.D. enrollment.

**073:836 Subinternship in Mood/Psychotic Disorders**

4 s.h.

Subinternship in adult psychiatry; experiences that maximize autonomy and responsibility; inpatient rotation focuses on one subspecialty area (psychotic disorders or mood disorders); emphasis on substantial medical comorbidity; assess and address medical and psychiatric needs of assigned patients in a collaborative and integrative fashion; assess and manage patients independently at the level of a psychiatry intern, reporting directly to the attending; call is required; didactic curriculum focuses on critical appraisal of medical literature. Prerequisites: 073:005. Requirements: fourth-year M.D. enrollment.

**073:998 Psychiatry on Campus**

arr.

Arranged by student with departmental approval. Requirements: M.D. enrollment.

**073:999 Psychiatry off Campus**

arr.

Requirements: M.D. enrollment.

## Radiation Oncology

**Head:** John M. Buatti

**Professors:** John M. Buatti, Garry R. Buettner, Frederick E. Domann Jr., Douglas R. Spitz

**Professor emeritus:** James W. Osborne

**Clinical professor:** Geraldine M. Jacobson

**Associate professors:** John E. Bayouth, Prabhat Goswami

**Associate professor emeritus:** J. Fred Doornbos

**Clinical associate professor:** William McGinnis

**Assistant professors:** Carryn M. Anderson, Sudershan Bhatia, Apollina Goel, Yuseung Kim, Sarah McGuire, R. Alfredo C. Siochi

**Clinical assistant professors:** Mark W. Dion, Ryan Flynn, Joseph Modrick, Manickam Muruganandham, Mark C. Smith

**Associates:** Earl Nixon, Edward Pennington, Timothy J. Waldron

**Web site:** <http://www.uihealthcare.com/depts/med/radiationoncology/index.html>

Radiation oncology specializes in the delivery of radiation treatments for cancer patients. It includes treatments with linear accelerators as well as isotopes and temporary and permanent surgically implanted sources. Radiation oncologists also use these methods to treat some benign diseases, such as Graves' ophthalmopathy and trigeminal neuralgia.

The Department of Radiation Oncology is dedicated to educating graduate students, radiation therapy technology students, physics students, medical residents, and medical students. Its faculty members provide instruction for Master of Science and Doctor of Philosophy students in the Free Radical and Radiation Biology Program, through their participation in 077:103 Radiation Biology, 077:211 Medical Physics, 077:222 Free Radicals in Biology and Medicine, and 077:288 Molecular and Cellular Biology of Cancer. The faculty also provides instruction for Carver College of Medicine students.

The department's professional staff provides training in radiation therapy technology for undergraduate students in the Radiation Sciences Program by teaching courses 672:803 Radiation Therapy I and 672:804 Radiation Therapy II.

The department provides a four-year physician residency training program in radiation oncology that includes clinical care and education. It also has a residency program in medical physics. M.D. students can elect a two- or four-week radiation oncology rotation. Nursing students, dental residents, and fellows in gynecologic oncology and in adult and pediatric hematology and oncology do rotations in the department.

The department also offers specialized research projects and sponsors postdoctoral students in biology, physics, and clinical disciplines by arrangement with the instructor or mentor.

## Radiation Oncology Courses

### 186:202 Radiation Oncology

4 s.h.

Integration of clinical oncology, physics, and cancer biology; clinical work with faculty mentors; experience in clinical evaluation, technical physics, biological application.

### 186:998 Radiation Oncology on Campus

arr.

Development of new markers for normal tissue toxicity following radiation treatment.

### 186:999 Radiation Oncology off Campus

arr.

Arranged by the student with department approval.

# Radiation Sciences

**Interim director:** Jennifer Maiers

**Director, radiologic technology program:** Kathy Martensen

**Director, diagnostic medical sonography program:** Stephanie Ellingson

**Director, nuclear medicine technology program:** Anthony Knight

**Director, radiation therapy program:** Mindi TenNapel

**Undergraduate degree:** B.S. in Radiation Sciences

**Web site:** <http://www.medicine.uiowa.edu/RadSci/bsrs>

Radiation sciences professionals work with physicians to gather accurate patient information for diagnosis, treatment, and/or research of disease and injury. They provide direct patient care, producing quality images and delivering treatment using a variety of radiation sources. The radiation sciences professional must apply knowledge, skill, and mature judgment while operating complex equipment safely and efficiently.

The University of Iowa's radiation science educational programs are designed to provide students with opportunities for intellectual, professional, and social growth. Students learn with faculty members and instructors who are committed to radiation science education.

## Undergraduate Program

The Carver College of Medicine offers a Bachelor of Science in radiation sciences. Undergraduate study in the college is guided by the academic rules and procedures outlined in the Carver College of Medicine section of the Catalog, under "Undergraduate Programs."

### Bachelor of Science

The Bachelor of Science with a major in radiation sciences requires a minimum of 124 s.h. The program has a dual focus on radiologic technology and a professional specialty (modality).

Radiation sciences students complete specific requirements of the College of Liberal Arts and Sciences General Education Program, a professional radiography program, a professional specialty (modality program), and advanced course work. The modality program requirement must be completed at The University of Iowa. All students must meet admission, credit, residency, and g.p.a. requirements as detailed in this Catalog section and in the Carver College of Medicine section under "Undergraduate Programs."

Students who wish to complete all requirements for the Bachelor of Science at The University of Iowa must enroll first in the College of Liberal Arts and Sciences, declaring a radiation sciences interest. While they are liberal arts students, they complete the required General Education courses. During the fall semester of their first year, students apply to the University of Iowa Hospitals and Clinics Radiologic Technology Program. Admission is selective. Accepted students enroll for their second and third years as nondegree students in the Carver College of Medicine. After completing the Radiologic Technology Program, they apply to the Carver College of Medicine as Bachelor of Science students with a major in radiation sciences. Once admitted, they complete the modality and advanced course requirements.

Radiographers who hold national certification from the American Registry of Radiologic Technologists and student radiographers intending to take the national certification exam must be admitted to the Carver College of Medicine as undergraduate students with a major in radiation sciences. Students must meet all University of Iowa admission requirements. Once they have completed a professional modality program through The University of Iowa and all other requirements for the major and for graduation, they receive a Bachelor of Science from the Carver College of Medicine.

Requirements for the major are as follows.

#### GENERAL EDUCATION COURSES

Radiation sciences students must complete the following course work in rhetoric, natural and social sciences, quantitative or formal reasoning, and distributed education from the College of Liberal Arts and Sciences General Education Program.

Rhetoric (4 s.h.):

010:003 Rhetoric

4 s.h.

Natural sciences—two of these (6 s.h.):

004:007 General Chemistry I

3 s.h.

004:008 General Chemistry II

3 s.h.

027:053 Human Anatomy

3 s.h.

027:130 Human Physiology

3 s.h.

Students interested in nuclear medicine must complete a chemistry course and lab as well as a physics course.

Social sciences (3 s.h.):

031:001 Elementary Psychology 3 s.h.

Quantitative or formal reasoning—one of these (4 s.h.):

22M:009 Elementary Functions 4 s.h.

22M:015 Mathematics for the Biological Sciences 4 s.h.

Distributed education (6 s.h.):

Two courses, one from each of two of the following General Education areas: cultural diversity, historical perspectives, humanities, and social sciences 6 s.h.

Students may not use 031:001 Elementary Psychology to fulfill the distributed education requirement. For a list of approved courses in these areas, see General Education Program in the Catalog.

### **RADIOLOGIC TECHNOLOGY PROGRAM**

Students must complete a radiologic technology program and pass the American Registry of Radiologic Technologists national certification exam. In the Radiologic Technology Program, students complete 670:901 Radiologic Technology I and 670:902 Radiologic Technology II, which provide education in pathology, radiation biology, radiation protection, patient care, and ethics. Students learn about anatomy and physiology, medical terminology, and radiographic procedures, imaging, and evaluation. They become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education. The 24-month program begins in July. Graduates of the program are eligible to take the national certification exam; upon successful completion of the exam, they are granted 60 s.h. of credit toward the B.S. in radiation sciences.

### **SPECIALTY (MODALITY PROGRAM)**

Radiation sciences students must complete one of the following specialties, or modality programs, at University of Iowa Hospitals and Clinics. Students must apply to and be accepted by the program of their choice; distance education courses do not require application or have a selection process, except for the elective clinical internships. Program duration varies, as does the number of students accepted. Each program offers modality-specific didactic and supervised clinical education courses. Graduates of the modality programs and associated internships are eligible to take certification exams.

#### **Nuclear Medicine Technology Modality**

The nuclear medicine technology modality program provides instruction in radiopharmacy, radiobiology, radioimmunology, radiation protection, patient care, medical terminology, instrumentation, computer applications, administration, and ethics. The 12-month program (30 s.h.) begins in August and includes the following courses.

074:101 Principles of Nuclear Medicine I 6 s.h.

074:102 Introductory Clinical Nuclear Medicine 6 s.h.

074:103 Principles of Nuclear Medicine II 3 s.h.

074:104 Intermediate Clinical Nuclear Medicine 9 s.h.

074:105 Advanced Clinical Nuclear Medicine 6 s.h.

#### **Radiation Therapy Modality**

The radiation therapy modality program teaches theory and techniques of radiation therapy technology, with emphasis on competence in areas of oncology treatment planning, treatment delivery, dosimetry, and use of megavoltage radiation-producing equipment to administer treatment. The 12-month program (30 s.h.) begins in August and includes the following courses.

672:803 Radiation Therapy I 12 s.h.

672:804 Radiation Therapy II 12 s.h.

672:805 Radiation Therapy III 6 s.h.



**Diagnostic Medical Sonography Modality**

The diagnostic medical sonography modality program focuses on principles and methods in using ultrasound and offers specialties in abdominal, pediatric, obstetric, and gynecologic imaging as well as interventional procedures and vascular technology. The 18-month program (36 s.h.) begins in August and includes the following courses.

673:803 Diagnostic Medical Sonography I	9 s.h.
673:804 Diagnostic Medical Sonography II	9 s.h.
673:805 Diagnostic Medical Sonography III	3 s.h.
673:806 Diagnostic Medical Sonography IV	9 s.h.
673:807 Diagnostic Medical Sonography V	6 s.h.

**Magnetic Resonance Imaging Modality**

The magnetic resonance imaging modality program features distance education courses and elective clinical internships. It offers intensive study and practice in magnetic resonance imaging, including patient care procedures, pathophysiology, physics, sectional anatomy, and instrumentation. It includes the following courses (22 s.h.) and clinical internships (9 s.h.). Internships begin in August and February.

674:110 Fundamentals for the MRI Technologist	3 s.h.
674:120 MRI Procedures I	4 s.h.
674:130 MRI Procedures II	3 s.h.
674:140 MRI Acquisition and Principles I	3 s.h.
674:150 MRI Acquisition and Principles II	3 s.h.
676:100 Sectional Anatomy for Imaging Sciences	3 s.h.
676:110 Pathology for Imaging Sciences	3 s.h.

Recommended elective clinical internships for the Magnetic Resonance Imaging program:

674:160 MRI Clinical Internship I	3-6 s.h.
674:170 MRI Clinical Internship II	3-6 s.h.

**Cardiovascular Interventional Modality**

The cardiovascular interventional modality program features distance education courses and elective clinical internships. It teaches about imaging equipment, pharmacology, sterile techniques, cardiac monitoring, vascular anatomy and physiology, cardiovascular intervention technology imaging procedures, therapeutic intervention techniques, and digital angiography. It includes the following courses (20 s.h.) and recommended elective clinical internships (12 s.h.). Internships begin in August.

675:110 Vascular Anatomy	3 s.h.
675:120 CVI Principles	4 s.h.
675:130 Electrocardiogram and Hemodynamics	3 s.h.
675:140 CVI Peripheral Procedures and Pathology	3 s.h.
675:150 CVI Neurology and Nonvascular Procedures and Pathology	3 s.h.
675:160 CVI Cardiac Procedures and Pathology	4 s.h.

Recommended elective clinical internships for the Cardiovascular Interventional Program:

675:170 Cardiac Interventional Clinical Internship	6 s.h.
675:180 Vascular Interventional Clinical Internship	6 s.h.

**Computed Tomography Modality**

The computed tomography modality program features distance education courses and an elective clinical internship. It concentrates on sectional anatomy, single and multislice computed tomography (CT), electron beam CT, physiologic and 3-D imaging, CT simulation, physics and imaging, and procedures and pathology. The program includes the following courses (15 s.h.) and a recommended elective clinical internship (6 s.h.). The internship begins in August and January.

676:100 Sectional Anatomy for Imaging Sciences	3 s.h.
--	--------

676:110 Pathology for Imaging Sciences	3 s.h.
676:120 Computed Tomography Procedures	5 s.h.
676:130 Computed Tomography Physical Principles and QC	4 s.h.
Recommended elective clinical internship for the Computed Tomography Program:	
676:140 Computed Tomography Clinical Internship	6 s.h.

#### **ADVANCED COURSES**

Management and leadership—one of these:

06J:048 Introduction to Management	3 s.h.
036:019 Organizational Leadership	2-3 s.h.
06J:147 Nonprofit Organizational Effectiveness I	3 s.h.

Statistics—one of these:

22S:025 Elementary Statistics and Inference	3 s.h.
22S:102 Introduction to Statistical Methods	3 s.h.

Informatics:

074:150 Medical Imaging and Radiology Informatics	3 s.h.
---	--------

#### **ELECTIVES**

Elective course work, to complete the minimum of 124 s.h. required for the Bachelor of Science, should be planned in consultation with the student's advisor.

#### **Advising**

Students who have declared a radiation science interest and are completing the General Education Program requirements before admission to the Radiologic Technology Program are advised at the University's Academic Advising Center. After admission to the Radiologic Technology Program, they are advised by the program's director. Students admitted to the radiation sciences major are advised by Radiation Sciences Program personnel.

#### **Admission**

Students who wish to complete all requirements for the Bachelor of Science at The University of Iowa must be admitted to the College of Liberal Arts and Sciences, with a radiation sciences interest. For information on admission requirements, contact the University's Office of Admissions.

Admission to the Radiologic Technology Program is competitive; enrollment is limited. Applications to the program must be submitted in time to meet the December application deadline. Students accepted to the program are admitted to the Carver College of Medicine as nondegree students and must meet specific program requirements; see the Radiologic Technology Program web site. A g.p.a. of at least 2.50 in General Education courses is recommended.

Admission to specialties (modality programs) is competitive; enrollment is limited. See "Clinical Internships" and "Distance Education" on the Radiation Sciences Program web site or contact the individual modality program directors for more information. The application deadline for modality programs is February 1. Acceptance to a modality program does not guarantee acceptance to the radiation sciences major.

Admission to the Carver College of Medicine radiation sciences major requires national certification in radiologic technology from the American Registry of Radiologic Technologists and a cumulative g.p.a. of at least 2.50, excluding grades earned in radiologic technology courses. Admission to the major does not guarantee admission to a professional specialty (modality) program. Deadlines for application to the radiation sciences major are April 1 for summer or fall entry and November 15 for spring entry.

To learn more about radiation sciences study at Iowa, visit the Radiation Sciences Program web site.

# Radiology

**Head:** Laurie Fajardo

**Professors:** Monzer M. Abu-Yousef, Kevin S. Berbaum, David Bushnell, John C. Chaloupka, Michael D'Alessandro, Georges Y. El-Khoury, Jafar Golzarian, Michael M. Graham, Richard D. Hichwa, Eric A. Hoffman, Charles Jacoby, Malik Juweid, Daniel Kahn, Simon Kao, Mark T. Madsen, Jeong Mi Park, Axel Ruprecht, Yutaka Sato, Wendy Smoker, Timothy Tewson, Edwin VanBeek, Yanbo Ye

**Professors emeriti:** Frank Cheng, James Ehrhardt, William E. Erkonen, Edmund A. Franken Jr., Peter Kirchner, Charles C. Lu, William Stanford

**Associate professors:** Hicham Abada, Joong Ahn, Thomas Barloon, D. Lee Bennett, Bruce P. Brown, Thomas Grabowski, Joan Maley, Louis Messerle, Brian Mullan, Kenjiro Ohashi, Punam Saha, Alan Stolpen, Shiliang Sun, Brad H. Thompson, G. Leonard Watkins, Jinhu Xiong

**Assistant professors:** Brooke Breen, Jack Kademian, Geetika Khanna, Jinsuh Kim, David Kuehn, Vincent Magnotta, Yusuf Menda, Toshio Moritani, Heather Ohrt, Stanley Parker, Bruno Policeni, Maheen Rajput, Daniel Thedens

**Web site:** <http://www.healthcare.uiowa.edu/radiology/>

## Undergraduate Education

The Department of Radiology offers clinical education to students in the Nuclear Medicine Technology and Radiation Sciences Programs.

## Radiology Courses

### 074:006 Clinical Radiology

2 s.h.

Two-week clerkship. Requirements: M.D. enrollment.

### 074:101 Principles of Nuclear Medicine I

0-6 s.h.

Didactic and laboratory work in radiopharmacy, patient care, radiation protection, math and statistics, radiation physics, anatomy and physiology, radiochemistry and tracer techniques, medical terminology, computer applications. Requirements: Nuclear Medicine Technology Program enrollment.

### 074:102 Introductory Clinical Nuclear Medicine

0-6 s.h.

Experience in preparing radiopharmaceuticals, performing routine nuclear imaging and in vitro procedures; work with clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

### 074:103 Principles of Nuclear Medicine II

0-3 s.h.

Didactic and laboratory work in nuclear medicine instrumentation, radiobiology, professional ethics, administration and management, computer applications. Requirements: Nuclear Medicine Technology Program enrollment.

### 074:104 Intermediate Clinical Nuclear Medicine

0-9 s.h.

Progressive responsibility in radiopharmacy, nuclear and P.E.T. imaging, cardiac stress testing. Requirements: Nuclear Medicine Technology Program enrollment.

### 074:105 Advanced Clinical Nuclear Medicine

0-6 s.h.

Proficiency in performance, quality assurance of all radiopharmacy and nuclear medicine procedures; opportunities for independent study, research. Requirements: Nuclear Medicine Technology Program enrollment.

### 074:150 Medical Imaging and Radiology Informatics

3 s.h.

Issues in informatics used in medical imaging and radiology; basic concepts, principles, terminology, and technology in medical imaging informatics; PACS operation, design, implementation; digitalization and acquisition of medical images; storage retrieval; image data formation and conversion, image data communication, workflow, visualization and display; medical imaging informatics; web application/services-based telemedicine and teleradiology.

### 074:191 Health Informatics I

3 s.h.

Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 050:283, 051:187, 056:186, 096:283, 174:226, 200:110.

### 074:192 Health Informatics II

3 s.h.

Selected health informatics initiatives, including computer-based patient records, physiologic monitoring, networking, imaging, virtual reality; participation in an interdisciplinary project team focused on an informatics innovation; application and research seminars. Same as 021:280, 051:189, 056:287, 096:289, 200:120.

### 074:201 Advanced Clinical Radiology

arr.

Requirements: M.D. enrollment.

**074:203 Vascular and Interventional Radiology**

arr.

Requirements: M.D. enrollment.

**074:220 Radiation Safety and Radiobiology**

4 s.h.

Instruction on safe operation of radiation producing equipment and handling of radioactive materials; origin and/or derivation of certain formulae and techniques useful in radiation protection programs; regulatory agencies, regulations, and regulatory guides pertinent to the student's field; emphasis on applied aspects of radiation protection; characteristics and biological effects of ionizing radiations, properties and uses of radioisotopes, medical applications, and biological basis for protection procedures.

**074:901 Community Radiology**

arr.

Requirements: M.D. enrollment.

**074:998 Radiology on Campus**

arr.

Requirements: M.D. enrollment.

**074:999 Radiology off Campus**

arr.

Requirements: M.D. enrollment.

## Surgery

**Head:** Ronald Weigel

**Professors:** John W. Canady, Joseph J. Cullen, Kimberly S. Ephgrave, Jamal J. Hoballah, James R. Howe, G. Patrick Kealey, Timothy F. Kresowik, Sheldon F. Kurtz (Law/Surgery), Walter Lawrence, Andrew Lee (Ophthalmology and Visual Sciences/Surgery), Alan I. Reed, Carol E.H. Scott-Conner, W. John Sharp, Siroos S. Shirazi, James Torner (Epidemiology/Surgery), Ronald Weigel

**Professors emeriti:** Albert E. Cram, Nelson J. Gurll, Peter R. Jochimsen, Ken Kimura, James W. Maher, Edward E. Mason, Amanda M. Metcalf, Robert T. Soper, Luis F. Urdaneta

**Professors (clinical):** Barbara Latenser, Timothy A. Thomsen

**Adjunct professors (clinical):** Philip R. Caropreso, Douglas B. Dornier, Thom Lobe, Onyebucki Ukabiala

**Associate professors:** Daniel A. Katz, Isaac Samuel, Aimen Shaaban, Joel Shilyansky, Sonia Sugg

**Associate professors emeriti:** Cornelius Doherty, Luke Faber, Samuel Porter, Wilbur L. Zike

**Associate professors (clinical):** Kent C. Choi, John Cromwell, Graeme Pitcher, Lucy Wibbenmeyer

**Adjunct associate professors (clinical):** Robert J. Cak, Michael Irish, Joseph Lohmuller, Richard Sidwell

**Assistant professors:** Geeta Lal, Melhem Sharafuddin, Zoe Stewart

**Assistant professors (clinical):** Evgeny Arshava, John Byrn, Thomas E. Collins, Hisakazu Hoshi, Mohammad Jamal, Jody Jones, Timothy Light, Rachael Nicholson, Dionne A. Skeete, Jessica Smith

**Adjunct assistant professor:** Julin Liao

**Adjunct assistant professor emeritus:** Donald E. Boyle

**Adjunct assistant professors (clinical):** Abdi Ahari, P. Sue Beckwith, Ronald K. Grooters, Daniel R. Kollmorgen, John Matsuura, Michael J. Page, Michael A. Phelps, Walter J. Riley, Eric Scott, Rick A. Shelman, James Swegle, Keith A. Vollstedt, Anson Yeager

**Visiting assistant professor:** Robert Hanfland

**Web site:** <http://www.healthcare.uiowa.edu/surgery/>

## M.D. Student Training

The Department of Surgery offers courses that provide a unique combination of experience oriented toward patient care and understanding of surgery's place among the physician's skills. Surgery courses are open only to M.D. students and qualified students in associated health sciences.

Students develop an awareness of surgery's role in the treatment of disease. Emphasis is placed on general surgery, basic emergency surgery, trauma, oncology, burns, gastrointestinal and biliary tract disease, endocrine disease, pediatric surgery, transplantation, plastic and reconstructive surgery, and peripheral vascular surgery.

The majority of surgery courses involve patient-centered discussions and practical exercises interwoven with operating room experience. Lectures and conferences are scheduled regularly on specific topics.

The department offers independent study courses in selected surgery topics and clinical experiences; some are available to fourth-year M.D. students by arrangement with the faculty.

## Faculty

The faculty's strengths center in pathophysiology and problems of severe burns, trauma, organ transplantation, surgical control of morbid obesity, surgical oncology, bowel disease, biliary tract disease, pediatric surgery, endocrine disease, plastic surgery, and vascular surgery.

## Facilities

Abundant patient contact provides education in a wide variety of surgical diseases. The Department of Surgery provides training in the only burn unit in Iowa approved by the American College of Surgeons and in the Level I Trauma Center at University of Iowa Hospitals and Clinics.

Laboratories provide equipment, space, and technical expertise to support teaching and a wide spectrum of clinical and scientific research. Projects are available in gastrointestinal surgery, surgical microbiology, peripheral vascular surgery, transplantation, wound healing, organ preservation, vascular surgery, pediatric surgery, and surgical oncology.

## Surgery Courses

### 075:005 Clinical Surgery

6 s.h.

Experience as active member of surgical team; work on inpatient units, in clinics and operating room; assist in elective and emergency patient care.

### 075:216 Subinternship in General Surgery

4 s.h.

Responsibility for management of selected surgical inpatients, on a surgical service. Prerequisites: 075:005.

### 075:217 Advanced General Surgery

4 s.h.

Opportunity to strengthen clinical skills through experiences in the operating rooms, clinics, wards, and intensive care units of University of Iowa Hospitals and Clinics.

- 075:224 Subinternship in Pediatric Surgery** arr.
- 075:229 Research Surgery** arr.  
Project with faculty member. Prerequisites: 075:005.
- 075:230 Subinternship in Vascular Surgery** arr.
- 075:235 General Surgery, Des Moines, IA** 4 s.h.  
Care of general surgery patients in private hospital setting. Prerequisites: 075:005.
- 075:236 Intensive Care Unit--Trauma, Iowa Methodist** 4 s.h.  
Subinternship on trauma service team; evaluation and management of critically ill patients in the emergency room, operating room, intensive care unit. Prerequisites: 075:005. Requirements: fourth-year M.D. enrollment.
- 075:237 General Surgery, Davenport, IA** 4 s.h.  
Participation in diagnosis and management of general surgical patients under supervision of attending surgeons from Davenport Surgical Group, Genesis Medical Center. Prerequisites: 075:005. Requirements: fourth-year M.D. enrollment.
- 075:998 Surgery on Campus** arr.  
Surgery on campus; individually arranged. Prerequisites: 075:005.
- 075:999 Surgery off Campus** arr.  
Prerequisites: 075:005.

## Urology

**Interim head:** Karl J. Kreder

**Professors:** James A. Brown, Michael B. Cohen, Christopher S. Cooper, Karl J. Kreder, David M. Lubaroff, Michael A. O'Donnell

**Professors emeriti:** Bernard Fallon, Charles E. Hawtrey

**Clinical professor:** Victoria Sharp

**Associate professors:** Thomas S. Griffith, Yi Luo

**Assistant professors:** Brad Erickson, Moshe Wald

**Clinical assistant professors:** Kathleen Kieran, Elizabeth B. Takacs, Chad Tracy

**Web site:** <http://www.uihealthcare.com/depts/med/urology/index.html>

Urology encompasses the subspecialty areas of urologic nephrology, oncology, and endocrinology; male reproductive physiology; erectile dysfunction; neurourology; pediatric urology; urinary tract stone and infection, including endourology; laparoscopic urology; diagnostic urology, and urinary tract obstruction.

The Department of Urology offers instruction in all of these areas at both the undergraduate and graduate levels and provides continuing education for the delivery of urologic care.

## M.D. Student Training

The department cooperates with several University of Iowa basic science departments to educate first-year M.D. students in the relationship between urology and the basic sciences. It collaborates with the Department of Microbiology in teaching and research concerning immunology of genitourinary cancers and renal transplantation.

In the second-year M.D. course, 050:165 Foundations of Clinical Practice IV ICD, the department presents illustrative lectures and demonstrations related to diagnosis and treatment of genitourinary tract diseases.

Third- and fourth-year M.D. students take Department of Urology courses that provide experience in all areas of urology. The required third-year clerkship covers the fundamentals of these areas through experience in outpatient clinics and inpatient units at University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Medical Center, as well as in daily interactive teaching seminars. Fourth-year M.D. students can take advanced elective courses of intensive study in any of the urologic subspecialties.

## Continuing Education

The department offers continuing education activities throughout the year for urologic and family practitioners. These activities are conducted by the senior staff, whose interests include pediatric urology, reproductive physiology, urologic oncology, urinary tract stone (including endourology/laparoscopy), and prostatic diseases.

## Research

The department has earned international recognition for its studies of prostatic diseases. The urological laboratories conduct research and offer instruction in experimental oncology, cellular immunology, and infertility.

## Urology Courses

- |  |        |
|--|--------|
| <b>079:104 Clinical Urology</b>  | 2 s.h. |
| Work in urology unit, clinic; responsibility for patient care, working with residents.   |        |
| <b>079:108 Advanced Clerkship in Urology</b>   | 4 s.h. |
| Experience as integral member of urological staff, junior resident level.  |        |
| <b>079:109 Advanced Clerkship Pediatric Urology</b>  | 4 s.h. |
| In-depth study of pediatric urology topics. Prerequisites: 079:104.  |        |
| <b>079:110 Individual Study and Research</b>   | arr.   |
| Preclinical or clinical projects; may include research presentation, collaboration on a publication.   |        |
| <b>079:120 Community General Urology, Des Moines</b>   | 4 s.h. |
| Exposure to the entire spectrum of private practice urology, in office and operating room settings; experience with preoperative and postoperative care; nonoperative aspects of office-based community urology. Prerequisites: 079:104. |        |

**079:999 Urology off Campus**

arr.

Individually arranged by students with department approval.



# College of Nursing

**Dean:** Rita A. Frantz

**Associate dean:** Jill Scott-Cawiezell

**Associate dean, research and scholarship:** Toni Tripp-Reimer

**Assistant dean, undergraduate and prelicensure programs:** Ellen Cram

**Assistant dean, graduate programs:**

**Chair, adult and gerontology study:** Keela Herr

**Chair, systems and practice:** Jill Scott-Cawiezell

**Chair, parent, child, and family study:** Anne Marie McCarthy

**Professors:** Kathleen Buckwalter, Mary Kathleen Clark, Kenneth Culp, Rita Frantz, Keela Herr, Diane Huber, Anne Marie McCarthy, Jill Scott-Cawiezell, Janet Specht, Toni Tripp-Reimer, Janet Williams

**Professors emeritae:** Gloria Bulechek, Martha Craft-Rosenberg, Connie Delaney, Joanne McCloskey Dochterman, M. Patricia Donahue, Melanie Dreher, Geraldene Felton, Marion Johnson, Meridean L. Maas, Rosemary McKeighen, Hope Solomons, Barbara Thomas

**Clinical professors:** Patricia Clinton, Edward S. Thompson, Carol Watson, Ann Williamson

**Associate professors:** Howard K. Butcher, Joann Eland, Sue Gardner, Charmaine Kleiber, Rene Martin, Paula Mobily, Sue Moorhead, Lisa Skemp, Elizabeth Swanson, Janette Taylor

**Associate professors emeritae:** Toni Clow, Janice Ann Denehy, Mildred Freely, Rose Marie Friedrich, Orpha Glick, Kathleen S. Hanson, Laura Hart, Jean Lakin, Leslie Marshall, Eleanor McClelland, Sandra Powell, Etta H. Rasmussen, Jean Reese, Kay Weiler

**Clinical associate professors:** Ellen Cram, Robin Pattillo, Ann M. Rhodes, Kerri Rupe, Deborah Schoenfelder, Anita Stineman

**Assistant professors:** Lioness Ayres, Jane Brokel, Sandra Daack-Hirsch, Martha Driessnack, Anne Ersig, Der-Fa Lu, Pamela Mulder, Barbara Rakel, Sandra Ramey, Beverly Saboe, Lisa Segre, Marianne Smith, Victoria Steelman, Andrea Wallace

**Assistant professors emeritae:** Pam Ballard, Carolyn Crowell, Louise Kruse, Sonja Lively, Frances Milde, Mary Stewart-Dedmon, Pamela Willard

**Clinical assistant professors:** Mary Berg, Veronica Brighton, Brenda Hoskins, Todd Ingram, Teresa Judge-Ellis, Susan Lehmann, Nicolett Markovetz, Sherry McKay, Cormac O'Sullivan, Rebecca Siewert, Connie Trowbridge, Jill Valde, Ann Willemsen-Dunlap

**Clinical instructors:** Vanessa Kimm, Kelly Smith

**Lecturers:** Kelley Blackburn, Jacinda Bunch, Carol Caldwell, Judith Collins, Megan Davis-DeGeus, Carol Dupic, Mary Fuhrman, Darlene Gibson, Mila Grady, Barbara Kyles, Curtis Long, Nancy Lynch, Carol Maxwell, Debra McCarthy, Brian Murphy, Patricia Nelson, Nicole Peterson, Natalie Pianetto, Jane Prater, Ann Riesselman, Erin Springer, Debra Strobel

**Assistant-in-instruction:** Margaret Hyndman

**Undergraduate degree:** B.S.N.

**Graduate degrees:** M.S.N., D.N.P., Ph.D. in Nursing

**Graduate nondegree programs:** Certificate in Advanced Practice Nursing, Health Informatics

**Web site:** <http://www.nursing.uiowa.edu>

The College of Nursing is an integral part of the University of Iowa health science campus, sharing in and contributing to teaching, research, and patient care resources that have earned international recognition. The University provides an unusually fine setting for nursing preparation because the educational and clinical resources vital to educating nurses are available on or near the campus. Faculty and students participate fully in University life and contribute their time, interests, and abilities to the many general and special activities of a major research university.

The college's Bachelor of Science in Nursing (B.S.N.), Master of Science in Nursing (M.S.N.), and entry-into-practice M.S.N.: Clinical Nurse Leader programs are accredited by the Commission on Collegiate Nursing Education (CCNE), an autonomous accrediting arm of the American Association of Colleges of Nursing (AACN). They also are approved by the Iowa Board of Nursing. The anesthesia nursing program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs.

Graduates of the B.S.N. and entry-into-practice M.S.N. programs qualify to take the licensure examination required for practice as registered nurses (RN). Graduates of advanced practice majors in the graduate program are eligible to take certification examinations and apply for Advanced Registered Nurse Practitioner (ARNP) licensure.

## Undergraduate Program

The college offers the Bachelor of Science in Nursing (B.S.N.). The program provides preparation for careers in the hospital care of patients and in community agencies such as public health services, schools, homes, and industries. It also provides a base for graduate study in nursing.

In addition to the advantages of combining general education with specialized career preparation, a college or university program offers the advantages of full participation in the social, cultural, and recreational activities of a highly diverse campus community. In nursing, no less than in other pursuits, a college or university background enables people not only to prepare for a career but to achieve a life of thought and action informed by knowledge, introspection, and contemplation.

The nursing major provides a basis for nurses' roles in wellness and health promotion, in acute care, and in long-term care for chronic illness. The professional nurse provides care to individuals, families, groups, and communities along a continuum of health, illness, and disability in any sector of the health care system.

In addition to providing care, the nurse serves as a coordinator of health care by organizing and facilitating the delivery of comprehensive, efficient, and appropriate service to individuals, families, groups, and communities. The nurse demonstrates the ability to conceptualize the total continuing health needs of the patient, including legal and ethical aspects of care. The University of Iowa program's goal is to produce graduates who are competent, committed, creative, and compassionate.

## Bachelor of Science in Nursing

The Bachelor of Science in Nursing requires 128 s.h., including 68 s.h. in the nursing major and 60 s.h. in the College

of Liberal Arts and Sciences General Education Program and supporting pre-nursing courses.

B.S.N. students may complete their entire program at Iowa, enrolling for their first year in the College of Liberal Arts and Sciences, or they may transfer from an institution that offers comparable courses approved by the University of Iowa and the College of Nursing. Highly qualified applicants may be admitted to the College of Nursing directly from high school. See "Admission to the B.S.N." later in this section.

Students who are part of the B.S.N. early admission program can expect to complete their plan of study in four academic years after enrolling at The University of Iowa. Other students who win admission to the college may expect to complete the degree in three academic years after they enter the B.S.N. program.

Nursing courses are based on concepts of health, deviations from health, and nursing intervention. Course work progresses in complexity from the sophomore through the senior year. The curriculum reflects the current trend in health care delivery toward emphasis on nursing as a service provided both inside and outside hospitals. Students have access to clinical experiences selected from a multitude of agencies in Iowa, and around the country.

### **Advising**

Advisors from the University's Academic Advising Center advise students who have declared a nursing interest. After admission to the College of Nursing, each student is assigned a College of Nursing faculty advisor and a professional advisor in the college's Office of Student Services.

### **RN/B.S.N. for Registered Nurses**

The RN/B.S.N. progression program is designed to offer registered nurses the opportunity to build on their nursing knowledge and experience by earning a Bachelor of Science in Nursing. Much of the program is offered online. RN/B.S.N. students take courses that focus on professional aspects of nursing, nursing process and health assessment, community/public health, leadership and management, research, and nursing issues. Each student is assigned to a College of Nursing faculty member for academic advising and curriculum planning.

The College of Nursing participates as a receiving institution in the Iowa Statewide Articulation Plan for Nursing Education: RN to Baccalaureate.

Students may transfer course work completed at other colleges and universities to satisfy prerequisites and degree requirements other than those for the nursing major. Once they satisfy prerequisites, students may complete the RN/B.S.N. in one calendar year in a sequence that begins each summer and includes three clinical and seven nonclinical nursing courses.

The RN/B.S.N. program uses online educational technologies. Face-to-face meetings are limited to physical assessment lab practice and testing each summer, available at support centers across Iowa. Students may be required to do a practicum presentation in fall and spring semesters. Presentations are flexibly scheduled and may be done on site, at a support center, or using online presentation software.

Registered nurses who plan to enter the baccalaureate program should contact the College of Nursing Office of Student Services for information and early advising.

### **Honors**

The College of Nursing Honors Program provides seminars and independent study experience for qualified students. In order to pursue honors studies in nursing, students must have completed the first clinical nursing course and must maintain a University of Iowa g.p.a. of at least 3.33 and a nursing major g.p.a. of at least 3.50.

The honors program enables students to explore subject matter based on individual interests, needs, and goals. It provides opportunities for self-initiative, research experience, and intellectual and personal development, and challenges students to grow and excel. Students who fulfill the requirements of the program graduate with honors in nursing.

### **Certificate or Minor in Aging Studies**

Students in the College of Nursing may participate in the Aging Studies Program, which provides undergraduate students with a multidisciplinary approach to gerontology. Students plan their course of study with their academic advisor in close cooperation with the Aging Studies Program coordinator. Nursing students who successfully complete 21 s.h. of approved course work in aging studies are awarded the Certificate in Aging Studies. Nursing students also may complete a minor in aging studies by taking 15 s.h. outside of their major in courses approved by the Aging Studies Program. See Aging Studies (College of Liberal Arts and Sciences) in the Catalog.

### **Study Abroad**

The College of Nursing advocates study abroad as a rich educational experience for students. Nursing students have the opportunity to encounter another culture directly through the college's cultural nursing experiences abroad. The intent of these regular programs is to introduce students to health care systems in other countries. In addition, students learn about health conditions and circumstances not widely prevalent in the United States (e.g., diphtheria, nutritional deficiencies). For more information, contact the College of Nursing Office of Student Services.

## **Expenses and Insurance**

Students pay University of Iowa student fees throughout the B.S.N. program. They also must purchase uniforms, white shoes, a stethoscope, a watch with a full-sweep second hand, and supplies and materials for required nursing courses. Students arrange and pay for their own health screening requirements, health insurance, and transportation once they are enrolled in clinical nursing courses. Students pay fees that cover the cost of computer testing, criminal background checks, and laboratory equipment. The fees also pay for a professional liability insurance group policy for students who do not yet hold an RN license; see "Professional Liability Insurance" below.

### **Mandatory Health Insurance**

All students must show upon admission to the College of Nursing and each August afterward verification that they have obtained and currently hold health insurance sufficient to satisfy the following minimal standards of coverage (or an equivalent alternative care plan):

- \$250,000 lifetime benefit;

- coverage for hospitalization, including coverage for room and board, physician visits, surgeon services, X-ray, and lab services;

- inpatient deductible under an individual policy not exceeding \$500 per admission and a 20 percent copayment/coinsurance requirement;

- coverage for medically necessary care, including both physician services for treatment of emergencies, illness, accident, injury, X-ray, and lab services.

### **Professional Liability Insurance**

All students in the College of Nursing are required to carry professional liability insurance throughout the duration of their program. Agencies in which students are involved in clinical practicums require that students have insurance coverage. The College of Nursing provides entering students with information about this requirement. Students who hold an RN license must show verification that they have purchased and currently hold professional liability insurance with a minimum coverage of \$1 million per single occurrence. Students without an RN license are covered by a group policy supported by student fees.

## **Undergraduate Student Organizations**

All College of Nursing undergraduate students are members of the National Student Nurses' Association and its local chapter, the Iowa Association of Nursing Students. The University of Iowa Association of Nursing Students (UIANS) provides opportunities for professional growth and development in nursing. UIANS representatives are members of the University of Iowa Student Government (UISG), and there is a UIANS representative on the Academic Council of the College of Nursing.

The University of Iowa Minority Student Nurse Association (UIMNSA) provides opportunities for professional growth and development for students from populations underrepresented in nursing. UIMNSA board members are members of the University of Iowa Student Government.

University of Iowa Men in Nursing (UIMiN) provides opportunities for nurses to meet, to recruit, to talk, and to influence the environment for men in nursing. It is open to all nursing students.

## **Admission to the B.S.N.**

B.S.N. students may complete their entire program at Iowa, enrolling for their first year in the College of Liberal Arts and Sciences. Contact the College of Nursing or the University of Iowa Office of Admissions. Highly qualified applicants may be admitted to the College of Nursing directly from high school; see "B.S.N. Early Admission Program" below.

To apply for admission to the B.S.N. program in nursing, each student must qualify for admission to The University of Iowa and must meet these requirements:

- completion of all prerequisites for admission to the College of Nursing, or current enrollment in any remaining prerequisites;

a grade of C or higher in all prerequisite courses;

a g.p.a. of at least 2.70 (recommended).

Applicants whose first language is not English must score at least 550 (paper-based), 213 (computer-based), or 81 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Registered nurses educated outside the United States are required to present verification of having passed the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination and specified Excelsior baccalaureate nursing examinations. They also must meet the University's English proficiency requirements.

A criminal background check is conducted for all prelicensure and undergraduate students upon admission.

#### **HIGH SCHOOL BACKGROUND**

Currently, admission to the College of Nursing requires completion of the following minimum high school course requirements.

**English:** four years

**Foreign language:** two years of the same language

**Mathematics:** three years (a minimum of algebra I-II and geometry)

**Science:** one year of biology, one year of chemistry, and at least one semester of physics

**Social science:** three years

**Other college preparatory courses** selected with the help of the high school counselor

Effective for fall 2012 entry to the B.S.N., some high school background requirements will change: four years of the same foreign language and one full year of physics will be required.

#### **PRECLINICAL BACKGROUND**

Currently, students must complete the following requirements before they may begin nursing course work.

**Rhetoric:** 4 s.h. or its equivalent

**Mathematics:** three years of high school mathematics, or a score of 26 or higher on the mathematics battery of the ACT, or completion of a college mathematics course comparable to or more advanced than 22M:008 Intermediate Algebra

**Physics:** one-half year of high school physics or the equivalent

**Other course work:** animal biology, inorganic chemistry I, microbiology, human anatomy, psychology, and human development and behavior

Effective for fall 2012 entry to the B.S.N., some preclinical background requirements will change, as follows:

**Physics:** one full year of high school physics or the equivalent

**Other course work:** animal biology, inorganic chemistry, organic chemistry, microbiology, human anatomy, human physiology, math for the biological sciences, sociology, psychology, human development and behavior, economics, all General Education requirements, and all non-nursing electives

#### **AMERICAN COLLEGE TESTS**

All entering first-year and undergraduate transfer students who have earned fewer than 24 s.h. when they apply for admission to The University of Iowa must complete the American College Test (ACT) or the Scholastic Aptitude Test (SAT). For information on the ACT, write to ACT Inc., Box 451, Iowa City, Iowa 52243.

#### **B.S.N. Early Admission Program**

Highly qualified applicants may be admitted to the college of Nursing directly from high school through the B.S.N. early admission program. Early admission applicants must qualify for admission to The University of Iowa. They must have an ACT composite score of at least 28, an ACT science reasoning score of at least 25, and a g.p.a. of 3.8 or higher.

Currently, they also must have completed the following minimum high school course requirements.

**English:** four years

**Foreign language:** two years of the same language (Effective fall 2012 four years of the same foreign language will be

required.)

**Mathematics:** three years, including algebra I, algebra II, and geometry

**Science:** one year of biology, one year of chemistry, and at least one semester of physics

**Social studies:** three years

Effective for fall 2012 entry to the B.S.N., some high school background requirements will change: four years of the same foreign language and one full year of physics will be required.

### **Core Performance Standards**

Applicants to the College of Nursing are expected to be capable of completing the entire nursing curriculum and of earning a B.S.N. The nursing curriculum requires demonstrated proficiency in a variety of cognitive, problem-solving, manipulative, communicative, and interpersonal skills. Therefore, College of Nursing students must meet the following performance standards.

- Possess and use critical thinking skills sufficient for clinical judgment (e.g., identify cause-effect relationships in clinical situations, develop nursing care plans)
- Demonstrate interpersonal abilities sufficient for interaction with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds (e.g., establish rapport with patients, clients, colleagues)
- Possess and use communication skills sufficient for interacting with others (e.g., explain treatment procedures, initiate health teaching, observe patient/client responses, document and interpret nursing actions and patient/client responses)
- Administer cardiopulmonary procedures and other clinical procedures necessary for nursing care; calibrate and use equipment, position patients and clients
- Possess the tactile abilities (with or without an assistive device) sufficient for performing physical assessment (e.g., perform palpation functions of physical exam and those related to nursing interventions)

The examples above are not all-inclusive.

Applicants who may not meet these standards are encouraged to contact the College of Nursing associate dean for academic affairs for a personal interview.

### **Selection**

The college's admission committee recommends to the dean the applicants who appear to be best qualified. Fulfillment of minimum admission requirements does not guarantee admission to the College of Nursing. The committee may require personal interviews. A physical examination report and specific health screening requirements must be on file at the University of Iowa Student Health Service 10 days before the class opens for the first clinical nursing course.

### **Application Deadlines**

Fall semester (for pre-licensure B.S.N. students only): April 1

Summer session (RN-BSN students only): January 15

### **Financial Aid**

In addition to general assistance available to University students, there are assistance programs specifically for nursing students. Information about financial aid is available from the University's Office of Student Financial Aid.

## **Graduate Programs**

The college offers the Master of Science in Nursing (M.S.N.), including an entry-into-practice M.S.N. program, the Doctor of Nursing Practice, and a Doctor of Philosophy in nursing. The college also offers a joint M.S.N./M.P.H. with the College of Public Health. See "Joint M.S.N./M.P.H." later in this section.

Graduate students in the College of Nursing must adhere to all Graduate College policies regarding academic standing, probation, and dismissal; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

### **Master of Science in Nursing**

The Master of Science in Nursing (M.S.N.) requires a minimum of 33 s.h. of graduate credit. The program is designed to build on general and professional baccalaureate study. Graduation from an approved baccalaureate degree program is one of the admission requirements. Options are available for registered nurse applicants with a

nonaccredited B.S.N., a non-nursing B.A. or B.S., or a B.S.N. from a foreign country.

The college also offers the entry-into-practice M.S.N.: Clinical Nurse Leader program for individuals who hold a bachelor's or more advanced degree in a field other than nursing and who do not hold an RN license. The program's graduates are prepared for RN licensure and clinical nursing leadership, including faculty positions in Iowa community colleges.

The M.S.N. ordinarily requires four semesters of full-time study. Part-time study is available for some specializations. The entry-into-practice M.S.N.: Clinical Nurse Leader program requires six sessions of full-time study; students begin the program in spring semester and finish at the end of the next year's summer session.

The M.S.N. curriculum consists of a core component and areas of specialization enhanced by supporting course work in the College of Nursing or in related disciplines. Students may take two to three supporting courses related to their nursing specialization in the social, behavioral, or biological sciences or in business administration, law, or health management and policy.

Students must maintain a g.p.a. of at least 2.75 and must successfully complete a thesis, project, or portfolio.

The M.S.N. curriculum consists of the following components.

#### **NURSING SPECIALIZATION**

Specialization allows students to build a specialized area of knowledge and practice that extends beyond the advanced nursing core. Students may pursue clinical specialization in genetics nursing or occupational health nursing. Nonclinical specializations include nursing administration, nursing education, and the M.S.N./M.P.H. joint degree program. Some areas of specialization require special acceptance procedures. Students with unique career goals have the option of modifying their plans of study under the direction of their academic advisors.

#### **SUPPORTING COURSES**

Supporting course work varies with each specialization area. Supporting courses can be selected from varied academic departments at the University and should relate to the student's interest and specialization area.

Some specialization areas require students to take some courses in other departments. For example, students in the administration option select supporting courses from business, health management and policy, or allied study areas. Students select supporting course work in collaboration with their faculty advisors.

#### **THESIS, PROJECT, OR PORTFOLIO**

All M.S.N. students must take a final examination. Students satisfy this requirement by completing a thesis, project, or portfolio. Students, with their advisors, select the option that best serves their individual career objectives.

The master's thesis is a systematic inquiry into a nursing problem. Methodologies may include historical research, case studies, analytical literature review, surveys, or experimental studies that meet the requirements of the University of Iowa Graduate College. Students earn a total of 5 s.h. for the thesis.

The master's project is an in-depth synthesis and analysis of a chosen topic in nursing. The 15-to-20-page paper of publishable quality may not replicate previous course assignments. Students earn 2-3 s.h. for the project.

The master's clinical portfolio is a written description of the clinical experiences that contributed to the development of the advanced practice role and a self-assessment of clinical competencies and areas for future growth. Students in the clinical nurse leader and clinical specialty tracks are eligible to complete the clinical portfolio.

The master's professional portfolio is a written description of practicum experiences and competencies. Students in the nonclinical tracks are eligible to complete the professional portfolio.

Students earn no credit for the portfolio.

#### **Admission**

Applicants to the M.S.N. must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Applicants must have a g.p.a. of at least 3.00.

In addition, the College of Nursing requires the following:

- a bachelor's degree with a major in nursing from an accredited program (options are available for registered nurse applicants with a non-accredited B.S.N., a non-nursing B.A. or B.S., or a B.S.N. from a foreign country);

- the legal requirements for the practice of nursing in Iowa;

current written recommendations from three persons familiar with the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required);

current résumé, goal statement, and supplemental/information form;

completion of an upper-division nursing research course in the undergraduate program (not required for entry-into-practice M.S.N.: Clinical Nurse Leader applicants); and

successful completion of an upper-level statistics course (or equivalent) within five years of registering for 096:211 Research for Evidence-Based Practice I.

Applicants whose first language is not English must score at least 550 (paper-based), 213 (computer-based), or 81 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Applications for admission to the M.S.N. program are reviewed once a year. In order to be reviewed, the applicant's file must be complete, with all materials submitted. Application deadlines are as follows:

M.S.N.: October 26

Entry-into-practice M.S.N.: Clinical Nurse Leader (spring admission): June 1

A criminal background check is conducted for all graduate students upon admission.

All Graduate College policies pertaining to academic standing, probation, and dismissal are applicable to graduate students in nursing. Transfer credit applicable to the master's degree program is limited and must be approved by the director of the graduate program in nursing and by the student's advisor. Course work taken 10 years or more before the final examination must be updated, according to University policy.

### **Joint M.S.N./M.P.H.**

The joint Master of Science in Nursing/Master of Public Health requires 60 s.h. The program is designed for students who want to pursue careers that include professional activities in nursing and public health. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the joint degree program. See Master of Public Health Program (College of Public Health) in the Catalog and contact the College of Nursing Graduate Programs Office for more information.

### **M.S.N. and Nursing Home Administrator Licensure**

The nursing home administrator program offers students an efficient option for completing requirements for licensure examination while obtaining a M.S.N. Students may complete the requirements for licensure by supplementing study in adult and gerontology health nursing, adult/gerontology nurse practitioner, or nurse manager.

### **Doctor of Nursing Practice**

The Doctor of Nursing Practice requires 72-78 s.h. The degree is designed for nurses who wish to prepare for leadership roles. The program is intended to be completed in three years of full-time study. Students may arrange with their advisors to study part time. Individuals who have completed an M.S.N. with a nurse practitioner or advanced practice specialty program have the option to complete the D.N.P. with 29-32 s.h. of course work.

In addition to clinical specialization in advanced practice, the D.N.P. program provides education in evidence-based practice, economics, finance, and policy. It includes a practicum as well as didactic courses exploring clinical leadership, public policy and advocacy, specialty systems, change theory, finance and business, and entrepreneurial tools. Students have a number of advanced practice options, including psychiatric/mental health nursing, anesthesia nursing, pediatric nurse practitioner, adult/gerontology nurse practitioner, neonatal nurse practitioner, and family nurse practitioner.

All D.N.P. students complete 12 s.h. of general core courses, including leadership in nursing (3 s.h.), research application (3 s.h.), health policy and economics (3 s.h.), and nursing informatics in nursing and health care (3 s.h.). The advanced practice nursing core consists of 19 s.h. of course work that includes physiology/pathophysiology, health promotion, pharmacology, health assessment, and professional role courses.

D.N.P. students must complete 1,000 clinical hours. Individuals who enter the program having completed an M.S.N. with a nurse practitioner or advanced practice specialty program may transfer the clinical hours from their M.S.N. program to the D.N.P. program. The clinical hours requirement is evaluated for each individual who has completed an M.S.N. with specialty program. Students who completed more than 1,000 clinical hours in an M.S.N. advanced practice program still must complete a number of D.N.P. practicum and capstone project hours determined in consultation with their advisor and the D.N.P. program's director.

Other transfer credit applicable to the D.N.P. is limited and must be approved by the advisor and the D.N.P. program's

director. Transcripts for individuals who have completed an M.S.N. with a nurse practitioner or advanced practice specialty program are evaluated individually.

### Admission

Applicants to the D.N.P. must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Applicants must have a g.p.a. of at least 3.00.

In addition, the College of Nursing requires the following:

- a bachelor's degree with a major in nursing from an accredited program (options are available for registered nurse applicants with a non-accredited B.S.N., a non-nursing B.A. or B.S., or a B.S.N. from a foreign country);
- the legal requirements for a practice of nursing in Iowa;
- current written recommendations from three persons familiar with the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required);
- current résumé, goal statement, and supplemental/information form;
- completion of an upper-division nursing research course in the undergraduate program; and
- successful completion of an upper-level statistics course (or equivalent) within five years of registering for 096:211 Research for Evidence-Based Practice I.

Applications must include transcripts for all undergraduate and graduate course work. The goal statement and self-assessment should be two or three pages describing the applicant's nurse practitioner clinical specialization interest, the applicant's goals, and how the D.N.P. will influence the applicant's practice.

Applicants whose first language is not English must score at least 550 (paper-based), 213 (computer-based), or 81 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Applications for admission to the D.N.P. program are reviewed once a year. In order to be reviewed, the applicant's file must be complete, with all materials submitted. Application deadline is October 26 for all options except anesthesia nursing, which has a June 1 application deadline. Applicant interviews are required; in some cases, telephone interviews can be arranged.

A criminal background check is conducted for all graduate students upon admission.

Course work taken 10 or more years before the student plans to graduate from the D.N.P. program must be updated, according to University policy.

Post M.S.N./N.P. graduates from nurse practitioner programs at other schools must provide verification of completed clinical hours from their school's nurse practitioner director.

### Doctor of Philosophy

The Doctor of Philosophy in nursing requires a minimum of 72 s.h. of graduate credit. The program prepares scientists to conduct research in nursing, extend their knowledge base relevant to nursing, and contribute to the body of knowledge in the discipline of nursing. Ph.D. study requires expertise in clinical nursing and competence in research that relates to nursing practice and health care delivery.

B.S.N. students who intend to pursue a Ph.D. in nursing may be eligible to enter the doctoral program directly, once they have completed the B.S.N. Contact the College of Nursing Graduate Programs Office for more information.

Students choose from the curriculum's five focal areas: nursing in aging, nursing administration, nursing informatics, child and family nursing, and an individualized focus. Graduates of the program aspire to careers as researchers, college and university faculty members, consultants, and as leaders in the nursing profession, in health policy-making agencies, and in health care delivery systems.

All students must take the following courses.

096:340 Nursing Theory Construction I	3 s.h.
096:342 Qualitative Research	3 s.h.
096:344 Quantitative Research	3 s.h.
A graduate-level course in nursing/health informatics	3 s.h.
A graduate-level course in each of two of these areas: health economics, health policy	6 s.h.
Cognate minor courses	12 s.h.
Cognate research sequence: research methods and statistics	9 s.h.
096:490-096:491 Research Practicum-Research Practicum	0 s.h.



B.S.N. graduates who enter the Ph.D. directly must take the following course in addition to those listed above.

096:208 Leadership for Advanced Nursing Practice 3 s.h.

Two masters-level specialization courses, such as one of the following pairs:

096:219-096:220 Primary Care: Infants, Children, and Adolescents I-II 6 s.h.

096:260-096:261 Nursing Systems Administration I-II 6 s.h.

096:280 & 096:284 Primary Care: Adults and Older Individuals I-II 6 s.h.

In addition, all Ph.D. students must take the seminars and practicums appropriate for their focus area.

#### **AGING FOCUS**

096:410 Nursing Research of Biological Phenomena and Interventions for the Elderly 3 s.h.

096:420 Geriatric Mental Health Research 3 s.h.

096:430 Nursing Research in Sociocultural Phenomena and Interventions for the Elderly 3 s.h.

096:440 Research Utilization Residency in Care of the Elderly 3 s.h.

#### **NURSING ADMINISTRATION FOCUS**

096:450 Research Seminar in Nursing Administration I: Organizational Systems Concepts 3 s.h.

096:451 Research Seminar in Nursing Administration II: Health Care System Concepts 3 s.h.

096:460 Innovations in Nursing Management 3 s.h.

096:480 Residency in Nursing Service Administration 3 s.h.

#### **NURSING INFORMATICS FOCUS**

096:310 Advanced Nursing Informatics 3 s.h.

096:462 Research in Nursing Informatics I 3 s.h.

096:465 Residency in Nursing Informatics 3 s.h.

One additional course chosen by advisor

#### **CHILD AND FAMILY NURSING FOCUS**

096:405 Family Nursing Research 3 s.h.

096:445 Research Residency in Child and Family Nursing 3 s.h.

Two of these:

096:415 Genetic Nursing Research 3 s.h.

096:425 Research in Sociocultural Perspectives for Family and Women's Health 3 s.h.

096:435 Research in Cognitive and Behavioral Interventions for Children 3 s.h.

#### **COMPREHENSIVE EXAM, DISSERTATION**

All Ph.D. students must complete a written comprehensive examination. They earn 12 s.h. for work on the dissertation by completing 096:497 Dissertation Research Seminar I: Scholarship Development, 096:498 Dissertation Research Seminar II, and 096:499 Dissertation Research, which includes a dissertation prospectus, the dissertation, and an oral defense.

#### **Admission**

All applicants to the Ph.D. program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Applicants must have

taken the Graduate Record Examination (GRE) General Test, preferably within the preceding five years. They must have completed an accredited basic nursing program and must hold a current license to practice nursing (special license for international students). Applicants must submit:

- a two-to-three-page statement describing their educational objectives and identifying a focal area for their doctoral study;

- three recommendations from nursing professionals that speak to the applicant's potential as a scholar;

- a current résumé or curriculum vitae; and

- a complete transcript of all college programs and courses.

Applicants who hold a master's degree must have a g.p.a. of at least 3.00. They must have successfully completed at least one graduate-level course in research and inferential statistics (3 s.h.) and at least one graduate-level course in information systems/informatics (3 s.h.).

B.S.N. graduates who apply directly to the Ph.D. program must have a grade-point average of at least 3.00 and must have successfully completed an upper-division course in statistics. They also must submit a strong statement of their research focus and career goals.

Applicants whose first language is not English must score at least 550 (paper-based), 213 (computer-based), or 81 (Internet-based) on the Test of English as a Foreign Language (TOEFL).

Applications for admission to the Ph.D. program are reviewed once a year. In order to be reviewed, the applicant's file must be complete, with all materials submitted. Application deadline is November 15.

A criminal background check is conducted for all graduate students upon admission.

### **Certificate in Advanced Practice Nursing**

The Certificate in Advanced Practice Nursing allows nurses who hold a master's degree to pursue advanced clinical training in one of four specialty tracks: pediatric nurse practitioner, adult/gerontology nurse practitioner, family nurse practitioner, or psychiatric/mental health nursing. Certificate requirements include advanced clinical core courses and a sequence of specialty courses. Students formulate a plan of study with the advice and counsel of their advisor and/or the director of the master's program. Successful completion of the specialty sequence qualifies a student to sit for professional certification examinations. Completion of the certificate program is noted on the student's transcript.

### **Certificate in Health Informatics**

The Certificate in Health Informatics is open to graduate students. The certificate requires 20 s.h. in courses numbered 100 or above, including two required core courses.

Health Informatics I (096:283) 3 s.h., is an interdisciplinary course intended primarily for graduate students, faculty, and health care clinicians. It explores decision-making processes and technological tools to support health care administration, management, and practice.

Health Informatics II (096:289) 3 s.h., is an interdisciplinary course focused on field projects related to one or more health informatics topics under the direction of established researchers/educators. It includes a seminar.

Students select electives (9-14 s.h.) from outside their major program of study. For example, a student working toward a nursing degree and the Certificate in Health Informatics can use only non-nursing electives for the certificate. Students choose electives with the guidance of their academic and certificate advisors.

Students who earn credit for a thesis, project, or independent study in their major program of study may apply the credit to the Certificate in Health Informatics if the certificate advisor determines that the subject matter is pertinent.

### **Professional Improvement**

Registered nurses who wish to take University of Iowa course work to fulfill professional or personal improvement objectives may request admission in the professional improvement (PI) category. This admission status allows students to take some graduate courses at the University without committing to a degree objective.

Admission as a nursing professional improvement student requires a formal application, including submission of three current written recommendations and all academic transcripts. GRE General Test scores, required by the University, must be submitted before the end of first semester registration. Deadlines are July 15 for fall semester admission, December 1 for spring semester admission, and May 1 for summer session admission.

Since acceptance as a PI student does not influence acceptance to the M.S.N. or Ph.D. programs, PI students interested in master's or doctoral study in nursing must follow the application procedures for those programs (see the

appropriate sections above). Only 6 s.h. or two required nursing core courses taken under professional improvement status may be used to fulfill M.S.N. requirements. Professional improvement students may not enroll in Ph.D. courses.

## Student Organizations

All College of Nursing undergraduate students are members of the National Student Nurses' Association and its local chapter, the Iowa Association of Nursing Students. The University of Iowa Association of Nursing Students (UIANS) provides opportunities for professional growth and development in nursing. UIANS representatives are members of the University of Iowa Student Government (UISG), and there is a UIANS representative on the Academic Council of the College of Nursing.

The University of Iowa Minority Student Nurse Association (UIMNSA) provides opportunities for professional growth and development for students from populations underrepresented in nursing. UIMNSA board members are members of the University of Iowa Student Government.

University of Iowa Men in Nursing (UIMiN) provides opportunities for nurses to meet, to recruit, to talk, and to influence the environment for men in nursing. It is open to all nursing students.

The college's Association of Graduate Nursing Students (AGNS) provides opportunities for professional growth sharing of research, and representation on varied college and University committees.

## Continuing Education

The college offers nonacademic, short-term continuing education programs for registered nurses. Continuing Education Units (CEUs) are awarded for each program on the basis of one unit per 10 clock hours of instruction. The College of Nursing is approved by the Iowa Board of Nursing as an approved provider, number 1, and is accredited by the American Nurses Association Board of Accreditation and the National Association of Pediatric Nurse Associates and Practitioners.

## Facilities

The Nursing Building is centrally located on the University's main campus, in close proximity to the Carver College of Medicine, the College of Dentistry, the College of Pharmacy, the College of Public Health, University of Iowa Hospitals and Clinics, Bowen Science Building, and the Hardin Library for the Health Sciences. Completed in 1971, the building consists of five floors with varied and specialized facilities. Administrative offices are located on the first floor. Faculty offices are located on every floor except the second, which is used entirely for classrooms and laboratories.

The Nursing Clinical Education Center provides clinical experiences for nursing students and serves as a resource for the University's professional nursing staff. Opened in 2006 at University of Iowa Hospitals and Clinics (UIHC), the center offers the latest technology in an 11-room clinical simulation lab. It also has an 86-seat classroom, a resource library, and gathering spaces for private study. The center is operated collaboratively by the College of Nursing and the UIHC Department of Nursing Services and Patient Care.

## College of Nursing Courses

### Primarily for Undergraduates

#### **096:029 First-Year Seminar**

1 s.h.

Introduces first-year undergraduate students to the intellectual life of the University of Iowa; provides an opportunity to work closely with a faculty member or senior administrator; seminars help students make the transition to college-level learning through active participation in their own learning.

#### **096:030 Human Development and Behavior**

3 s.h.

Normal developmental transitions experienced by individuals and family systems throughout the lifespan, including physical, cognitive, and social-emotional development. Prerequisites: 031:001. Same as 153:030.

#### **096:031 Adult Development and Aging**

1 s.h.

Completes the Human Development Life Span course requirement for students who have already had a child-adolescent development class; focus on physical, cognitive, and personality development in the adult; presents pressing social issues. Requirements: elementary or general psychology, and child development.

#### **096:108 Basic Aspects of Aging**

3 s.h.

Social, psychological, and biological aspects; demographics of aging, health, economic issues, primary relationships, social services. GE: Social Sciences. Same as 042:108, 153:108, 169:108.

**096:109 Leadership U** 1-3 s.h.  
Repeatable.

**096:112 Human Sexuality, Diversity, and Society** 1-3 s.h.  
Physiological, psychological aspects; parameters defined by students, instructor. Same as 042:112.

**096:114 Human Pathophysiology: Organ Systems** 3 s.h.  
Normal and abnormal functioning of human cells, tissues, and organ systems over the lifespan; focus on cardiovascular, respiratory, renal, gastrointestinal, endocrine, and reproductive systems, and on processes of metabolism and homeostasis of the internal milieu. Requirements: approved courses in biology, inorganic chemistry, microbiology, and human anatomy.

**096:115 Human Pathophysiology: Cellular/Neurology/Immunology** 3 s.h.  
Normal and abnormal functioning of human cells, tissues, and organ systems over the lifespan; focus on processes of communication, control, defense, and movement. Requirements: approved courses in biology, inorganic chemistry, microbiology, and human anatomy.

**096:116 Introduction to Human Genetics** 3 s.h.  
Introduction to organization of the human genome and basic principles of inheritance in humans; cells and development, chromosome structure and function, gene structure and function, genes in pedigrees and populations, implications of genetic variation on health.

**096:118 Pathophysiology** 3 s.h.  
Abnormal physiological health transitions; disorders in cells, organs; systems involved in vegetative functioning and biological defense of the human organism. Requirements: one course each in anatomy, chemistry, microbiology, physics, physiology, and psychology.

**096:119 Neurological and Behavioral Pathology** 1-2 s.h.  
Abnormal physiological and psychological health transitions that have well-documented physiological and/or behavioral bases; focus on neurological and behavioral disorders. Corequisites: 096:118, if not taken as a prerequisite.

**096:124 Pharmacotherapeutics in Nursing** 3 s.h.  
Basic principles of pharmacotherapeutics and pharmacologic interventions; focus on mechanism of drug actions in patient treatment. Prerequisites: 096:114 and 096:115.

**096:125 Health Disparities and Cultural Competence** 2-4 s.h.  
Characteristics, causes, and effects of health disparities in the U.S. health care system; foundation for development of knowledge, attitudes, and skills required of culturally competent health care providers; definitions and models of cultural competence, characteristics of culturally effective practitioners and workplaces; health disparities among specific populations, evidence for cultural competence as a remedy; taking a culturally appropriate history; working with interpreters; legal and professional imperatives for cultural competence. Same as 046:377, 172:135.

**096:126 Communication for Health Professionals** 2 s.h.  
The communication process in health care settings; emphasis on theory-based strategies to improve communication with individuals, families, other health care professionals.

**096:127 Health Assessment Across the Life Span** 4 s.h.  
Knowledge and skills health professionals need to perform holistic health assessments of individuals across the life span; emphasis on history taking, physical assessment skills; laboratory practices. Requirements: admission to the College of Nursing and courses in anatomy, human development and behavior, and animal biology.

**096:130 Teaching and Learning Online** 3 s.h.  
Synthesis and critical evaluation of current knowledge regarding use of online learning as a tool; empirical research, best practices, and available resources to support effective implementation and management of online learning; skill development and practice; web-based course.

**096:134 Basic Concepts of Nursing Care** 4 s.h.

Physiological and behavioral concepts, nursing interventions, and activities across settings and populations; based on nursing interventions classification taxonomy. First in a two-course sequence. Corequisites: 096:114 or 096:115, and 096:127, if not taken as prerequisites. Requirements: nursing major.

**096:135 Complex Concepts of Nursing Care** 4 s.h.

Continuation of 096:134; physiological and behavioral concepts, nursing interventions, and activities across settings and populations. Prerequisites: 096:134. Corequisites: 096:136, 096:114 or 096:115, and 096:124, if not taken as prerequisites. Requirements: nursing major

**096:136 Core Clinical Practicum** 4 s.h.

Acute care of adult clients in the clinical setting; in-depth practicum experience applying basic and complex concepts of nursing care; focus on clinical decision-making skills. Prerequisites: 096:126, 096:127, and 096:134. Corequisites: 096:135.

**096:137 Nursing Care of the Patient in Pain** 3 s.h.

Assessment, pharmacological and nonpharmacological nursing intervention, evaluation of acute, chronic-benign, and chronic-malignant pain. Requirements: RN license.

**096:138 Nursing Care of the Patient with Cancer** 3 s.h.

Basic understanding of the physiology of cancer and various treatment modalities, nursing interventions commonly used with cancer patients and their families, and psychosocial issues in cancer. Requirements: 096:124 and 096:135, or RN/BSN enrollment.

**096:139 Parent-Child Nursing** 3 s.h.

Health promotion, maintenance, and restoration for parents, infants, children, and adolescents in childbearing and child-rearing families. Prerequisites: 096:135. Corequisites: 096:124, if not taken as a prerequisite.

**096:140 Parent-Child Nursing Practicum** 3 s.h.

Principles of health promotion, maintenance, and restoration applied among parents, infants, children, and adolescents in childbearing and child-rearing families. Prerequisites: 096:135 and 096:136. Corequisites: 096:124 and 096:139, if not taken as prerequisites.

**096:141 Gerontological Nursing** 3 s.h.

Nurse's role in promoting, maintaining, and restoring the health of aging adults; nursing science applied to care of older adults in diverse settings. Prerequisites: 096:135. Corequisites: 096:124.

**096:142 Gerontological Nursing Practicum** 3 s.h.

Nursing process applied to promote, maintain, and restore health of older adults; opportunities to provide nursing care to well elderly and to acutely and/or chronically ill elderly in a variety of settings. Prerequisites: 096:135 and 096:136. Corequisites: 096:124 and 096:141, if not taken as prerequisites.

**096:143 Research for Nursing Practice** 1-3 s.h.

Introduction to the concepts and process of nursing research; focus on critique of published research and application to nursing practice. Prerequisites: 096:050. Requirements: an approved statistics course.

**096:146 Health Promotion for Older Adults** 3 s.h.

Problems, strategic efforts toward long-term goal of health promotion; disease prevention; slowing the decline caused by chronic conditions to extend independent, rewarding lives. Same as 153:146, 169:146.

**096:147 End-of-Life Care for Adults and Families** 2-4 s.h.

End-of-life issues in care of adults, older adults, and their families. Requirements: 096:135 and 096:136, or RN standing. Same as 046:146, 050:147, 153:147.

**096:150 Independent Study** arr.

Supervised study designed for individual undergraduate students.

**096:151 Honors Independent Study** 1-3 s.h.

Supervised study designed for individual honors students.

**096:152 Honors Seminar** 1 s.h.

Supervised study designed for individual honors students.

- 096:153 Community and Public Health Nursing Theory: Generalist** 3 s.h.  
Nursing's role in the relationship between community conditions and public health; principles of public health with nursing knowledge and skills to address health needs of individuals, families, communities, populations. Prerequisites: 096:135. Corequisites: 096:154.
- 096:154 Community and Public Health Nursing Practicum** 3 s.h.  
Application of public health principles with nursing knowledge and skills to address the health needs of communities and populations. Prerequisites: 096:135 and 096:136. Corequisites: 096:124 and 096:153.
- 096:155 Psychiatric/Mental Health Nursing** 3 s.h.  
General principles and practices of psychiatric/mental health nursing; psychiatric disorders, populations at risk, continuity of care, problems in daily living. Prerequisites: 096:135. Corequisites: 096:124, if not taken as a prerequisite.
- 096:156 Psychiatric/Mental Health Nursing Practicum** 3 s.h.  
Nursing process used to deliver nursing care to individuals and families with mental illness in a variety of clinical settings; focus on promotion, maintenance, restoration of the mental health of individuals and families. Prerequisites: 096:135 and 096:136. Corequisites: 096:124 and 096:155, if not taken as prerequisites.
- 096:157 Nursing Leadership and Care Management** 3 s.h.  
Analysis of nursing leadership, care management, and models of care in the context of society and the interdisciplinary health care system. Requirements: senior standing in nursing.
- 096:158 Clinical Nursing Internship** 5 s.h.  
Independent internship in one of a variety of health care settings to promote role transition, lifelong learning; emphasis on integration and application of knowledge and skills to design, provide, manage, and coordinate care. Requirements: senior standing in nursing.
- 096:159 Contemporary Nursing Practice Issues** 3 s.h.  
Identification, exploration, analyses of selected issues in nursing and health care; impact of significant historical, social, political, genetic, legal, and ethical factors on development of the nursing discipline. Requirements: senior standing in nursing.
- 096:163 Information Management and Patient Care Technology in Practice** 3 s.h.  
Information management, patient care technology; information systems for quality improvement data, regulatory reporting; range of technologies and infrastructure of evidence-based information for clinical care, including patient monitoring systems, medication administration systems, longitudinal electronic records, clinical decision support tools, and other data gathering devices to support patient care; open to continual learning. Prerequisites: 096:136. Requirements: admission to the prelicensure BSN program.
- 096:168 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 024:147, 032:127, 042:157, 06J:147, 06T:144.
- 096:169 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as 024:148, 032:128, 042:158, 06J:148.
- 096:171 Nursing and Society** 3 s.h.  
Introduction to health care systems and the nursing profession; health care systems, resources, financing health care, and health care accessibility in the United States; the creative and scientific processes that underlie and guide the practice of nursing. Requirements: admission to the prelicensure BSN program.
- 096:172 Providing Culturally Congruent Care for Diverse Populations** 3 s.h.

Role of health care professionals in providing care that is culturally congruent with the client's values, beliefs, and traditions; opportunity to build knowledge, attitudes, awareness, and skills necessary in providing culturally congruent care for specific populations; demonstration of essential skills; exploration of personal attitudes, biases; issues and trends that impact delivery of care to specific populations. Offered online. Requirements: sophomore standing.

**096:173 Clinical Inquiry**

4 s.h.

Prerequisites: 22S:101 or 22S:102. Requirements: admission to MNHP program.

**096:175 Issues in International Nursing and Health Care**

3 s.h.

Same as 152:175.

**096:176 Clinical Reasoning**

4 s.h.

Skills to help nontraditional nursing students synthesize, expand, and refine nursing concepts and clinical reasoning competencies; development and application of cognitive and psychomotor skills necessary for performing systematic, holistic, and culturally competent health assessment. Prerequisites: 096:114 or 096:115, and 096:177. Requirements: admission to MSN:CNL program.

**096:177 Therapeutic Nursing Interventions I**

4 s.h.

Physiological and behavioral concepts, nursing diagnoses, interventions, and outcomes across settings and populations; nursing classifications; experience in the laboratory. Prerequisites: 096:114 or 096:115, and 096:176. Requirements: admission to MSN:CNL program.

**096:178 Therapeutic Nursing Interventions II**

4 s.h.

Continuation of 096:177. Prerequisites: 096:176 and 096:177. Corequisites: 096:124. Requirements: admission to MSN:CNL program.

**096:179 Selected Topics in Nursing**

1-2 s.h.

In-depth study of topics in professional nursing practice and health care; workshop format.

**096:180 Intensive Practicum I**

3 s.h.

Applications of health care concepts, nursing diagnoses, interventions, and outcomes presented in 096:176 and 096:177; focus on clinical decision-making skills. Prerequisites: 096:176 and 096:177. Corequisites: 096:124 and 096:178. Requirements: admission to MSN:CNL program.

**096:181 Clinical Instruction in Nursing Education**

3 s.h.

Role and functions of the nurse educator in the clinical setting; development of teaching strategies and learning activities that support effective clinical and laboratory instruction; evidence-based teaching and evaluation practices; how to incorporate the core concepts of critical thinking for clinical decision-making, effective communication, and cultural competence into clinical experiences; learners with diverse learning styles and backgrounds; ethical and legal implications in clinical teaching and evaluation of learning; technology and emerging trends that impact teaching in the clinical setting. Requirements: RN-BSN or graduate standing.

**096:182 Alternative and Complementary Medicine**

arr.

Requirements: (for 046:105) P4 standing. Same as 046:105, 078:210.

**096:183 Intensive Practicum II**

3 s.h.

Experience in varied acute and community-based settings; opportunity to apply principles to the care of diverse populations, consistent with the three specialty theory courses; proficiency with advanced care management interventions and technologies. Prerequisites: 096:180. Corequisites: 096:139, 096:141, and 096:155. Requirements: admission to MSN:CNL program.

**096:184 Hairitage: African American Women's Hair Culture**

2-3 s.h.

Hair and its centrality to the experience of women of African descent; emotional, political, economical, and historical significance; political, legal, and educational implications; connections to ideas of aesthetics, race relations, family dynamics, consumerism, and so forth.

**096:186 Cultural Expeditions in Nursing**

3 s.h.

Multicultural awareness, recognition of specific health care beliefs and values; online course. Prerequisites: 096:135.

**096:187 Legal Issues for Health Care Providers**

3 s.h.

Legal issues faced by health care providers, counselors, and social services providers; administrative and regulatory requirements, civil lawsuits, issues that affect students as providers, advocates, and individuals.

**096:190 Dimensions of Professional Nursing**

3 s.h.

The nursing discipline; identification, exploration, analysis of contemporary issues and trends in nursing; professional roles and responsibilities; the health care environment; importance of nursing science, theory, and research to nursing practice. Requirements: computer literacy and RN/BSN standing.

**096:191 Health Assessment**

4 s.h.

Health assessment of adults; experience demonstrating assessment skills, compiling a health history, conducting a physical exam, and developing nursing diagnoses for clients. Requirements: RN/BSN standing.

**096:194 Leadership and Care Management in Professional Nursing Practice**

3 s.h.

Nursing leadership and management in a dynamic practice environment; focus on context in which nurses practice, leadership and management principles in changing health care system. Prerequisites: 096:192, 096:193, and 096:197; or 096:143.

**096:195 Practicum for Leadership and Care Management in Professional Nursing**

3 s.h.

Experience applying concepts of leadership, management, and evidence-based practice in a variety of settings; development of individualized plan of study for the experience. Prerequisites: 096:192, 096:193, and 096:197; or 096:143. Corequisites: 096:194, if not taken as a prerequisite. Requirements: RN licensure in state of practicum.

**096:196 Special Studies in Nursing**

3 s.h.

Identification, exploration, and analysis of contemporary issues that confront the professional nurse; the practice of nursing, regulation of health care systems, available resources. Prerequisites: 096:192.

**096:198 Rural Clinical Leadership Practicum**

3 s.h.

Nursing leadership preparation; observation of health professional role models, hands-on interdisciplinary experience in a rural Iowa hospital system; complex leadership roles, unique health care needs and opportunities in rural nursing and health care; contact with a faculty mentor by telephone and e-mail; clinical course. Prerequisites: 096:050, 096:051, and 096:136.

**096:199 Intensive Practicum III**

4 s.h.

Intensive clinical experience in nursing care management in collaboration with nurse preceptors; complex, collaborative nursing care management of diverse populations; enhancement of care management skills as a basic foundation for achieving optimal clinical outcomes; experience in application of evidence-based practice, clinical decision making, delegation and supervision, fiscal accounting; focus on interdisciplinary collaboration within complex organizational systems. Prerequisites: 096:139, 096:141, 096:153, 096:155, and 096:183. Requirements: admission to MSN:CNL program.

**Primarily for Graduate Students**

Courses are offered only if minimum enrollments are maintained.

**096:200 Capstone: Clinical Immersion and Microsystem Improvement Leadership**

6 s.h.

Intensive immersion into role and practice expectations of clinical nurse leaders (CNL) at microsystem level; mentoring in design and delivery of care; application of evidence-based practice; collection and evaluation of client-outcomes data; assessment and mitigation of cohort risk; interdisciplinary collaboration; client advocacy; client and staff education; direct provision of care in complex situations; principles of effective use of resources; application of systems thinking to capstone project; improvement science and quality tools to address Institute of Medicine aims for health care improvement. Prerequisites: 096:208, 096:209, 096:263, and 096:266. Requirements: all didactic and clinical courses for general and specialty practice (gerontology, parent-child, mental health, and community); and master's portfolio.

**096:205 Clinical Practicum: Health of Children in Schools**

3 s.h.

Delivery of health care in school settings; educational, legal, cultural, ethical issues in school nursing practice; developmental issues and their relationship to risk factors and the school population's health; application of nursing interventions, evaluation of nursing and educational outcomes; clinical practicum with children in a school setting; seminar, 90 clock hours in clinical practicum. Requirements: MSN enrollment with school health focus.



- 096:208 Leadership for Advanced Nursing Practice** 3 s.h.  
Roles and behaviors for leading others and influencing health care delivery.
- 096:209 Health Systems/Economics/Policy** 3 s.h.  
Global, economic, organizational, political, and technological contexts for advanced nursing practice.
- 096:211 Research for Evidence-Based Practice I** 3 s.h.  
Opportunity for clinicians to develop proficiency in use of research- and evidence-based practice; essentials of the research process, qualitative and quantitative research, components of evidence-based practice; acquisition of knowledge and skills necessary for research (knowledge) utilization initiatives and application of evidence-based practice principles in clinical settings; identification of appropriate research questions, synthesis of knowledge base for evidence-based practice, revision of clinical practice guidelines, and evaluation of research utilization and evidence-based practice initiatives. Requirements: successful completion of two posttests for 096:143.
- 096:212 Research for Evidence-Based Practice II** 3 s.h.  
Innovation models applied to nursing practice; implementation and evaluation research applied to planning, initiating, and monitoring best-care practices; factors that impede or facilitate evidence-based practice changes within and across health care systems; strategies for successful implementation of evidence-based practice change in organizations; students participate in evidence-based implementation process. Requirements: DNP enrollment or 096:211.
- 096:213 Physiology and Pathophysiology for Advanced Clinical Practice** 3 s.h.  
Regulation of cellular, organ, and system function; regulation of internal milieu; functional interrelationships among body systems; cellular and body-wide mechanisms of self-defense; illustrative examples of pathological phenomena. Requirements: courses in anatomy, physiology, microbiology, and pathophysiology.
- 096:214 Advanced Health Assessment for Clinical Practice** 3 s.h.  
Knowledge and skills necessary for advanced health assessment of individuals and families across the life span. Requirements: graduate standing in the College of Nursing.
- 096:216 Group Facilitation in Human Sexuality** 0-3 s.h.  
Principles of group dynamics, group process; leadership skills for small, task-oriented discussion groups on human sexuality. Prerequisites: 042:112. Same as 042:216.
- 096:219 Primary Care: Infants, Children, and Adolescents I** 2-3 s.h.  
Enhancement of clinical knowledge and skills for infant, child, adolescent care. Prerequisites: 096:213, 096:214, 096:222, and 096:224.
- 096:220 Primary Care: Infants, Children, and Adolescents II** 3 s.h.  
Enhancement of clinical knowledge and skills for infant, child, adolescent care; development and refinement of knowledge and skills in primary health care delivery. Requirements: (for 096:220) 096:219 or 096:280; (for 070:201) 096:219 and 096:280. Same as 070:201.
- 096:222 Health Promotion and Intervention for Primary Care** 3 s.h.  
Theories of health promotion in primary care, levels of prevention, epidemiological principles and methods; specific interventions designed to maintain, promote, optimize health across the lifespan.
- 096:223 Clinical Applications for Health Assessment and Health Promotion** 1-3 s.h.  
Advanced health assessment and promotion skills applied to planning, implementing, and evaluating interventions designed to maintain, promote, and optimize health across the lifespan. Corequisites: 096:214 and 096:222, if not taken as prerequisites. Requirements: graduate standing in the College of Nursing.
- 096:224 Pharmacotherapeutics for Advanced Clinical Practice** 4 s.h.  
Pharmacologic, pharmacokinetic, and pharmacodynamic principles essential for advanced clinical practice; classes of drugs frequently used in management of common clinical conditions; legal considerations in prescriptive authority. Prerequisites: 096:213.
- 096:225 Biopsychosocial Dimensions of Healthy Aging** 3 s.h.

Biopsychosocial dimensions of healthy aging in individuals; healthy aging, including behavior and normal age-related physiological changes, psychosocial and cultural implications of aging; expansion of gerontological nursing based on integration of theory, research, standardized nursing languages.

**096:228 Advanced Practice Genetic Nursing I** 1-3 s.h.

Advanced practice genetic nursing for those at risk for genetic conditions or a condition with a genetic component; application of genetic/genomic science to nursing practice including chromosomal variations; Mendelian and nontraditional inheritance; preconception and prenatal health care in genetics; dysmorphology examinations; developmental delay associated with genetic conditions; application of molecular methodology to clinical and research practice; beliefs about race and ethnicity in the genomic era; ethical, legal, and social implications of genetic nursing. Prerequisites: 096:214 and 096:223. Corequisites: 096:116. Requirements: enrollment in APN-Genetics MSN program.

**096:229 Advanced Practice Genetic Nursing Practicum I** 2 s.h.

Integration and application of advanced practice in genetic nursing assessment and counseling skills with individuals and families. Corequisites: 096:228.

**096:230 Advanced Practice Genetic Nursing II** 1-3 s.h.

Advanced practice genetic nursing for individuals, families, and populations who are at risk for genetic conditions or who have a condition with a genetic component; application of genetic science to nursing assessments, interventions, and outcomes; genomics and the delivery of health care in primary and public health; pharmacogenetics; genomic therapeutics; childhood onset genetic disorders; adult onset genetic disorders; part two of the Advanced Practice Nursing Genetics course series. Prerequisites: 096:116, 096:214, 096:223, and 096:228. Requirements: enrollment in APN-Genetics MSN program.

**096:231 Advanced Practice Genetic Nursing Practicum II** 2 s.h.

Application of advanced practice in genetic nursing; emphasis on conditions that present in the adult years and the nurse's role in an interdisciplinary genetic delivery system. Prerequisites: 096:229. Corequisites: 096:230.

**096:232 Professional Aspects of Clinical Nursing Practice** 3 s.h.

Advanced nursing role competencies and related settings in which advanced nursing practice occurs; history and development, core competencies, advanced practice roles, practice management issues. Prerequisites: 096:208.

**096:234 Advanced Community Health Assessment** 3 s.h.

Health of communities, process of assessment; emphasis on conceptual models from public health that focus on select populations, community assessment. Requirements: epidemiology course.

**096:235 Advanced Community Health Nursing Practicum I** 2 s.h.

Integration and application of advanced community health assessment knowledge, skills; nurse's role in population-focused practice. Corequisites: 096:234. Requirements: epidemiology course and MSN enrollment.

**096:236 Advanced Community Health Intervention and Evaluation** 3 s.h.

Development, implementation, evaluation of health promotion and disease prevention strategies for select populations, communities. Prerequisites: 096:234.

**096:237 Advanced Community Health Nursing Practicum II** 2 s.h.

Integration and application of knowledge and skills for advanced community health intervention, outcome evaluation. Offered spring semesters of odd years. Corequisites: 096:236, if not taken as a prerequisite. Requirements: MSN enrollment.

**096:238 Intensive Practicum in Advanced Community Health** 3 s.h.

Synthesis of advanced public health theory, nursing knowledge; in-depth experience synthesizing clinical management, role enactment. Offered summer sessions of odd years. Prerequisites: 096:235 and 096:237.

**096:241 The Care of the Frail Elderly** 3 s.h.

Clinical management of the elderly; emphasis on economic considerations, principles of gerontological care, common syndromes, ethical issues; clinical application experience in a long-term care setting. Prerequisites: 096:214, 096:222, and 096:224. Same as 153:241.

**096:246 Nursing Education: Process, Roles, and Strategies** 3 s.h.

Role of nurse educator through study, application of teaching/learning theories; learning tasks of students in nursing education programs. Corequisites: 096:208, if not taken as a prerequisite.

**096:247 Curriculum Development in Nursing Education** 3 s.h.

Societal, educational, professional factors in undergraduate curriculum design; evaluation of components in basic nursing education programs. Prerequisites: 096:246.

**096:250 Psychiatric/Mental Health Nursing Theory I** 3 s.h.

Basic psychological principles, theories related to mental health and intersections between physical and mental health; psychological theory viewed through framework of lifespan development, infancy through adulthood.

**096:251 Psychiatric/Mental Health Nursing Theory II** 3 s.h.

Advanced psychiatric nursing practice with selected populations; definition and expansion of practice based on the integration of theory, standardized languages, research, self-evaluation. Prerequisites: 096:250.

**096:254 Psychiatric/Mental Health Nursing Practice with Groups** 3 s.h.

Experience using group process as a treatment modality; relevance of group intervention models for meeting mental health needs of clients across the life span. Prerequisites: 096:251. Requirements: admission to psychiatric/mental health nursing program.

**096:256 Occupational Health Nursing I** 3 s.h.

Framework for occupational health nursing practice and evolving role of the occupational health nurse; focus on health in the workplace. Prerequisites: 175:230. Corequisites: 096:257.

**096:257 Occupational Health Practicum I** 3 s.h.

Concepts and theories of 096:256 integrated with professional nursing practice in the workplace; clinical focus on environmental perspective of worker health and role of occupational health nurse at worksite. Prerequisites: 175:230 and 173:140. Corequisites: 096:256.

**096:258 Occupational Health Nursing II** 3 s.h.

Framework for implementing and evaluating risk reduction program in the workplace; compliance with regulatory entities in occupational health, quality assurance, surveillance, injury prevention. Prerequisites: 096:206, 096:208, and 096:256. Corequisites: 096:259.

**096:259 Occupational Health Practicum II** 3 s.h.

Transition from student role to clinical specialist role in occupational health nursing; in-depth experience in student's interest area. Corequisites: 096:258.

**096:260 Nursing Systems Administration I** 1-4 s.h.

Leadership concepts and theories, and their application to the nurse administrator's unique roles in community and institutional health care organizations; environmental, technological, and professional influences on structure and functions of health care and nursing service organizations and on the nurse administrator's role; course modules on leading patient care delivery, health care systems, and strategic management; practicum component for nurse administrator students. Prerequisites: 096:208.

**096:261 Nursing Systems Administration II** 1-5 s.h.

Concepts and theories regarding administration of financial, material, and human resources and quality of service, related to selected functions of the nurse administrator; course modules on financial management, human resources management, and outcomes and safety management; financial, human resources, and outcomes management in context of institutional settings (hospitals, nursing homes) or community and ambulatory care settings; influence of economic and social forces on administration of resources, personnel, and quality of service; research in nursing, business, and behavioral science related to administrative functions; practicum component for nurse administrator students. Prerequisites: 096:208 or 096:260.

**096:263 Informatics in Nursing and Health Care** 3 s.h.

Foundation of information management and processing principles that support data, information, and knowledge in provision and delivery of nursing and health care. Requirements: competence in computer use and nursing major.

**096:266 Advanced Case Management: Interdisciplinary Approach** 3 s.h.

Theory, evidence, and strategies for health care coordination and integration examined through analysis of case management and disease management interventions; interdisciplinary approach; leadership for interdisciplinary teamwork; analysis and critique of case and disease management theory and models; synthesis of case and disease management principles as a framework for managing health care outcomes for cost and quality, identification of evidence-based clinical care guidelines; analysis of financial, legal, ethical, and outcomes management components of case and disease management practice. Same as 174:266.

**096:269 Human Physiology, Pathology, and Assessment for Advanced Practice Nursing** 3 s.h.

Detailed study of normal and abnormal human physiology, including mechanisms that govern and support cell, organ, and system function; builds on basic sciences required for undergraduate nursing curriculum and on clinical skills from experience in intensive care setting. Requirements: admission to anesthesia nursing program.

**096:270 Human Anatomy, Physiology, Pathophysiology, and Assessment for Advanced Practice Nursing** 3-6 s.h.

Interrelationships between anatomic structure and physiological function in health and disease; clinical assessment of functional integrity of organ systems; implications of pathophysiology for anesthesia. Requirements: admission to anesthesia nursing program. Same as 060:270.

**096:271 Chemical and Physical Principles of Anesthesia Practice** 3 s.h.

Chemistry and physics, as applied to anesthesia. Requirements: admission to anesthesia nursing program. Same as 116:271.

**096:272 Pharmacology of Anesthesia Practice I** 3 s.h.

Mechanism and action of drugs; focus on pharmacotherapeutic principles, including pharmacokinetics, pharmacodynamics, receptor binding, cell signaling; principles of uptake, distribution, elimination of anesthetic and adjunctive agents. Requirements: grade of 2.67 or higher in 096:271 or 116:271, and admission to anesthesia nursing program. Same as 116:272.

**096:273 Pharmacology of Anesthesia Practice II** 2 s.h.

Continuation of 096:272 or 116:272; vascular, hepatic, renal, GI, endocrine aspects; cellular mechanisms, electrolytes alterations. Requirements: grade of 2.67 or higher in 096:272 or 116:272, and admission to anesthesia nursing program. Same as 116:273.

**096:274 Basic Principles of Anesthesia Practice** 5 s.h.

Overview of anesthesia as a nursing specialty; patient assessment, anesthetic planning and management, pertinent regulations; principles of general and regional anesthesia for surgical specialties. Requirements: (for 096:274) grade of 2.67 or higher in 096:272, or concurrent enrollment in 096:273; (for 116:274) grade of 2.67 or higher in 116:272 and concurrent enrollment in 116:273. Same as 116:274.

**096:275 Advanced Principles of Anesthesia Practice I** 2 s.h.

Special needs and intraoperative management of obstetric, pediatric, and neurological patients; emphasis on pathophysiology, monitoring, ancillary requirements. Prerequisites: 096:274 or 116:274. Requirements: grade of 2.67 or higher in 096:273 or 116:273. Same as 116:275.

**096:276 Advanced Principles of Anesthesia Practice II** 2 s.h.

Special needs and intraoperative management of patients in cardiac, vascular, thoracic, and other surgical specialties; focus on altered pathophysiology, anesthetic requirements; strategies for special surgical situations. Prerequisites: 096:274 or 116:274. Requirements: grade of 2.67 or higher in 096:273 or 116:273. Same as 116:276.

**096:277 Advanced Principles Anesthesia Practice III** 1 s.h.

Acute and chronic pain management; anesthetic problems with concurrent multisystem disease, advanced age, altered physical and/or mental status. Prerequisites: 096:274 or 116:274. Requirements: grade of 2.67 or higher in 096:273 or 116:273. Same as 116:277.

**096:278 Professional Aspects of Anesthesia Nursing Practice** 2 s.h.

Issues in contemporary anesthesia nursing practice: historical development; ethical, legal, and political aspects; evaluation; quality management; responsibilities; career expectations and development; role of professional organization. Requirements: anesthesia nursing program enrollment. Same as 116:278.

**096:279 Equipment and Technological Principles of Anesthesia Practice** 3 s.h.

Anesthesia delivery systems, ancillary equipment, monitoring devices; correlation of applicable chemical and physical principles for use, safe operation, care, and cleaning of anesthesia-related equipment. Prerequisites: 116:271. Requirements: anesthesia nursing program enrollment. Same as 116:279.

**096:280 Primary Care: Adults and Older Individuals I** 3 s.h.

Pathophysiologic alterations and clinical management of associated health care problems in adults, the elderly. Prerequisites: 096:213, 096:214, 096:222, and 096:224.

**096:283 Health Informatics I** 3 s.h.

Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 050:283, 051:187, 056:186, 074:191, 174:226, 200:110.

**096:284 Primary Care: Adults and Older Individuals II** 3 s.h.

Continuation of 096:280. Prerequisites: 096:280.

**096:287 Pharmacology of Anesthesia Practice III** 2 s.h.

Drugs specific to various specialty areas: tocolytics, vasoactive and cardioactive agents, drugs that alter clotting, chronic pain therapy agents. Requirements: grade of 2.67 or higher in 096:273 or 116:273, and anesthesia nursing program enrollment. Same as 116:287.

**096:289 Health Informatics II** 3 s.h.

Selected health informatics initiatives, including computer-based patient records, physiologic monitoring, networking, imaging, virtual reality; participation in an interdisciplinary project team focused on an informatics innovation; application and research seminars. Same as 021:280, 051:189, 056:287, 074:192, 200:120.

**096:290 Introductory Clinical Anesthesia** 1 s.h.

Initial anesthesia preceptorship; development of basic clinical skills for work as a nurse anesthetist. Requirements: basic science core courses and anesthesia nursing program enrollment. Same as 116:290.

**096:291 Clinical Anesthesia I** 1 s.h.

Supervised anesthesia clinical experience for general, orthopedic, gynecologic, pediatric, urologic, dental, EENT, ambulatory surgery, or invasive diagnostic procedures. Prerequisites: 096:290 or 116:290. Requirements: anesthesia nursing program enrollment. Same as 116:291.

**096:292 Clinical Anesthesia II** 1 s.h.

Clinical anesthesia experience under faculty supervision at University Hospitals and Clinics, in surgical subspecialty rotations not completed in 096:291 or 116:291. Prerequisites: 096:291 or 116:291. Requirements: anesthesia nursing program enrollment. Same as 116:292.

**096:293 Advanced Clinical Anesthesia** 1 s.h.

Clinical anesthesia experiences in neurologic surgery, cardiovascular/thoracic surgery; experience providing anesthesia for patients with complex pathophysiology in varied surgical settings. Requirements: (for 096:293) anesthesia nursing program senior standing, anesthesia nursing concentration courses, and g.p.a. of 2.67 or higher; (for 116:293) anesthesia nursing program enrollment, anesthesia nursing concentration courses, and g.p.a. of 2.67 or higher. Same as 116:293.

**096:294 Obstetrical Anesthesia** 1 s.h.

Experience providing anesthesia for the parturient, initial neonatal care; two one-month rotations off campus. Requirements: (for 096:294) anesthesia nursing program enrollment; (for 116:294) anesthesia nursing courses and anesthesia nursing program enrollment. Same as 116:294.

**096:295 Rural Anesthesia** 1 s.h.

Anesthesia experience in community hospitals; three one-month rotations at UI-affiliated clinical sites in rural Iowa. Requirements: (for 096:295) anesthesia nursing program enrollment; (for 116:295) anesthesia nursing courses and anesthesia nursing program enrollment. Same as 116:295.

**096:296 Independent Study** arr.

Supervised study and/or clinical practice adjusted to needs of master's degree students. Requirements: MSN enrollment.

**096:298 Master's Project** 2-3 s.h.

**096:299 Thesis** arr.

## For Doctoral Students

Open to doctoral students or to others with consent of instructor.

**096:300 Classics in the Social Evolution of Modern American Nursing** 3 s.h.  
From 1870 to present; writings, classic books, documents; influence of societal conditions on expansion of nursing services, education.

**096:303 DNP: Advanced Role Development I** 3 s.h.  
Organizational and leadership skills that enhance practice and emphasize clinical care, ongoing improvement of health outcomes, and patient safety; case management, business practices, multidisciplinary role setting, leadership and ethics, conflict resolution, community or aggregate populations, vulnerable populations. Corequisites: 096:304. Requirements: admission to Doctor of Nursing Practice program.

**096:304 DNP: Adv Role Development Practicum I** 3 s.h.  
Opportunities to apply advanced leadership and clinical knowledge in health care systems; application of content from 096:303; identification of needs and/or interests to define student's clinical practice; experience in selected clinical or agency sites to increase competencies in areas such as clinical acumen, case management, leadership, business practices. Corequisites: 096:308. Requirements: admission to Doctor of Nursing Practice program.

**096:305 Emerging Science** 3 s.h.  
Acquisition of emerging scientific knowledge in health care and application to individuals, families, populations; integration of epidemiologic approaches, genomic factors, and socio-cultural influences in processes of conducting risk assessment, intervention implementation, and health care delivery evaluation; importance of research and statistical methods in establishing risk profiles; studies of clinical, community, vulnerable, and marginalized populations as essential for developing and implementing individualized health care plans for populations, family units, and individuals. Corequisites: 096:211. Requirements: admission to Doctor of Nursing Practice program.

**096:306 DNP: Advanced Role Development II** 3 s.h.  
Builds on 096:304; continued development of in-depth clinical knowledge and skills in student's interest area; advanced levels of interprofessional collaborative skills and team building. Prerequisites: 096:303. Corequisites: 096:307.

**096:307 DNP: Advanced Role Development Practicum II** 3 s.h.  
Builds on 096:304; advanced leadership skills and clinical knowledge applied at practicum site; enhancement of competencies in areas such as clinical acumen, case management, leadership, business practices. Prerequisites: 096:303 and 096:304. Corequisites: 096:306.

**096:308 Clinical Leadership Project** 1-5 s.h.  
Opportunity for in-depth analysis and synthesis of a topic that contributes to an aspect of advanced nursing practice; students relate projects to evidence-based practice/translational science courses and/or 096:303 and 096:306.

**096:309 Data Mining and Machine Learning** 3 s.h.

**096:310 Advanced Nursing Informatics** 3 s.h.  
Management and processing of data and information, evaluation of information systems; related informatics research methods that support knowledge development. Requirements: graduate-level informatics course.

**096:312 Advanced Practice in Clinical Information Systems** 3 s.h.  
Nursing informatics theory applied to design, modification, implementation, and evaluation of nursing and health information systems; supervised clinical preceptorship. Prerequisites: 096:263 and 096:310.

**096:313 Computational Intelligence** 3 s.h.  
Concepts, models, algorithms, and tools for development of intelligent systems; data mining, expert systems, neural networks for engineering, medical and systems applications. Prerequisites: 056:171. Same as 056:235.

- 096:314 Integrated Seminar in Nursing Informatics** 3 s.h.  
Topics focused on problems related to nursing and health informatics theory, measurement, methodology, ethics, and policy issues. Requirements: Ph.D. enrollment.
- 096:315 Advanced Practice Clinical Practicum I** 3 s.h.  
Application of advanced physical assessment, pathophysiology, and diagnostic reasoning in a clinical setting appropriate to a specific population.
- 096:316 Advanced Practice Clinical Practicum II** 3 s.h.  
Continuation of 096:315; emphasis on diagnostic reasoning and formulation of treatment plans.
- 096:317 Advanced Practice Clinical Practicum III** 3-4 s.h.  
Synthesis of role expectations for advanced practice with focus on clinical competencies appropriate to the specialization.
- 096:320 Economics of Health Care and Nursing** 3 s.h.  
Economic principles: demand, supply for health manpower; insurance; costs, financing of health care services; contemporary hospital structures, organization; role of government.
- 096:330 Nursing and Health Policy, Law, and Advocacy** 3 s.h.  
Knowledge and skill in three areas that promote effective policy making--health care policy, legislative and rule-making processes at state and federal levels, role of nursing in public policy; issues that shape health care economics and policy development; the health care system--economics, financing, role of government, not-for-profit entities, nongovernmental organizations; global health issues in developing countries. Requirements: Ph.D. standing.
- 096:340 Nursing Theory Construction I** 3 s.h.  
Foundation of theory for professional practice; history, philosophy, sociology of science; development of a scientific community in nursing; relationship between theory construction, research; methods for generating specific theories.
- 096:342 Qualitative Research** 3 s.h.  
Overview of qualitative research; ethnography, grounded theory, historiography, phenomenology, and variations within each approach; philosophical underpinnings and research design across traditions; participant recruitment and selection, modes of data collection, management, and analysis, and evaluation criteria; issues in qualitative research, including integrated methods, metasynthesis, work with vulnerable populations. Prerequisites: 096:340.
- 096:344 Quantitative Research** 3 s.h.  
Refinement of students' understanding of the application of scientific logic; criteria for casualty, its application in health-related research; quantitative research designs and corresponding methods of analysis, sampling theory, approaches to sample selection and recruitment, methods to avoid bias; instrument selection, reliability and validity, management of large data sets and maintenance of data integrity. Prerequisites: 096:340.
- 096:405 Family Nursing Research** 3 s.h.  
Family theories and empirical research from nursing and related disciplines; mid-range family theories; issues in research methodology.
- 096:410 Nursing Research of Biological Phenomena and Interventions for the Elderly** 3 s.h.  
Analysis, evaluation of research on health of elderly, aging process; emphasis on methodological issues, instrumentation appropriate for study of biological phenomena. Requirements: (for 153:410) Ph.D. enrollment. Same as 153:410.
- 096:415 Genetic Nursing Research** 3 s.h.  
Concepts in human genetics integrated with nursing research; methodological issues in study of populations with specific genetic problems; generation of testable hypotheses.
- 096:420 Geriatric Mental Health Research** 3 s.h.  
Analysis, evaluation; emphasis on program evaluation, geriatric mental health services research, methodological issues. Requirements: (for 153:420) Ph.D. enrollment. Same as 153:420.
- 096:425 Research in Sociocultural Perspectives for Family and Women's Health** 3 s.h.

Health experiences of U.S. women and families from oppressed, marginalized cultural and social groups; approaches to developing and testing interventions, outcomes promoting and enhancing health of women and families; mid-range theory related to health care access and utilization.

**096:430 Nursing Research in Sociocultural Phenomena and Interventions for the Elderly** 3 s.h.  
Sociocultural issues for aging clients, corresponding nursing interventions; theoretical orientations to dynamics of aging, transitions and role changes, social/environmental issues. Requirements: (for 153:430) Ph.D. enrollment. Same as 153:430.

**096:435 Research in Cognitive and Behavioral Interventions for Children** 3 s.h.  
Research on cognitive and behavioral problems in children, research designs and data analysis, evaluation of instruments, areas that need further development, development of testable research questions.

**096:440 Research Utilization Residency in Care of the Elderly** 3 s.h.  
Project based on relevant gerontological nursing research. Requirements: two courses from 096:410, 096:420, or 096:430.

**096:445 Research Residency in Child and Family Nursing** 3 s.h.  
Research or research utilization project based on relevant child and/or family nursing research; guided by preceptor.

**096:450 Research Seminar in Nursing Administration I: Organizational Systems Concepts** 3 s.h.  
Health care organization, nurses in the organization; data collection instruments; directions for further research, implications for model building, research methods, practice.

**096:451 Research Seminar in Nursing Administration II: Health Care System Concepts** 3 s.h.  
Management concepts, health care factors that influence delivery of care systems; patient outcomes; measurement of quality nursing care. Prerequisites: 096:450.

**096:460 Innovations in Nursing Management** 3 s.h.  
Current and emerging issues that affect functions, responsibilities of nurse administrator; research base for recent innovations in nursing management; delivery of care systems for high-risk populations.

**096:462 Research in Nursing Informatics I** 3 s.h.  
Fundamental theoretical research regarding study of symbolic representation (text, image, voice), comprehending and communicating nursing phenomena, developing methods to build databases, and developing prototypes of decision support systems and workstations. Prerequisites: 096:310. Requirements: Ph.D. enrollment.

**096:463 Research in Nursing Informatics II** 3 s.h.  
Builds on 096:462; clinical applications, related research. Prerequisites: 096:462.

**096:464 Nursing and Health Representation and Knowledge Building** 3 s.h.  
Structure and content of health and nursing representation schemes, knowledge retrieval, and knowledge building; strategies for implementing and evaluating representation schemes in health delivery and knowledge development contexts. Corequisites: 096:463, if not taken as a prerequisite.

**096:465 Residency in Nursing Informatics** 3 s.h.  
Application of nursing informatics in a practice setting.

**096:470 Methods and Issues in Nursing Interventions Effectiveness Research** 3 s.h.  
Issues in conducting research on nursing management and on clinical interventions cost effectiveness; methods and issues in classification of nursing, health, health systems phenomena. Requirements: Ph.D. enrollment or postdoctoral standing.

**096:475 Leadership Institute and Career Development** 3 s.h.  
Four demands of leadership: purpose, direction, and meaning; trust and accuracy; optimism; action and results. Ten-day course. Requirements: Ph.D. enrollment or postdoctoral standing.

**096:480 Residency in Nursing Service Administration** 3 s.h.  
Application of administrative skills in a practice setting.



<b>096:485 Research Residency for Individualized Option</b>	3 s.h.
Participation in a research project based on an individualized plan of study, under guidance of a preceptor.	
<b>096:490 Research Practicum</b>	0 s.h.
Participation in ongoing investigative team as research assistant; followed by 096:491.	
<b>096:491 Research Practicum</b>	0 s.h.
Continuation of 096:490.	
<b>096:496 Independent Study</b>	arr.
Supervised study adjusted to needs of doctoral degree students. Requirements: Ph.D. enrollment.	
<b>096:497 Dissertation Research Seminar I: Scholarship Development</b>	1 s.h.
Preparation for successful completion of doctoral course work and dissertation, establishment of career research direction. Corequisites: 096:499.	
<b>096:498 Dissertation Research Seminar II</b>	0 s.h.
Research methods, analysis procedures.	
<b>096:499 Dissertation Research</b>	arr.

# College of Pharmacy

**Dean:** Donald E. Letendre

**Executive associate dean:** Bernard A. Sorofman

**Associate dean, curriculum and assessment:** Hazel H. Seaba

**Associate dean, professional education:** Michael W. Kelly

**Associate dean, research and graduate affairs:** Michael W. Duffel

**Assistant dean, University of Iowa Hospitals and Clinics:** Paul W. Abramowitz

**Assistant dean, veterans' affairs:** Kathy J. Rinehart (Iowa City Veterans Affairs Medical Center)

**Assistant to the dean:** Michael T. Sullivan

**Chair, pharmaceutical sciences and experimental therapeutics:** open

**Chair, pharmacy practice and science:** Bernard A. Sorofman

**Head, applied clinical sciences:** Jay D. Currie

**Head, health services research:** William R. Doucette

**Head, medicinal and natural products chemistry:** Robert J. Kerns

**Head, pharmaceutics and translational therapeutics:** Maureen D. Donovan

**Director, Division of Drug Information Service:** Kevin G. Moores

**Director, University of Iowa Pharmaceuticals:** Mickey L. Wells

**Professors:** Paul W. Abramowitz, John M. Brooks, Barry L. Carter, Elizabeth Chrischilles, Jordan L. Cohen, Maureen D. Donovan, William R. Doucette, Michael W. Duffel, Karen Farris, Douglas R. Flanagan, Lawrence L. Fleckenstein, Kevin G. Rice, Bernard A. Sorofman, Peter Veng-Pedersen, Dale Eric Wurster

**Professors emeriti:** Bruce Alexander, Gilbert S. Banker, Charles F. Barfknecht, Joseph G. Cannon, David P. Carew, J. Keith Guillery, Lloyd E. Matheson, William A. Miller, Eugene L. Parrot, Paul J. Perry, Roland I. Poust, John P. Rosazza, Ronald D. Schoenwald

**Professors (clinical):** Jay D. Currie, Michael E. Ernst, Ronald A. Herman, Michael W. Kelly, James A. Ponto, Hazel Seaba

**Adjunct professors:** Douglas R. Geraets, Randy P. McDonough, Mary Teresi

**Associate professors:** Karen Baker, Jonathan A. Doorn, Erika J. Ernst, Zhendong Jin, Robert J. Kerns, Lee E. Kirsch, Vijay Kumar, Gary Milavetz, D.J. Murry, Horacio Olivo, Aliasger K. Salem, Julie M. Urmie, Mickey L. Wells

**Associate professor emeritus:** Ting Fong Chin

**Associate professors (clinical):** Lucinda Buys, James D. Hoehns, Cindy Marek, Kevin G. Moores, John M. Swegle

**Adjunct associate professors:** Ruth Avelino, Dena M. Dillon, William S. Fisher, Al Havens, Micky Jerome, Mark E. Jones, Craig D. Logemann, Warren A. Narducci, Steven P. Nelson, Mary B. Ross, Jamie M. Smelser, Dorothy L. Smith, Patti Sue Trenkamp, Dawn M. Whitehill

**Assistant professors:** Mahfoud Assem, Jennifer Fiegel, David L. Roman, Yang Xie

**Assistant professors (clinical):** Amy J. Becker, Elizabeth A. Beltz, Heather Bream-Rouwenhorst, Matthew Cantrell, Christine M. Catney, Vernon K. Duba, Jill A. Fowler, Michelle A. Fravel, Phyllis I. Hemerson, Kathleen Horner, Kristin Horning, Ryan B. Jacobsen, Sarah J. Johnson, Vicki R. Kee, Deanna L. McDanel, Jeffrey C. Reist, Robert F. Shaw, Susan H. Staggs, Coralynn B. Trewet

**Assistant professors (clinical) emeriti:** Harold J. Black, Ruth A. Kellems

**Adjunct assistant professors:** Jerrad Aman, Tricia Andersen, Rockford Anderson, Gloria Angelo, Lynette Arens, William Thomas Baer, Kenneth R. Baker, Daniel W. Barnes, Luke Bartlett, Abby Beane, Anna Behrens, Gabriel M. Billiet, David B. Blaha, Edward M. Bottei, Gregory A. Brosius, Shana Brunsvold, Amy Bucknell, Tammy S. Bullock, Brooke Burkhalter, Kimberly S. Burton, Christie Carlson, Brenda R. Carmody, Pedro M. Carrillo, Kara M. Carruthers, Coby Carstens, David Catanzaro, Tiffany L. Chamberlain, Constance Clancey, Christopher E. Clayton, Jennifer Clayton, Colleen Clement, Amy M. Cobb, Howard L. Cobb, Michael Conrey, Nicole Coop, Alan Copa, Kyra J. Corbett, Ryan Corell, Thomas Crabb, Carol J. Crabtree, Kirk Crabtree, Daniel Cullinan, Lauren R. Cumings, John F. Daniel III, Angela M. Danielson, Cam Davis, Cory DeBuhr, Amber Dodds, Ashley C. Dohrn, William C. Eden, Jason A. Egge, Rani Elkin, Elana Engelkes, Richard Engleka, Brett A. Faine, Tracy M. Farnham, Virginia Fedorchak, Suzanne Feeney, Joshua Feldmann, Jacquie Fitzgerald, Tiffany Flynn, Angela A. Fouts, Sam Frances, Joshua Free, Susan Frey, Michael G. Fuller, Kate Gainer, Lisa D. Garner, Cory G. Garvin, Michelle George, Anthony R. Godfrey, Nancy Groetken, Mindy Gueera, Tom Halterman, John N. Hamiel, Tanya Hampton, Jason Hansel, April Hanson, Lucinda M. Harms, Mark J. Harris, Keri Hayes, Amy Hetrick, Robin Hieber, Ryan A. Hobbs, Kelly Hoenig, Angela B. Hoth, Nicholas M. Howell, Bob Hoy, Casey Hundertmark, Amy Lynn Jackson, Wendy Jackson, Angela Jacobs Ramspott, Laurel M. Janney, Hollie Johnson, Shella R. Johnson, Marni F. Juhasz, Thane A. Kading, Julie Kasap, Robert J. Keane, Karen Kelly, Martha A. Kemp, Kelly J. Kent, Gwendolyn L. Kirsch, Carol A. Kiser, Laura E. Knockel, Yvonne D. Koch, Katherine Koehn, Jonathan Koffel, Terrence Kohnen, Lee A. Kral, Michelle L. Krummel, David Kuhl, Patty A. Kumbira, Thang La, Nicholas P. Lehman, Mary J. Leisure, Crystal R. Lennartz, Patrick A. Lester, Dale P. Lewis, Jody E. Lewis, Tiffany S. Lichty-Gaffey, Tara Loan, Timothy G. Lobb, Sara M. Logan, Susan Lutz, Joseph R. Mac, Kimberly Malichky, Steven W. Martens, Lisa A. Mascardo, Lloyd Matowe, Melissa A. McGill, Don R. McGuire, Tracy M. McVey, Amber E. Meigs, Carissa Mesenbrink, Katherine M. Meyers, Melanie R. Millard, James Miller, Allison R. Minella, Kristi J. Moeller, Jaime L. Montuoro, Douglas E. Morgan, Mary A. Mosher, Joan M. Murhammer, Jennifer Musick, Billie Myers, Kendra Nelson-Norman, Brand Newland, Elizabeth A. Nichols, Ellen J. Nickel, Matthew W. Niehaus, Eric Nuxoll, Jill Okken, Craig S. Osland, Robert J. Osterhaus, Michaela A. Otting, Michael T. Padomek, Christopher P. Parker, Brian M. Petersen, Eric M. Peterson, John D. Peterson, Stewart N. Peterson, Kelly Phan, Steven P. Pinneke, Abbey M. Pitzenger, Lisa C. Ploehn, Armand J. Potestio, Anthony Provenzano, Michelle Prull, Edward C. Rainville, Heather M. Rickertsen, Sharon Rickertsen, Robert G. Ripley, Cheri Rockhold Schmit, Shawn C. Roe, Meaghan Rogers, Jessica Rosenhamer, Dennis Ruth, Bethany C. Sather, Kate E. Schemmel, Ed Schnase, Linsey Schuldt, Amy Schweitzer, David Scott, Shane T. Sedenka, Kendra B. Sieperda, Scott Sitzman, Wendy S. Slaughter, Amanda M. Smith, Jessica Smith, Tabarius Smith, Trisha A. Smith, Alan Sokolowski, Mark K. Sorenson, Crystal S. Starlin, Bonnie Stephens, Kim M. Stoakes, Paula Streeper, Teri L. Swenson, Amy M. Taylor, Thomas R. Temple, Corey Thieman, Patrick W. Thies, Scott A. Thompson, Sarah Tierney, Thinh Tran, Journey Treacy, Chad A. Triplett, Travis Tubbs, Carla N. Turney, Catherine Ulbricht, Brandon Vakiner, Amy Van Gorp, Kimberly A. Van Schepen, James L. Van Winkle, Sharon Vanek, Theresa Vavra, Stevie Veach, Cason W. Wacker, Jennifer J. Walker, Nancee V. Waterbury, David B. Weetman, David D. Wegman, Melissa Wessels, Craig E. White, Jennifer Wick, Tim Wright, Michael G. Wurth, Gregory J. Yeakel, Dawn M. Youngblood, Marcia C. Zeithamel, Christine L. Zeman

**Instructor (clinical):** Mary Starry

**Adjunct instructors:** Mary Jo Abbott, Gary R. Albers, Laurie Allbaugh, Linda Anderson, Rhonda Anderson, Teresa Anderson, Bruce A. Babcock, Patrick L. Barnes, Lori A. Barton, Kevin L. Bebout, Timothy D. Becker, Jane M. Beitzel, Tracey L. Bennett, Amanda J. Bidlencik, Michele M. Birdsell, John P. Bohlman, Randy Boyer, Jeff Bregar, Maureen Breuker, David Brotherson, David J. Buresh, Carl V. Chalstorm, Kevin Christians, Craig L. Clark, Ruth A. Clark, Paula Coder, Joe Collins, Connie Conolly, Bernard J. Cremers, Neal R. Daley, Gwen Davis, James H. Demong, Michael Dinnig, Wendy L. Deppe, Judith Devine, Linda Dohm-Chiaravalle, William M. Drilling, Laura Elliott, Rhonda S. Emry, Hal Ensrud, Jennifer Erickson, Mark C. Farmer, Michelle Farrell, J. R. Fikuart, Laura L. Fitzpatrick, John Forbes, Jessica Frank, Jeffrey L. Fries, Leon Galehouse, Tawnya Gardener, Todd Gerking, Melanie Gorvin, Robert L. Greco, Robert J. Greenwood, Thomas J. Haas, William A. Haigh, Lynn Hanish, Erin Herrera, Jeffrey A. Houseman, Gregory C. Hoyman, Bryce A. Jackman, Kerry Jensen, Terry M. Johnson, Graziela Kalil, Linda B. Kalin, David Kallsen, Patty Kumbura, Rocky LaDien, Shelly K. Larson, Larry D. Lee, Erin Lockard, Elizabeth Lotspeich, Joan Luikart, Dave C. Lundberg, Chris Lundell, Timothy T. Madsen, Edward L. Maier, Marie Marcelino, Stephen D. Martin, Gayle A. Mayer, Kevin McClimon, Veronica L. McGee, Rex N. McKee, Jon McKenna, Mark F. McMullen, Joseph J. Meese, Stephanie Mellor, James Mennen, Jeff Merideth, Dana K. Miller, James A. Miller, Dianne R. Morrison, Jennifer Moulton, Michael F. Murray, Kim Onnesorge, Marilyn S. Osterhaus, Matthew C. Osterhaus, Philip M. Ostrem, Wendy S. Ostrem, Denise Pamley, Erica Pearce, Deborah L. Peterson, James Peterson, Stuart Pitman, Connie J. Pline, Dan Pomeroy, Bruce E. Rademacher, Patricia A. Randel, Carina Reichardt, Rebecca M. Reinhart, Marra Reisinger, John F. Rode, Donald L. Roehrkaske, Roger A. Rossetti, Scott R. Schroeder, Maria L. Schult, Karen S. Schultz, Becky Serovy, Alan M. Shepley, Matthew Shivers, Christopher M. Simpson, Angie Slickers, Susan R. Sorenson, Kimberly A. Spading, Laura Spicer, David W. Stark, Michael F. Stein, Sheri M. Strathman, David J. Streng, Pat D. Sturtz, Justin Suarez, Michael D. Swank, Tina Telander, Jerry Thein, Jean A. Theobald, Michael T. Theobald, Brenda J. Thies, Jon Thompson, David J. Thomson, Michael J. Tiesi, Marla R.B. Tonn, Lisa M. Tortora, Michael R. Tortora, Brittney Vander Pol, Suzanne Von Seggern, Scott Youri, Patrick J. Walter, Amanda Weber, Jill S. Weetman, Barry Westbrook, Doug Wetrich, Michael J. Williams, Joseph M. Wolf, Heidi M. Wood, Shari M. Wood, Douglas E. Wrenn, Arlene Wright, Kaye L. Wright, Randy Yeates, Nadiya Zelenski, Kay Zepeski

**Associates:** Linnea Polgreen, Sony Tuteja

**Undergraduate degree:** Pharm.D.

**Graduate degrees:** M.S., Ph.D.

**Web site:** <http://www.pharmacy.uiowa.edu>

The pharmacy profession is concerned with a wide variety of activities, from developing new drug products to caring for patients. An important concept in the delivery of pharmacy services is medication therapy management--the responsible provision of drug therapy to achieve defined outcomes that improve patients' quality of life. These outcomes include preventing, arresting, or curing a disease, and/or eliminating or reducing its symptoms.

In order to carry out these activities, pharmacists specialize in the science of drugs and drug information.

The dispensing of medications and information at the corner pharmacy is just one aspect of the profession.

Pharmacists work in many health care settings, engaging in research, clinical practice, teaching, and counseling. Along with their training in science and drug preparation, they learn the business and communication skills necessary for their

multifaceted careers.

Demand for qualified pharmacists is high. Iowa's pharmacy students study with professors who, in many cases, are pioneering the development of new drugs and are defining the appropriate use of others to solve chronic health problems. They also enjoy advanced research facilities, including those of Iowa's drug research and manufacturing area, where experimental drugs are produced for testing and licensing by manufacturers before being introduced worldwide.

The University of Iowa College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education.

### **College Organization**

The College of Pharmacy's faculty and programs are organized in two academic departments, each with two divisions. These units provide course work for the Doctor of Pharmacy curriculum and for the college's graduate programs.

#### **PHARMACY PRACTICE AND SCIENCE DEPARTMENT**

Faculty in the Pharmacy Practice and Science Department provide expertise and education in the professional practice of pharmacy. They specialize in a wide variety of clinical pharmacy practices; conduct research on patient and population outcomes related to medication therapy; and provide instruction in the pharmacist's professional role and the safe, effective use of medications.

The department offers Master of Science and Doctor of Philosophy curricula in pharmaceutical socioeconomics, which encompasses the behavioral, economic, social, and administrative sciences; elements of pharmacy practice; and health services research. It offers course work through its Applied Clinical Sciences Division and its Health Services Research Division.

**Applied Clinical Sciences Division:** Teaching and research in this division focus on the delivery of care and related services to patients and the education of student and resident pharmacists in practice settings. Courses are offered in pharmacotherapy, communication and practice skill development, clinical problem solving, and patient care. Professional practice mentoring and education are provided in introductory and advanced pharmacy practice experiences.

**Health Services Research Division:** Teaching and research in this division involve economic, social, behavioral, and administrative components of pharmacy practice and medication use. Courses are offered on the health care system, practice management, the professional and business aspects of pharmacy practice, and on learning and applying economic and social psychological theories to the study of health services and medication use.

To learn more about the department and its two divisions, visit the Pharmacy Practice and Science Department web site.

#### **PHARMACEUTICAL SCIENCES AND EXPERIMENTAL THERAPEUTICS DEPARTMENT**

Faculty in the Pharmaceutical Sciences and Experimental Therapeutics Department provide expertise and education in clinical pharmaceutical sciences, medicinal and natural products chemistry, and pharmaceuticals. Their interests include dosage form development and performance, industrial and manufacturing pharmacy, pharmacokinetics and pharmacodynamics, and the chemistry of drugs and their action on human systems. The department offers courses through its Medicinal and Natural Products Chemistry Division and its Pharmaceuticals and Translational Therapeutics Division.

**Medicinal and Natural Products Chemistry Division:** Course work in this division relates to understanding the chemistry of drugs and their action on human systems, principles of drug discovery and drug design, natural product chemistry, and biotechnology and genomic strategies for producing new drug molecules. The division's curricula for the M.S. and Ph.D. programs provide abundant opportunities for interface with researchers in other areas, including medicine, pharmacology, biochemistry, chemistry, and pharmaceuticals.

**Pharmaceuticals and Translational Therapeutics Division:** This division prepares students to become leaders in developing and evaluating drugs, drug products, and drug delivery systems. It offers two M.S. and Ph.D. subtracks: the pharmaceuticals subtrack, which focuses on characterization of pharmaceuticals and their component materials, development of delivery systems for optimal human or veterinary use, and the pharmacokinetic and pharmacodynamic evaluation of drug actions and interactions; and the clinical pharmaceutical sciences subtrack, which focuses on investigating drug therapy outcomes in patients and identifying factors responsible for specific drug actions in individual patients, related patient groups, and large patient populations. The division also offers multidisciplinary opportunities with programs in chemistry, engineering, biomedical science, dentistry, and veterinary medicine. Its national and international collaborations enhance the breadth of research activities available to students.

For more about the department and its two divisions, visit the Pharmaceutical Sciences and Experimental Therapeutics Department and the Medicinal and Natural Products Chemistry Division web sites.

## Professional Program (Pharm.D.)

The College of Pharmacy offers the Doctor of Pharmacy and collaborates with the College of Public Health to offer the joint Doctor of Pharmacy/Master of Public Health (Pharm.D./M.P.H.).

### Doctor of Pharmacy

The Doctor of Pharmacy program prepares students for careers in pharmacy. It provides professional education in a number of areas, including pharmaceutical technology, biopharmaceutics, medicinal chemistry and natural products, pharmaceutical socioeconomics, pharmacotherapy, patient care, clinical and hospital pharmacy, and aspects of biotechnology.

The program requires four years of full-time study preceded by at least two years of pre-pharmacy study in the College of Liberal Arts and Sciences at The University of Iowa or at any accredited community or liberal arts college in the United States or Canada. Graduates of the program are qualified to take the Iowa Board of Pharmacy examination that is required for licensure as a pharmacist.

The Pharm.D. requires satisfactory completion of required courses, including at least 12 s.h. of professional electives and 20 s.h. of general education courses; a cumulative g.p.a. of at least 2.00; and a pharmacy g.p.a. of at least 2.00. The pharmacy grade-point average is computed from grades earned in all required courses that students have completed while enrolled in the College of Pharmacy, excluding general education electives and professional electives.

Students must earn a grade of C-minus or higher in transfer courses applied to the Pharm.D.

Rules and regulations concerning academic probation, pass/nonpass, credit by examination, maximum schedule, second-grade-only option, waiver or substitution of courses, cancellation of registration, drop date, and correspondence study are provided in the College of Pharmacy section of the ISIS Student Handbook and in the College of Pharmacy Student Handbook.

The Tippie College of Business, the Carver College of Medicine, the College of Dentistry, and the College of Liberal Arts and Sciences contribute to the education of pharmacy students by providing instruction in the physical sciences, basic medical sciences, business, the humanities, and social sciences.

The College of Pharmacy provides students with the highest possible quality in the professional experiential program. Faculty and adjunct faculty serve as preceptors, providing advanced-practice experience at institutions and pharmacies in Iowa, nationwide, and around the world.

### Professional Curriculum

In addition to the specific courses listed here, students must complete 20 s.h. of general education courses chosen from behavioral, social, humanistic, and business disciplines.

#### FIRST YEAR

Students must complete one semester of 046:001 Introduction to Pharmacy Practice during the first professional year. They also complete 046:004 Student Pharmacist Professionalism throughout the first, second, and third professional years.

#### First Semester

046:001 Introduction to Pharmacy Practice	1 s.h.
046:004 Student Pharmacist Professionalism	1 s.h.
046:050 Pharmacy Practice Lab I	2 s.h.
046:103 Fundamentals of Evaluating Clinical Research	1 s.h.
046:123 Pharmaceutics I: Solutions	4 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
099:162 Biochemistry for Pharmacy Students	4 s.h.

#### Second Semester

046:001 Introduction to Pharmacy Practice (if not taken first semester)	1 s.h.
046:004 Student Pharmacist Professionalism (if not taken first semester)	1 s.h.
046:051 Pharmacy Practice Lab II	2 s.h.
046:122 Social Aspects of Pharmacy Care	2 s.h.

046:124 Pharmaceutics II: Solids and Semi-solids	4 s.h.
046:128 Medicinal and Natural Products Chemistry I: Biotechnology and Chemotherapy	3 s.h.
071:180 Pharmacology for Pharmacy Students I	3 s.h.

**SECOND YEAR**

Students must complete 046:002 Introduction to Community Pharmacy Practice and 046:008 Introduction to Hospital Pharmacy Practice during the second professional year. These practice experiences are delivered in set time blocks over the winter break or during the summer before or after the P2 year.

**First Semester**

046:002 Introduction to Community Pharmacy Practice	3 s.h.
046:004 Student Pharmacist Professionalism	1 s.h.
046:116 Pharmacy Practice Lab III	2 s.h.
046:131 Medicinal and Natural Products Chemistry II: Pharmacodynamic Agents	3 s.h.
046:138 Pharmacokinetics and Biopharmaceutics	3 s.h.
046:149 Introduction to Therapeutics/Special Population	2 s.h.
046:154 Endocrinology, Ophthalmology, Women's and Men's Health Therapeutics	2 s.h.
071:181 Pharmacology for Pharmacy Students II	4 s.h.

**Second Semester**

046:004 Student Pharmacist Professionalism (if not taken first semester)	1 s.h.
046:008 Introduction to Hospital Pharmacy Practice	2 s.h.
046:106 Clinical Practice Skills I: Theory and Application	2 s.h.
046:117 Pharmacy Practice Lab IV	2 s.h.
046:132 Medicinal and Natural Products Chemistry III: Medicinal Neurochemistry	3 s.h.
046:155 Respiratory and Dermatologic Therapeutics	2 s.h.
046:156 Cardiovascular Therapeutics	2 s.h.
046:170 Clinical Pharmacokinetics	3 s.h.
Professional electives	3 s.h.

**THIRD YEAR**

Students must complete one semester of 046:003 Introduction to Clinical Pharmacy Practice during the third professional year.

**First Semester**

046:003 Introduction to Clinical Pharmacy Practice	1 s.h.
046:004 Student Pharmacist Professionalism	1 s.h.
046:107 Clinical Practice Skills II: Critical Patient Analysis	2 s.h.
046:115 Drug Literature Evaluation	2 s.h.
046:118 Pharmacy Practice Lab V	2 s.h.
046:129 Pharmaceutical Economics and Insurance	3 s.h.
046:158 FEN, GI, and Renal Therapeutics	2 s.h.
046:159 Rheumatology, Immunology, Hematology, Oncology, and Transplantation Therapeutics	2 s.h.
Professional electives	4 s.h.

**Second Semester**

046:003 Introduction to Clinical Pharmacy Practice (if not taken first semester)	1 s.h.
046:004 Student Pharmacist Professionalism (if not taken first semester)	1 s.h.
046:104 Pharmacy Law and Ethics	2 s.h.
046:108 Clinical Practice Skills III: Applied Patient Management	2 s.h.
046:119 Pharmacy Practice Lab VI	2 s.h.
046:139 Pharmacy Management and Marketing	2 s.h.

046:164 Neurology/Psychiatry Therapeutics	2 s.h.
046:165 Infectious Disease Therapeutics	2 s.h.
Professional electives	5 s.h.

#### FOURTH YEAR: ADVANCED PHARMACY PRACTICE ROTATIONS

During the fourth year, students are required to complete eight advanced pharmacy practice rotations. All students must complete the first four rotations listed below (18 s.h.); they also must complete an additional four rotations of their choice (minimum of 16 s.h.).

All of these (18 s.h.):

046:178 Hospital Pharmacy Rotation	6 s.h.
046:179 Community Pharmaceutical Care Rotation	6 s.h.
046:180 Acute Care Medicine Rotation	6 s.h.
046:181 Elective: Family Medicine Rotation	6 s.h.

Four of these (minimum of 16 s.h.):

046:136 Elective: Academic Rotation	6 s.h.
046:140 Elective: Ambulatory Care Rotation	6 s.h.
046:142 Elective: Compounding/Complimentary Alternative Medicine Rotation	6 s.h.
046:143 Elective: Critical Care Medicine Rotation	6 s.h.
046:161 Elective: Drug Information Rotation	6 s.h.
046:182 Elective: Pediatrics Rotation	6 s.h.
046:184 Elective: Psychiatry Rotation	6 s.h.
046:185 Elective: Neurology Rotation	6 s.h.
046:186 Elective: Surgery Rotation	6 s.h.
046:187 Elective: Nuclear Pharmacy Rotation	6 s.h.
046:188 Elective: Pharmacy Practice Underserved Population Rotation	6 s.h.
046:189 Elective: Pharmacy Rotation	6 s.h.
046:192 Elective: Long Term Care Rotation	6 s.h.
046:193 Elective: Home Health Care Rotation	6 s.h.
046:194 Elective: Managed Care Rotation	6 s.h.
046:196 Ambulatory Care Rotation	6 s.h.
046:197 Elective: Hematology/Oncology Rotation	6 s.h.
046:199 Elective: Research Rotation	6 s.h.
046:300 Elective: Emergency Medicine Rotation	6 s.h.
046:301 Elective: Hospital Management Rotation	6 s.h.
046:302 Elective: Infectious Disease Rotation	6 s.h.
046:303 Elective: Medication Use Evaluation Rotation	6 s.h.
046:304 Elective: Pharmacy Industry Rotation	6 s.h.
046:305 Elective: Pharmacy Regulatory Rotation	6 s.h.
046:306 Elective: Professional Association Rotation	6 s.h.
046:307 Elective: Veterinary Pharmacy Rotation	6 s.h.
046:308 Elective: Advanced Community Pharmacy Rotation	6 s.h.

#### PROFESSIONAL ELECTIVES

Pharm D. students must complete 12 s.h. of professional electives, which may be chosen from the following list.

046:005 Dean's Pharmacy Forum I	2 s.h.
046:006 Dean's Pharmacy Forum II	2 s.h.
046:007 Career Pathways in Pharmacy	1 s.h.
046:011 Web 2.0 and Pharmacy Drug Information	2 s.h.
046:012 Survey of Basic Pharmaceutical Sciences	1-2 s.h.
046:013 Ambulatory Care Pharmacy	2 s.h.
046:014 Special Topics in Acute Care	2 s.h.
046:018 Journey Through Illness	1 s.h.
046:101 Pharmacy Projects	1-3 s.h.
046:102 Pharmacy Workshop	1 s.h.
046:105 Alternative and Complementary Medicine	arr.

046:121 Substance Abuse	3 s.h.
046:126 International Perspectives: Xicotepec	2 s.h.
046:127 Pharmaceuticals Management for Underserved Populations	3 s.h.
046:135 Perspectives in MNPC Research	1 s.h.
046:146 End-of-Life Care for Adults and Families	2-4 s.h.
046:157 Quantitative Research Methods in Pharmacy	4 s.h.
046:169 Introduction to Pharmacogenomics	2 s.h.
046:171 Nonprescription Pharmacotherapy	2 s.h.
046:173 Parenteral Products and Technology	2 s.h.
046:176 Immunization Theory and Practice	2 s.h.
046:198 Elective: Hospital Pharmacy Practice Management	2 s.h.
046:211 Total Synthesis of Natural Products	3 s.h.
046:215 Current Medicinal Chemistry	3 s.h.
046:219 Analytical Biochemistry	3 s.h.
046:227 Medicinal and Natural Products Chemistry Seminar	1-2 s.h.
046:255 Social Aspects of Pharmacy Care	2 s.h.
046:357 Topics in Community Pharmacy Management	2 s.h.
046:377 Health Disparities and Cultural Competence	2-4 s.h.

### Joint Pharm.D./M.P.H.

The College of Pharmacy and the College of Public Health offer the joint Doctor of Pharmacy/Master of Public Health. The joint Pharm.D./M.P.H. requires 42 s.h. of graduate credit. In addition to the requirements of the Pharm.D. degree; see "Pharm.D. Requirements" below. Students who complete the program are granted both degrees.

The Pharm.D./M.P.H. program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety. Its graduates may work in areas of interest common to pharmacy and public health, such as spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate admission to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

Admission requirements include a bachelor's degree or a minimum of 120 s.h. of undergraduate course work; an undergraduate cumulative g.p.a. of at least 3.00; one semester each of college algebra and biology; transcripts of all college course work; scores (preferably at or above the national median) on the Graduate Record Exam or the Pharmacy College Admission Test (PCAT); and three professional recommendations (University of Iowa recommendation forms are required).

Contact the College of Pharmacy and the College of Public Health for details.

### Curriculum

Students in the Pharm.D./M.P.H. program must complete M.P.H. core courses, practicum, and public health electives in addition to courses required for the Pharm.D.

#### M.P.H. CORE COURSES

Students must earn a B or higher on each core course. Students may repeat core courses to achieve this standard.

All of these:

170:101 Introduction to Public Health	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.
172:101 Introduction to Health Promotion and Disease Prevention	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
174:102 Introduction to the U.S. Health Care System	3 s.h.

One of these:

174:200 Introduction to Health Care Organization and Policy	3 s.h.
175:197 Environmental Health	3 s.h.

**M.P.H. PRACTICUM**

The practicum is a fieldwork experience in which students show proficiency in applying academic principles in community settings. Students must have completed or be enrolled in all six M.P.H. core courses before registering for the practicum. A poster presentation or a final written report with oral presentation is required. The practicum constitutes the final examination for the M.P.H.

The setting for the 200-hour Pharm.D./M.P.H. practicum must have both public health and pharmacy components.

170:299 M.P.H. Practicum Experience 3 s.h.

**M.P.H. ELECTIVES**

Students select electives totaling 9 s.h. from one of the following public health areas: biostatistics, community and behavioral health, epidemiology, health communication, health policy and administration, occupational and environmental health, public health genetics, or an approved M.P.H. focus area (aging studies; global health; maternal, child, and family health; or nutrition and exercise). Electives are chosen in consultation with the student's advisors in the College of Pharmacy and Public Health.

**COURSES THAT COUNT TOWARD BOTH DEGREES**

The following required courses from the Pharm.D. curriculum also count as credit toward the M.P.H.

046:129 Pharmaceutical Economics and Insurance	3 s.h.
046:154 Endocrinology, Ophthalmology, Women's and Men's Health Therapeutics	2 s.h.
046:156 Cardiovascular Therapeutics	2 s.h.
046:165 Infectious Disease Therapeutics	2 s.h.

**PHARM.D. REQUIREMENTS**

The joint Pharm.D./M.P.H. program requires students to complete the professional curriculum of the Pharm.D. program (see "Doctor of Pharmacy (Pharm.D.);" earlier in this section).

Students must be enrolled in the College of Pharmacy in order to take College of Pharmacy courses.

**Admission to the Pharm.D.**

Application deadline for the Pharm.D. program is December 1.

Students admitted to the College of Pharmacy are required to submit a \$250 admission acceptance fee. The fee is applied to tuition for the student's first semester of enrollment in the college. The deposit is not refunded to applicants who do not enroll in the College of Pharmacy.

The college-level course work outlined below is the minimum academic requirement for admission to the College of Pharmacy. The Pharmacy College Admission Test (PCAT), a personal statement, personal interviews, and two letters of reference are required for admission. Students must have an overall cumulative g.p.a. of at least 2.50 to be considered for admission.

Fulfillment of these requirements does not ensure admission to the college; the admission committee selects the best-qualified applicants. Questions concerning satisfaction of degree requirements should be directed to the College of Pharmacy Office of Academic Affairs.

**Rhetoric:** 4 s.h. (010:003 Rhetoric) or 6 s.h. of transfer credit in English composition and rhetoric and 3 s.h. in speech

**Human anatomy:** 3 s.h. (060:110 Principles of Human Anatomy)

**General biology:** 8 s.h. (002:010 Principles of Biology I and 002:011 Principles of Biology II)

**General chemistry:** 8 s.h. (004:011 Principles of Chemistry I and 004:012 Principles of Chemistry II)

**Organic chemistry:** 6 s.h. (004:121 Organic Chemistry I and 004:122 Organic Chemistry II)

**Mathematics:** 3-4 s.h. of a satisfactory differential and integral calculus course (22M:016 Calculus for the Biological Sciences)

**Microbiology:** 4 s.h. (061:112 Pharmacy Microbiology)

**Microeconomics:** 3-4 s.h. (06E:001 Principles of Microeconomics)



**Physics:** one year of high school physics or one semester of college-level physics with a lab (029:008 Basic Physics)

**Human physiology:** 3 s.h. (027:130 Human Physiology)

**Statistics:** 3 s.h.

**General education electives:** at least 12 s.h.

Each student must complete 20 s.h. of general education courses in order to graduate. Courses in moral reasoning or ethics, communications, computer science, and business are recommended. Courses in the behavioral and social sciences and the humanities are acceptable. Courses in physical education skills, applied music, and studio art are not acceptable.

Students must earn a grade of C-minus or higher in transfer courses applied to the Pharm.D.

## Financial Support

All second-, third-, and fourth-year pharmacy students are encouraged to apply for College of Pharmacy scholarships. Applications are available each April from the Pharmacy Office of Academic Affairs. Students complete a single application form in order to be considered for all scholarships. Award amounts vary. The Awards and Recognition Committee selects the best-qualified applicant for each scholarship.

**Seymour M. Blaug Memorial Award:** for a pharmacy student with above-average academic achievement.

**Ilse O. Buckner Scholarship:** for a pharmacy student who maintains satisfactory academic progress; nonrenewable, financial need is considered.

**Burroughs Wellcome Scholarship:** for a pharmacy student in good academic standing who demonstrates financial need and leadership.

**Class of 2009 Scholarship:** criteria to be determined.

**Class of 2010 Scholarship:** criteria to be determined.

**David and James Carlson Scholarship:** for two pharmacy students interested in clinical or hospital practice; preference given to students from north of U.S. Interstate 80 and west of U.S. Interstate 35 who show financial need.

**Jordan and Jana Cohen Doctor of Pharmacy Scholarship:** for a pharmacy student in good academic standing; based on merit and need; renewable.

**Vernon Conzemius Scholarship:** for a pharmacy student who demonstrates financial need; preference given to students in the upper half of their class.

**Ben M. Cooper Memorial Award:** for an academically outstanding pharmacy student; preference is given to students from Scott County, Iowa; financial need is considered.

**John and Margo Daniel Scholarship:** preference given to a student from Webster County, Iowa.

**Alice Coxon Gates Scholarship:** for a pharmacy student in good academic standing.

**CVS Scholarship:** for five pharmacy students in good academic standing who are interested in community pharmacy.

**Max Eggleston Scholarship:** for a student who has completed one year; preference is given to students from Iowa; based on financial need.

**Lori A. Grimes Memorial Scholarship:** based on financial need; renewable.

**Gary Hadley Scholarship:** for a student of the committee's choice.

**Dick and Brenda Hartig Scholarship:** for a student who demonstrates financial need; preference is given to students from Dubuque, Waukon, Dyersville, and Iowa City, Iowa; and Galena and Stockton, Illinois; based on financial need.

**Thomas D. Hill Scholarship:** for a pharmacy student in good academic standing.

**Janet Hinderliter Scholarship:** for a P3 or P4 student with a g.p.a. of at least 3.00 and demonstrated involvement in campus and community affairs.

**Frances T. and Charles Holub Memorial Award:** for a third-year pharmacy student; financial need is considered; renewable once.

**Iowa Pharmacy Foundation Scholarship:** for selected pharmacy students who are residents of Iowa and who demonstrate outstanding academic ability; financial need is considered.

**Johnson County Pharmacists Association Scholarship:** for any student member of JCPS with a grade-point

average of at least 3.00.

**Kuever Scholarship Fund:** for a pharmacy student from Iowa who is in good academic standing.

**Ernest Kyle Memorial Scholarship:** for a student of the committee's choice.

**Ronald Madden Scholarship:** for an Iowa high school graduate in good academic standing.

**Charles J. Malecek Pharmacy Scholarship:** for a student of the committee's choice.

**Lloyd E. Matheson and Randal P. McDonough Honorary Scholarship:** for a student who demonstrates financial need.

**Carleton Mikkelsen Scholarship:** for the top P4 student based on final P3 grade-point average; in case of a tie, the committee chooses the recipient.

**Miller-Ruegnitz Scholarships:** based on financial need, non-renewable.

**NACDS Scholarship:** for a student interested in community pharmacy.

**Petersen Linder Scholarship:** for a pharmacy student in excellent academic standing who has outstanding leadership skills; based on financial need.

**Pharmacists Mutual Scholarship:** committee choice

**Quad Cities Area Pharmacists Association Scholarships:** for students who demonstrate financial need; preferably one student from Iowa and one from Illinois.

**Sattler Family Scholarship:** for a student of the committee's choice, alternates with the Carver College of Medicine.

**Scherling Prize:** for a student who demonstrates superior academic achievement in organic chemistry.

**Hal Schimmelpfenning Scholarship:** for a high school senior from Sigourney, Iowa.

**Gordon H. Sheffield Scholarship:** for a P3 or P4 student from Iowa; preference given to a student who demonstrates leadership and financial need.

**ShopKo Scholarship:** preference given to students who reside or have resided in a state where Shop-Ko is located.

**Shutt Pharmacy Scholarship:** preference is given to Iowa residents; based on financial need.

**H. Curtis Snyder Award:** for a pharmacy student in good standing.

**Supervalu Scholarship:** for a student in good academic standing who is employed in a community pharmacy setting.

**Wilber J. Teeters Scholarship:** for a pharmacy student who has completed at least one year in the college; financial need is considered.

**Teeters/Wahl Scholarship:** for pharmacy students based on outstanding academic ability, U.S. citizenship, and financial need.

**John Stanley Thor Memorial Award:** for a pharmacy student in good standing.

**Colonel Thomas C. Veach Class of 1952 Scholarship Fund:** preference given to a student interested in compounding or industrial pharmacy.

**Wal-Mart Scholarship:** for a P3 or P4 student with high scholastic standing who demonstrates strong leadership, desire to enter a community pharmacy practice, and financial need.

**Louis C. Zopf Memorial Award:** for a pharmacy student who is academically qualified; financial need is considered.

**John D. Zuelke Scholarship:** for a P3 or P4 student from Wapello County, Iowa.

## Graduate Programs

The college offers a Master of Science and a Doctor of Philosophy in four areas: clinical pharmaceutical science, medicinal and natural products chemistry, pharmaceutical socioeconomics, and pharmaceuticals.

Advanced study in the pharmaceutical sciences prepares students for research, teaching, and administrative positions in the pharmaceutical industry, in colleges and universities, in government agencies, and in health-related institutions and organizations.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog. Academic requirements for maintaining graduate registration are determined by the Graduate College and by the individual divisions of the College of

Pharmacy.

For more information about graduate study, visit the College of Pharmacy web site.

## Facilities and Resources

### Pharmacy Building

The Pharmacy Building is located on the University's Health Science Campus, in close proximity to the Carver College of Medicine, College of Dentistry, College of Nursing, and College of Public Health. Also nearby are University of Iowa Hospitals and Clinics, the Bowen Science Building, and the Hardin Library for the Health Sciences.

The Pharmacy Building is a five-story structure designed to provide modern facilities for a comprehensive program of pharmacy education. In addition to classrooms and auditoriums, there are well-equipped separate laboratories for instruction at the professional and graduate levels.

The college operates small and large classrooms with state-of-the-art technology. The student practice lab is a technologically advanced licensed pharmacy that provides real and simulated practice experiences. The Banker Student Activity Center provides quiet individual and small-group study environments and houses College of Pharmacy Student Organizations offices.

The building also houses a fully supported Instructional Technology Center (Pharmacy ITC) in the Learning Resource Center. The ITC provides state-of-the-art desktop workstations and laptop computers are available for student checkout. Both desktop and laptop computers have secure connections to the University network for online drug information searching and printing.

### University of Iowa Pharmaceuticals

University of Iowa Pharmaceuticals, a pharmaceutical manufacturing facility registered with the U.S. Food and Drug Administration, develops pharmaceutical dosage forms and has manufactured clinical supplies in compliance with Good Manufacturing Practices since 1974. University of Iowa Pharmaceuticals has clients worldwide, including pharmaceutical companies, biotechnology firms, medical departments, and government agencies. Its staff works closely with clients and pharmaceuticals faculty members to produce virtually every type of pharmaceutical dosage form, supplying new pharmaceutical agents for use in clinical trials and other research. The facility combines the former Center for Advanced Drug Development and Division of Pharmaceutical Service. For more information, visit the University of Iowa Pharmaceuticals web site.

### Division of Drug Information Service

The Division of Drug Information Service publishes the IDIS (Iowa Drug Information Service), a bibliographical database that provides full-text access to specialized information related to drugs and drug therapy. IDIS reaches subscribers throughout the world. The division also is home to the Iowa Drug Information Network, which serves a network of community pharmacies and family practice sites with drug information resources, educational programs, and direct-response consultations that support the pharmaceutical care initiatives at the network's sites. In addition, the Division of Drug Information Service plays an important educational role for pharmacy students by providing both didactic and experiential teaching in drug information. The division is located on the University's Oakdale Campus.

## College of Pharmacy Courses

Students must be enrolled in the College of Pharmacy to take the college's courses. Undergraduate and graduate students in other majors must have the instructor's consent to take College of Pharmacy courses.

### For Undergraduates

<b>046:020 Introduction to Pharmaceutics Projects</b> Introduction to pharmaceutics.	3 s.h.
<b>046:029 First-Year Seminar</b>	1 s.h.
<b>046:110 Drug Delivery I</b> Advanced design and development of drug delivery systems with emphasis on selection of materials and designs suitable for specific applications; comparison and evaluation of available and emerging technologies. Requirements: introductory-level courses in biochemistry and anatomy/physiology.	arr.
<b>046:111 Drug Delivery II</b> Continuation of 046:110. Prerequisites: 046:110.	arr.

**For Pharm.D. Students****Pharmacy Practice and Science**

- 046:005 Dean's Pharmacy Forum I** 2 s.h.  
Contemporary issues in pharmacy practice, pharmacy education, and health care.
- 046:006 Dean's Pharmacy Forum II** 2 s.h.  
Contemporary issues in pharmacy practice, pharmacy education, and health care.
- 046:007 Career Pathways in Pharmacy** 1 s.h.  
Career preparation through writing, speaking, reading, and listening; writing résumés, curricula vitae, cover letters; interviewing techniques; electronic portfolios; web-based career information; guest speakers from pharmacy associations, major chains; workshop approach. Requirements: P3 standing.
- 046:011 Web 2.0 and Pharmacy Drug Information** 2 s.h.  
Introduction to challenges and opportunities of social Internet applications, electronic drug information sources, and mobile technologies available to healthcare providers and patients; creation, use, and critical evaluation of web-based products; lectures, class discussions, required readings, reflection blogs, and group projects. Corequisites: 046:116 or 046:118. Requirements: P2 or P3 standing.
- 046:013 Ambulatory Care Pharmacy** 2 s.h.  
Additional experience in the practice of clinical pharmacy; focus on key therapeutic areas where ambulatory care clinical pharmacists currently have a significant impact improving patient care, including anticoagulation management, hyperlipidemia management, and diabetes management; opportunity to develop expertise in clinical decision making, improve problem solving abilities, and continued development in writing and oral presentation skills. Prerequisites: 046:154 and 046:156. Requirements: P3 standing.
- 046:014 Special Topics in Acute Care** 2 s.h.  
Pharmacology for common but varied acute care medicine topics; review of disorder, therapeutic goals, treatment plans, patient counseling, monitoring patient outcomes; lecture or case-based classes; acute and chronic renal failure; peritoneal and hemodialysis; diabetic ketoacidosis; rabies; shock, vasopressors, fluids; ACLS; deep venous thrombosis, stress ulcer prophylaxis; burns; sedation, neuromuscular blockage; opioids; multiple sclerosis. Prerequisites: 046:149, 046:154, 046:155, 046:156, 046:158, and 046:159. Corequisites: 046:164 and 046:165. Requirements: BLS certification.
- 046:018 Journey Through Illness** 1 s.h.  
Chronic illness from a patient's perspective; discussion with patients.
- 046:050 Pharmacy Practice Lab I** 2 s.h.  
Practical application of scientific and clinical knowledge used in the provision of pharmaceutical care; activities include communication with patients and members of the healthcare team, sterile product and prescription compounding, pharmacy calculations, and use of drug information resources. Requirements: P1 standing.
- 046:051 Pharmacy Practice Lab II** 2 s.h.  
Practical application of scientific and clinical knowledge used in the provision of pharmaceutical care; activities include prescription compounding, pharmacy calculations, communication skills, prescription counseling, and applications of drug information skills through secondary searching of the primary literature. Prerequisites: 046:050. Requirements: P1 standing.
- 046:066 Pharmacy Computer Systems** 2 s.h.  
Fundamentals of data storage and retrieval for pharmacy information systems.
- 046:101 Pharmacy Projects** 1-3 s.h.  
Basic and applied research problems of pharmaceutical interest.
- 046:102 Pharmacy Workshop** 1 s.h.

Independent study.

- 046:103 Fundamentals of Evaluating Clinical Research** 1 s.h.  
Basic concepts for evaluation of clinical trials published in primary biomedical and pharmacy literature; design, methods, outcomes, statistical analysis, and generalizability of results. Requirements: P1 standing.
- 046:104 Pharmacy Law and Ethics** 2 s.h.  
Legal and moral aspects involved in the practice of pharmacy. Requirements: P1 standing.
- 046:105 Alternative and Complementary Medicine** arr.  
Requirements: (for 046:105) P4 standing. Same as 078:210, 096:182.
- 046:106 Clinical Practice Skills I: Theory and Application** 2 s.h.  
Exploration and development of professional skills required for delivery of patient care; patient assessment, clinical decision making, communication (written and oral), teamwork. Corequisites: 046:155.
- 046:107 Clinical Practice Skills II: Critical Patient Analysis** 2 s.h.  
Continuation of 046:106; development of professional skills required for delivery of patient care; patient assessment, clinical decision making, communication (written and oral) skills. Corequisites: 046:158. Requirements: P3 standing.
- 046:108 Clinical Practice Skills III: Applied Patient Management** 2 s.h.  
Continuation of 046:107; development of professional skills required for delivery of patient care; patient assessment, clinical decision making, communication (written and oral), teamwork. Corequisites: 046:164. Requirements: P3 standing.
- 046:115 Drug Literature Evaluation** 2 s.h.  
Study design methods, drug information techniques and skills; skill development in critical analysis and evaluation of published reports of drug use and drug trials, assessment of validity of reports, trials and studies, assessment of generalizability of results to individual patients and patient groups; laboratory experience in biomedical literature analysis, evaluation.
- 046:116 Pharmacy Practice Lab III** 2 s.h.  
Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include prescription interpretation and counseling, compounding, applications of drug information, use of patient screening tools, physical assessment, and pharmacy law. Corequisites: 046:149 and 046:154, if not taken as prerequisites.
- 046:117 Pharmacy Practice Lab IV** 2 s.h.  
Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include providing medication therapy management for patients, prescription and self-care counseling, and application of drug information skills. Corequisites: 046:155 and 046:156, if not taken as prerequisites.
- 046:118 Pharmacy Practice Lab V** 2 s.h.  
Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include medication therapy management for patients, prescription and self-care counseling, and application of drug information skills. Corequisites: 046:158 and 046:159, if not taken as prerequisites.
- 046:119 Pharmacy Practice Lab VI** 2 s.h.  
Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include medication therapy management for patients, prescription and self-care counseling, and application of drug information skills. Corequisites: 046:164 and 046:165, if not taken as prerequisites.
- 046:121 Substance Abuse** 3 s.h.  
Themes and concepts in substance abuse and treatment; stimulants, depressants, alcohol, opiates, hallucinogenics, steroids; drug abuse prevention and treatment, including dual diagnosis, from cradle to the grave.
- 046:122 Social Aspects of Pharmacy Care** 2 s.h.  
Conceptual issues related to social and behavioral components of pharmacy care; social construction of health and illness, medication use process, health communications, cultural competence, health disparities and public health. Requirements: P1 standing.

- 046:126 International Perspectives: Xicotepec** 2 s.h.  
Introduction to providing service to a community in a less developed country; student projects intended to improve community life in Xicotepec. Corequisites: 165:126. Requirements: P3 standing. Same as 053:126.
- 046:127 Pharmaceuticals Management for Underserved Populations** 3 s.h.  
Experience analyzing problems and developing strategies based on real-world drug management cycle issues; the role of WHO-TRIPS, government, and NGOs in the selection and use of pharmaceuticals.
- 046:129 Pharmaceutical Economics and Insurance** 3 s.h.  
Financing of health care in the U.S.; insurance and reimbursement in pharmacy and pharmacoeconomics.
- 046:139 Pharmacy Management and Marketing** 2 s.h.  
Application of management principles to pharmacy practice; marketing techniques for pharmacy practice; operations, human resources, finance, quality improvement and service marketing management.
- 046:146 End-of-Life Care for Adults and Families** 2-4 s.h.  
End-of-life issues in care of adults, older adults, and their families. Requirements: 096:135 and 096:136, or RN standing. Same as 050:147, 096:147, 153:147.
- 046:149 Introduction to Therapeutics/Special Population** 2 s.h.  
Treatment modalities that promote health and treat common diseases; common laboratory and diagnostic procedures used to diagnose and monitor diseases; basic types of adverse drug reactions. Requirements: P2 standing.
- 046:151 Current Topics in Health Policy** 2 s.h.  
Legislative process and broad range of current issues in health policy; general- and pharmacy-specific health policy topics at state and federal levels. Requirements: P1, P2, P3, or graduate standing.
- 046:154 Endocrinology, Ophthalmology, Women's and Men's Health Therapeutics** 2 s.h.  
Pharmacotherapy for endocrine and ophthalmologic disorders; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P2 standing.
- 046:155 Respiratory and Dermatologic Therapeutics** 2 s.h.  
Pharmacotherapy for respiratory and dermatology disorders; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P2 standing.
- 046:156 Cardiovascular Therapeutics** 2 s.h.  
Pharmacotherapy for cardiovascular disorders; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P2 standing.
- 046:158 FEN, GI, and Renal Therapeutics** 2 s.h.  
Pharmacotherapy for fluid/electrolyte/nutrition disorders; gastrointestinal and renal diseases; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.
- 046:159 Rheumatology, Immunology, Hematology, Oncology, and Transplantation Therapeutics** 2 s.h.  
Pharmacotherapy for rheumatology, immunology, hematology, oncology, and transplantation; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.
- 046:164 Neurology/Psychiatry Therapeutics** 2 s.h.  
Pharmacotherapy for psychiatric and neurologic disorders; review of disorders, therapeutic goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.
- 046:165 Infectious Disease Therapeutics** 2 s.h.  
Pharmacotherapy for infectious diseases; review of disease, therapeutic goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.
- 046:171 Nonprescription Pharmacotherapy** 2 s.h.  
Introduction to nonprescription medications; development of patient assessment and consultation skills; understanding of pharmacist's role in patient self-care. Requirements: P3 standing.
- 046:174 Pharmacy Service Development** 3 s.h.

Issues and approaches used to develop pharmacy services; planning, service design, payment, promotion, quality improvement. Requirements: P3 standing.

**046:176 Immunization Theory and Practice** 2 s.h.

Preparation for administering routine immunizations safely and responsibly under specific order of a prescriber; preparation for administering vaccinations under protocol according to rules of the Iowa Boards of Pharmacy and Medical Examiners. Prerequisites: 046:159. Requirements: P3 standing.

**046:190 Overview of Pediatric Pharmacotherapy** 2 s.h.

Discussion of issues and problems in pediatric pharmacotherapy; clinical practicum. Prerequisites: 046:149 and 046:170. Requirements: P3 standing.

**046:191 Health Coaching and Wellness** 2 s.h.

Develop expertise in health coaching and wellness to care for patients with chronic diseases; in-depth look at lifestyle changes recommended for patients with chronic diseases; discuss and investigate nutrition and exercise guidelines for patients with chronic diseases; motivational interviewing technique and incorporation of chronic care model for patients. Requirements: P2 or P3 standing.

**046:195 Contemporary Issues and Leadership** arr.

Introduction to leadership applications inside and outside of pharmacy; speaker series presents live interviews of prominent leaders; course work focuses on application of leadership principles and theories to contemporary pharmacy issues. Requirements: P2 standing.

**046:357 Topics in Community Pharmacy Management** 2 s.h.

Focus on building practical knowledge and understanding of business principles. Prerequisites: 046:130.

**046:377 Health Disparities and Cultural Competence** 2-4 s.h.

Characteristics, causes, and effects of health disparities in the U.S. health care system; foundation for development of knowledge, attitudes, and skills required of culturally competent health care providers; definitions and models of cultural competence, characteristics of culturally effective practitioners and workplaces; health disparities among specific populations, evidence for cultural competence as a remedy; taking a culturally appropriate history; working with interpreters; legal and professional imperatives for cultural competence. Same as 096:125, 172:135.

**046:398 Hospital Pharmacy Practice Management Elective** 2 s.h.

Organizational structure of pharmacy departments in hospitals and health care systems; models for delivery of pharmaceutical care; pharmacy's role in drug-policy decision making; provision of drug information; clinical and distributive pharmacy services; control of pharmacy and pharmacy costs; use of information technology and automation for service delivery; supervisory management; quality improvement. Requirements: P3 standing.

**Pharmacy Practice and Science Professional Experience**

**046:001 Introduction to Pharmacy Practice** 1 s.h.

Exposure to the pharmacy profession through varied shadowing experiences in practice settings. Requirements: P1 standing.

**046:002 Introduction to Community Pharmacy Practice** 3 s.h.

Exposure to community pharmacy through activities focusing on drug distribution, legal requirements, communication, patient interaction; during breaks in P2 year. Requirements: P2 standing.

**046:003 Introduction to Clinical Pharmacy Practice** 1 s.h.

Clinical practice experience observing and participating in clinical activities with P4 students, faculty, and other health care providers. Requirements: P3 standing.

**046:004 Student Pharmacist Professionalism** 1 s.h.

Participation in activities promoting leadership and professional learning, and service learning; required participation P1 through P3 years.

**046:008 Introduction to Hospital Pharmacy Practice** 2 s.h.

Exposure to hospital pharmacy through activities focusing on drug distribution, legal requirements, communication, patient interaction; during breaks in P2 year. Requirements: P2 standing.

**046:136 Elective: Academic Rotation** 6 s.h.  
Practice experience delivering pharmacy education with a College of Pharmacy faculty member. Requirements: P4 standing.

**046:140 Elective: Ambulatory Care Rotation** 6 s.h.  
Clinical experience providing pharmaceutical care in specialty outpatient settings. Requirements: P4 standing.

**046:141 Elective: Community Management Rotation** 6 s.h.  
Practice exposure to community pharmacy operations and management at the store, district, or corporate level. Requirements: P4 standing.

**046:142 Elective: Compounding/Complimentary Alternative Medicine Rotation** 6 s.h.  
Clinical work in a community setting with focus on team approach; experience developing extemporaneous compounds to optimize patient care and/or integrating traditional and nontraditional medicine. Requirements: P4 standing.

**046:143 Elective: Critical Care Medicine Rotation** 6 s.h.  
Practice experience providing pharmaceutical services to intensive care unit patients. Requirements: P4 standing.

**046:161 Elective: Drug Information Rotation** 6 s.h.  
Practice experience applying drug information knowledge to service and research projects. Requirements: P4 standing.

**046:178 Hospital Pharmacy Rotation** 6 s.h.  
Instruction and practical experience in various components of hospital pharmacy; emphasis on hospital organization, inpatient and outpatient services, IV admixtures, unit dose, and clinical services. Requirements: P4 standing.

**046:179 Community Pharmaceutical Care Rotation** 6 s.h.  
Clinical experience in the community setting; emphasis on delivery of pharmaceutical care. Requirements: P4 standing.

**046:180 Acute Care Medicine Rotation** 6 s.h.  
Clinical experience applying therapeutic skills for the pharmacotherapeutic management of patients on general medicine or specialty inpatient areas. Requirements: P4 standing.

**046:181 Elective: Family Medicine Rotation** 6 s.h.  
Clinical practice experience applying primary care therapeutics in family medicine practice settings. Requirements: P4 standing.

**046:182 Elective: Pediatrics Rotation** 6 s.h.  
Clinical experience in drug therapy management of general and specialty pediatric patients. Requirements: P4 standing.

**046:184 Elective: Psychiatry Rotation** 6 s.h.  
Clinical experience in the rational use of drugs in psychiatric disorders. Requirements: P4 standing.

**046:185 Elective: Neurology Rotation** 6 s.h.  
Clinical experience in the pharmacotherapeutic and pathophysiologic considerations of neurological disorders. Requirements: P4 standing.

**046:186 Elective: Surgery Rotation** 6 s.h.  
Clinical experience in drug therapy management on a surgery unit. Requirements: P4 standing.

**046:187 Elective: Nuclear Pharmacy Rotation** 6 s.h.  
Practical experience in the handling and clinical use of radiopharmaceuticals. Requirements: P4 standing.

**046:188 Elective: Pharmacy Practice Underserved Population Rotation** 6 s.h.  
Opportunity to learn the best practices for pharmaceutical management; approaches to enhance access to and appropriate use of medicines in underserved and resource-limited environments. Requirements: P4 standing.



<b>046:189 Elective: Pharmacy Rotation</b>	6 s.h.
Selected practice experiences in various pharmacy practice settings. Requirements: P4 standing.	
<b>046:192 Elective: Long Term Care Rotation</b>	6 s.h.
Practice in consulting and providing services to varied long-term patient care environments. Requirements: P4 standing.	
<b>046:193 Elective: Home Health Care Rotation</b>	6 s.h.
Clinical experience in the team approach to health care delivery, including total parenteral nutrition, chemotherapy, intravenous antibiotics, lab analysis, hospice care, and pain management. Requirements: P4 standing.	
<b>046:194 Elective: Managed Care Rotation</b>	6 s.h.
Practice experience in providing pharmaceutical care or pharmacy-related services in a managed care organization. Requirements: P4 standing.	
<b>046:196 Ambulatory Care Rotation</b>	6 s.h.
Clinical experience in providing pharmaceutical care in outpatient clinic settings. Requirements: P4 standing.	
<b>046:197 Elective: Hematology/Oncology Rotation</b>	6 s.h.
Drug therapy management of oncology patients and patients with hematologic malignancies, aplastic anemia, sickle cell disease, hemophilia. Requirements: P4 standing.	
<b>046:198 Elective: Hospital Pharmacy Practice Management</b>	2 s.h.
Practice management issues; organizational structure, service delivery models, drug policy, drug and pharmacy costs, use of technology and informatics, supervision, quality improvement.	
<b>046:199 Elective: Research Rotation</b>	6 s.h.
Practice experience in basic pharmaceutical or clinical research; proposal, study design, data collection and analysis, presentation of results. Requirements: P4 standing.	
<b>046:300 Elective: Emergency Medicine Rotation</b>	6 s.h.
Clinical experience providing pharmaceutical care for patients treated in the emergency department. Requirements: P4 standing.	
<b>046:301 Elective: Hospital Management Rotation</b>	6 s.h.
Practice experience in hospital pharmacy operations and management. Requirements: P4 standing.	
<b>046:302 Elective: Infectious Disease Rotation</b>	6 s.h.
Clinical experience providing pharmacotherapeutic management of patients receiving antimicrobial medications. Requirements: P4 standing.	
<b>046:303 Elective: Medication Use Evaluation Rotation</b>	6 s.h.
Practical experience in drug use evaluation to improve patient outcomes. Requirements: P4 standing.	
<b>046:304 Elective: Pharmacy Industry Rotation</b>	6 s.h.
Practice experience in an area of the pharmaceutical industry. Requirements: P4 standing.	
<b>046:305 Elective: Pharmacy Regulatory Rotation</b>	6 s.h.
Practice experience with a pharmacy regulatory body. Requirements: P4 standing.	
<b>046:306 Elective: Professional Association Rotation</b>	6 s.h.
Practice experience in professional association management environment at the state or national level. Requirements: P4 standing.	
<b>046:307 Elective: Veterinary Pharmacy Rotation</b>	6 s.h.
Practice experience in managing drug therapy for animals. Requirements: P4 standing.	
<b>046:308 Elective: Advanced Community Pharmacy Rotation</b>	6 s.h.
Community pharmacy experience emphasizing patient-centered care. Requirements: P4 standing.	

**Medicinal and Natural Products Chemistry****046:128 Medicinal and Natural Products Chemistry I: Biotechnology and Chemotherapy** 3 s.h.

Organic and inorganic medicinal and therapeutic agents of natural and synthetic origin; physical, chemical, biological, and biochemical properties as they relate to medicinal and therapeutic effects; comparative biological activity and toxicity; detoxication mechanisms; functional group chemistry; nomenclature; chemistry of radiodiagnostic and therapeutic agents; introduction to biopharmaceutical analysis. First in a three-course sequence. Prerequisites: 004:122, 061:112, and 099:162. Requirements: P1 standing.

**046:131 Medicinal and Natural Products Chemistry II: Pharmacodynamic Agents** 3 s.h.

Medicinal chemistry of pharmacodynamic agents; introduction to peptides and proteins, thyroid hormone, diabetes, vaccines, gene therapeutics, NSAIDs, cardiovascular drugs, antihistamines, anticancer drugs. Second in a three-course sequence. Prerequisites: 046:128. Requirements: P2 standing.

**046:132 Medicinal and Natural Products Chemistry III: Medicinal Neurochemistry** 3 s.h.

Receptor site theory; steroids, lipids, and prostaglandins; sedatives and hypnotics; drugs of abuse; cholinergics; excitatory amino acids and anticonvulsants; major analgesics; adrenergics; psychotherapeutics. Third in a three-course sequence. Prerequisites: 046:128 and 046:131. Requirements: P2 standing.

**Pharmaceutics and Translational Therapeutics****046:012 Survey of Basic Pharmaceutical Sciences** 1-2 s.h.

Aspects of drug discovery and development; seminar with guest speakers from industry. Requirements: admission to Pharm.D. program.

**046:123 Pharmaceutics I: Solutions** 4 s.h.

Application of physical and chemical principles to formulation, preparation of liquid dosage forms, including solution, colloids, ointments, emulsions. Requirements: P1 standing.

**046:124 Pharmaceutics II: Solids and Semi-solids** 4 s.h.

Properties of solids; formulation, preparation, evaluation of solid dosage forms. Requirements: P1 standing.

**046:138 Pharmacokinetics and Biopharmaceutics** 3 s.h.

Qualitative and quantitative description of kinetics of drug absorption, distribution, and elimination, including physiological factors that influence each process; adjustment of dosing regimens for optimizing therapeutic drug levels in the body. Prerequisites: 046:123 and 046:124.

**046:169 Introduction to Pharmacogenomics** 2 s.h.

Introduction to pharmacogenetics in pharmacy; laboratory techniques, application of pharmacogenetics to clinical pharmacy.

**046:170 Clinical Pharmacokinetics** 3 s.h.

Application of pharmacokinetics to the clinical setting. Requirements: P3 standing.

**046:173 Parenteral Products and Technology** 2 s.h.

Knowledge and application of parenteral products and the technology used to compound and administer them. Requirements: 046:051 and 046:123.

**046:238 Drug Delivery: Principles and Applications I** arr.

Advanced design and development of drug delivery systems with emphasis on selection of materials and designs suitable for specific applications; comparison and evaluation of available and emerging technologies.

**046:239 Drug Delivery: Principles and Applications II** arr.

Continuation of 046:238. Prerequisites: 046:238.

## For Graduate Students

### Pharmacy Practice and Science

**046:147 Introduction to Research Methods** 3 s.h.

Scientific inquiry, experimental design, data collection, statistical methods used in the study of health services and clinical investigations; focus on understanding the research process and evaluating published studies.

Recommendations: introductory statistics.

**046:213 Pharmaceutical Socioeconomics Seminar** 1-2 s.h.

Recent research in pharmacy administration. Repeatable.

**046:251 Pharmaceutical Socioeconomics Research** arr.

**046:255 Social Aspects of Pharmacy Care** 2 s.h.

Conceptual issues related to social and behavioral components of pharmacy care; social construction of health and illness, medication use process, health communications, cultural competence, public health.

**046:257 Foundation Literature in Pharmaceutical Socioeconomics** arr.

Issues related to pharmacy administration, social and behavioral pharmacy, pharmacy education.

**046:261 Analytic Issues in Health Services Research I** 3 s.h.

Analytic tools used in health services research; focus on applications in nonexperimental research settings, such as analyses using administrative claims data or preexisting public use data sets. Prerequisites: 171:162. Same as 174:261.

**046:262 Analytic Issues in Health Services Research II** 3 s.h.

Continuation of 174:261; advanced applications, including panel data and qualitative response models. Prerequisites: 174:261. Same as 174:262.

**046:263 Models of Patient Behavior and Choice** 3 s.h.

Theoretical models used to describe behavior and choice in pharmaceutical socioeconomic research; models from economics, health services research, health behavior, clinical decision making.

**046:264 Models of Provider Behavior and Choice** 3 s.h.

Theoretical background for study of provider decision making and behavior; models based on a classic economic approach, models used to study provider behavior.

### Medicinal and Natural Products Chemistry

**046:135 Perspectives in MNPC Research** 1 s.h.

Contemporary research in medicinal chemistry and natural products.

**046:137 Enzymatic Basis of Drug Metabolism** 3 s.h.

Current literature on catalytic and physical properties, distribution, and substrate specificity of enzymes involved in mammalian drug metabolism. Prerequisites: 004:122 and 099:162.

**046:150 Synthetic Strategies in Medicinal Chemistry** 3 s.h.

Modern chemical methods for construction of carbon-carbon bonds commonly used in synthesis of natural products; strategic disconnections for the syntheses of these molecules. Prerequisites: 004:122 and 046:132.

**046:209 Drug Discovery and Mechanisms** 3 s.h.

Process of modern drug discovery, focus on high throughput screening strategies, target validation, pharmacological characterization of new compounds; mechanism of drugs targeting G protein coupled receptors, ion channels and transporters, targets in biological systems.

- 046:211 Total Synthesis of Natural Products** 3 s.h.  
Total synthesis of natural products; use of strategies, tactics, efficiency, selectivity, synthetic maneuvering.
- 046:214 Pharmaceutical and Chemical Toxicology** 3 s.h.  
Principles and mechanisms of chemical toxicology related to drugs and environmental agents; modern toxicological research methods.
- 046:215 Current Medicinal Chemistry** 3 s.h.  
Modern techniques used in drug discovery; important drug classes, their chemical mechanism of action. Prerequisites: 046:132.
- 046:217 Medicinal and Natural Products Chemistry Research** arr.
- 046:219 Analytical Biochemistry** 3 s.h.  
Application of modern chromatographic and detection methods used to isolate, characterize, and quantify drugs and macromolecules.
- 046:227 Medicinal and Natural Products Chemistry Seminar** 1-2 s.h.
- 046:275 Perspectives in Biocatalysis** 1-3 s.h.  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Repeatable. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as 004:275, 052:275, 053:275, 061:275, 099:275.

## Pharmaceutics

- 046:148 Pharmacokinetics and Pharmacodynamics** 3 s.h.  
Kinetics of drug absorption, distribution, and elimination, including development of mathematical models. Requirements: two semesters of calculus and one semester of statistics.
- 046:157 Quantitative Research Methods in Pharmacy** 4 s.h.  
Collection and interpretation of analytical data; instrumental analysis as applied to pharmaceutical quality control; separation techniques; lecture and laboratory.
- 046:200 Special Topics in Nanotechnology** 1 s.h.  
Special topics in nanotechnology.
- 046:202 Selected Topics in Pharmaceutics and Clinical Pharmaceutical Sciences** 1-4 s.h.  
Recent advances and contemporary research in pharmaceutics. Repeatable.
- 046:206 Stability of Pharmaceuticals** 3 s.h.  
Mechanisms of degradation of pharmaceuticals; prediction of shelf life of pharmaceuticals, stabilization. Prerequisites: 004:132.
- 046:207 Polymers in Pharmaceutics** 3 s.h.  
Polymer science, its implications in pharmaceutics; polymers useful as excipients in design of controlled and/or sustained release products.
- 046:223 Quantitative Research Methods II: Materials Characterization** 2 s.h.  
Introduction to physical methods of pharmaceutical materials characterization; thermal, electrochemical, and spectrophotometric methods; lecture, discussion, and laboratory activities.
- 046:225 Product Development** 3 s.h.  
Application of physico-chemical principles to formulation and design of pharmaceutical dosage forms.

<b>046:229 Advanced Pharmacokinetics and Pharmacodynamics</b> Selected topics, including nonlinear curve fittings. Prerequisites: 046:148.	3 s.h.
<b>046:231 Pharmaceutics Seminar</b> Repeatable.	1-2 s.h.
<b>046:233 Pharmaceutics Research</b>	arr.
<b>046:235 Equilibria Processes</b> Equilibria pertaining to ionic systems, complexation, partitioning, solubility. Prerequisites: 004:131.	3 s.h.
<b>046:236 Surface Phenomena</b> Behavior of matter in phase boundaries, especially adsorptive processes at liquid-solid and vapor-solid interfaces. Prerequisites: 004:131.	arr.
<b>046:237 Transport Phenomena</b> Diffusion and mass transport phenomena related to pharmaceutical systems. Prerequisites: 004:131.	3 s.h.
<b>046:243 Clinical Pharmaceutical Sciences Research</b>	arr.
<b>046:245 Analytical Techniques in Therapeutics</b> Basic concepts of cell culture, animal models, and biochemical techniques for mechanistic evaluation of drug actions.	2 s.h.
<b>046:269 Introduction to Clinical Pharmacogenomics</b> Basic pharmacogenetic techniques; use of pharmacogenomics in clinical pharmacy. Prerequisites: 002:128.	3 s.h.
<b>046:280 Clinical Pharmaceutical Sciences Seminar</b> Research by faculty, graduate students.	1-2 s.h.
<b>046:284 Introduction to Pharmaceutical Sciences Research</b> Key principles and methods in pharmaceutical sciences research.	2 s.h.
<b>046:290 Tissue Engineering</b> Introduction to tissue engineering; scaffolds, fundamentals, principles. Same as 051:175, 052:227.	3 s.h.
<b>046:378 Translation Research and Clinical Drug Development</b> Clinical drug development; preclinical studies and clinical trials; phase I, II, and III clinical trials, including regulatory considerations.	3 s.h.
<b>046:379 Principles of Experimental Therapeutics</b> Introduction to key principles and concepts for research in experimental therapeutics; basic principles related to drug disposition, toxicity, and efficacy.	3 s.h.
<b>046:380 Applied Clinical and Translational Science</b> Application of clinical and translational science in a multidisciplinary collaborative environment to develop, conduct, and report research.	3 s.h.

# College of Public Health

**Dean:** Susan J. Curry

**Associate dean, faculty affairs and research:** Leon F. Burmeister

**Associate dean, education and student affairs:** Tanya Uden-Holman

**Associate dean, public health practice:** Christopher G. Atchison

**Associate dean, M.P.H. and undergraduate programs:** Mary Lober Aquilino

**Assistant dean, administration:** Ann M. Coady

**Graduate degrees:** M.H.A., M.P.H., M.S., Ph.D.

**Nondegree programs:** Certificate in Agricultural Safety and Health, Certificate in Public Health, Certificate in Emerging Infectious Disease Epidemiology

**Web site:** <http://www.public-health.uiowa.edu>

The College of Public Health, established in 1999, is a partner with the Carver College of Medicine and the Colleges of Dentistry, Nursing, and Pharmacy in striving to improve human health and well-being. Consistent with the interdisciplinary traditions of public health, the college also collaborates with non-health science colleges across the University and with other Board of Regents, State of Iowa institutions, state and local agencies, and the private sector.

A population-based approach to health is a distinguishing feature of public health and of the college. For public health practitioners--a wide range of professionals including physicians, nurses, dentists, pharmacists, social workers, nutritionists, environmental scientists, health educators, and health service administrators--the primary focus is on the health of entire communities rather than individual patients. Tools that public health professionals use to improve and enhance quality of life include analytical methods to identify, describe, and monitor the health of communities and populations at risk; education and prevention programs, methods of assuring access to appropriate and cost-effective care; and formulation of sound public policies.

The public health approach has led to many important health improvements over the past century. Vaccination campaigns, improved sanitation, fluoridation of drinking water, and efforts to reduce tobacco use are among the most recognizable public health initiatives. Public health programs also have led to safer workplaces, reduction of deaths from coronary heart disease and stroke, improved motor vehicle safety, and creation of effective health systems to provide care to those who need it. In the future, public health professionals will play an important role worldwide in seeking better approaches to complex issues such as quality of life for the elderly, drug and alcohol abuse, teen pregnancy, new and emerging infectious diseases, food safety, effects of bioterrorism, and nutrition.

The College of Public Health provides educational opportunities to students campuswide. In addition to training and educating public health students, the college welcomes students from the Tippie College of Business, the Carver College of Medicine, and the Colleges of Dentistry, Education, Engineering, Law, Nursing, and Pharmacy who enroll in public health classes. Undergraduate students in the College of Liberal Arts and Sciences and graduate students from programs such as anthropology, microbiology, and statistics also register for public health courses. The college's faculty members, staff members, and graduate and postdoctoral students contribute to teaching and research activities throughout the health sciences campus and provide services to Iowa and the nation. Partnerships for teaching and research extend across the campus. This background provides a rich array of educational opportunities.

The college includes the Departments of Biostatistics, Community and Behavioral Health, Epidemiology, Health Management and Policy, and Occupational and Environmental Health. It offers four graduate degrees: Master of Health Administration (M.H.A.), Master of Public Health (M.P.H.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). It also offers the Certificate in Agricultural Safety and Health, the Certificate in Public Health, and the Certificate in Emerging Infectious Disease Epidemiology.

The college is accredited by the Council on Education for Public Health (CEPH), the accrediting body for the nation's schools and colleges of public health. Two programs in the college currently are accredited: the industrial hygiene program is accredited by the Accreditation Board for Engineering and Technology (ABET) and the American Board of Industrial Hygiene (ABIH), and the Master of Health Administration is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME).

## Admission

Each department in the College of Public Health has an admission committee. Admission criteria usually include a satisfactory cumulative grade-point average; Graduate Record Examination scores; references; résumés; and for applicants whose first language is not English, scores on the Test of English as a Foreign Language (TOEFL). Other evaluation criteria may include oral and on-campus interviews, written statements, special emphasis on science and math courses, and a match of available faculty mentors with student interests. Application deadlines vary by department.

Applicants to College of Public Health programs must meet the admission requirements of the Graduate College. For detailed information about Graduate College policies, including application requirements and procedures, see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Faculty

The college's faculty includes members with single appointments in the College of Public Health as well as those with joint appointments in other University of Iowa colleges, including the Carver College of Medicine and the Colleges of Dentistry, Engineering, Law, Liberal Arts and Sciences, Nursing, and Pharmacy. In addition, the college's faculty includes adjunct members from Drake University, Iowa State University, the University of Northern Iowa, the Iowa State Department of Public Health, the Iowa State Hygienic Laboratory, the Iowa Heart Center (in Des Moines), University of Iowa Hospitals and Clinics, and the National Institutes of Health.

## Research Centers and Institutes

The College of Public Health is home to 27 centers and institutes that conduct research and provide public service. These multidisciplinary centers and institutes--most of which are supported by federal grants--focus their investigative efforts on important public health topics. They conduct an array of outreach, service, and policy activities through which the College of Public Health engages with agencies, communities, and organizations throughout Iowa, the Midwest, the nation, and the world. Students are encouraged to explore opportunities for involvement with any of the college's centers and institutes.

For more information, see [College of Public Health-Based Centers and Institutes](#) on the college's web site.

## Facilities

The college's administrative offices are housed in the University of Iowa Hospitals and Clinics, on the University's health sciences campus. Faculty offices are located on the health sciences campus in the College of Medicine Administration Building, General Hospital, John Colloton Pavilion, the Medical Education Building, Medical Laboratories, and Westlawn; on the main campus in the Jefferson Building, MacLean Hall, Schaeffer Hall, and University Capitol Centre; and on the Oakdale Campus in Oakdale Hall and at the Institute for Rural and Environmental Health. Specialized laboratories also are located on the Oakdale Campus.

Eight student computer laboratories are housed at the college. More than 55 software packages are available for student use, most without charge. Software includes Microsoft Office products, SAS, and S+. Some specialty labs are equipped with RedHat Linux and are loaded with R, Macanova, Xlispstat, Mathematica, and other software.

Students, faculty, and staff draw on extensive library resources available across campus. Hardin Library for the Health Sciences serves as a central resource for all of the health sciences colleges. Hardin Library's Information Commons, a state-of-the-art health sciences educational technology facility, provides central support and delivery for courseware development, classroom instruction, health-related research, and independent learning. It offers high-end multimedia development workstations, networked electronic classrooms, a case-based learning and conference room, and information research workstations for searching health-related databases and the Internet.

## Agricultural Safety and Health

**Director:** Kelly Donham

**Graduate nondegree program:** Certificate in Agricultural Safety and Health

**Web site:** <http://www.public-health.uiowa.edu/oeht/programs/certificate/>

The College of Public Health offers the Certificate in Agricultural Safety and Health via distance education. The graduate-level program trains students to detect safety and illness hazards and to treat and prevent farm-related illnesses, injuries, and deaths.

### Certificate in Agricultural Safety and Health

The Certificate in Agricultural Safety and Health requires 12 s.h. The program is intended for health and safety professionals nationwide as well as for students at The University of Iowa and other postsecondary institutions who are enrolled in health or safety programs and would like to add an agricultural health component to their training. Completion of the program may enhance employment opportunities in health care delivery, government, and the private sector.

The certificate program is accredited by the Council on Education in Public Health.

Students complete six courses, listed below. Although the certificate is offered via distance education, off-campus students are encouraged to take 175:209 Rural Health and Agricultural Medicine on campus; the course is offered twice yearly, once during spring semester and again as an intensive five-day workshop in June. Students may be able to complete 175:203 Preceptorship in Occupational and Environmental Health in their own communities.

175:172 Independent Study in Occupational and Environmental Health	1 s.h.
175:196 Agricultural Safety: Theories and Practice	2 s.h.
175:203 Preceptorship in Occupational and Environmental Health	2 s.h.
175:209 Rural Health and Agricultural Medicine	3 s.h.
175:180 Occupational and Environmental Health Seminar	1 s.h.
or	
175:210 Current Topics in Agricultural Health	1 s.h.
175:192 Occupational Safety	3 s.h.
or	
175:230 Occupational Health	3 s.h.

Applicants to the certificate program should hold a bachelor's degree from an accredited university with a g.p.a. of at least 2.50, or have equivalent experience and education. Application materials must include the program's application form, a résumé, and a letter of interest explaining the applicant's current position and education objectives.

For more information about the program's curriculum or faculty, visit the Certificate in Agricultural Safety and Health web site.



## Biostatistics

**Head:** Kathryn Chaloner

**Deputy head:** William R. Clarke

**Professors:** Stephan Arndt (Psychiatry), Leon F. Burmeister, Joseph E. Cavanaugh (Statistics and Actuarial Science), Kathryn Chaloner (Statistics and Actuarial Science), William R. Clarke, Christopher S. Coffey, Jeffrey J. Dawson, Jian Huang (Statistics and Actuarial Science), Michael P. Jones (Statistics and Actuarial Science), Joseph B. Lang (Statistics and Actuarial Science), Douglas Langbehn (Psychiatry), Jane F. Pendergast, Bruce Pfohl (Psychiatry), Ying Zhang, Dale Zimmerman (Statistics and Actuarial Science)

**Professors emeriti:** George Woodworth (Statistics and Actuarial Science), Robert F. Woolson (Statistics and Actuarial Science/Epidemiology)

**Adjunct professor:** Daniel J. Sargent

**Clinical professor:** M. Bridget Zimmerman

**Associate professors:** M. Kathryn Cowles (Statistics and Actuarial Science), Brian J. Smith, Kai Wang

**Assistant professors:** Dawei Liu, Jacob J. Oleson, Yi Xing (Internal Medicine/Biomedical Engineering), Gideon K.D. Zamba

**Adjunct assistant professors:** Hyonggin An, Michelle A. Larson, Stephen Hillis

**Associate:** Emine O. Bayman (Anesthesiology)

**Graduate degrees:** M.S., Ph.D. in Biostatistics

**Web site:** <http://www.public-health.uiowa.edu/biostat>

The Department of Biostatistics prepares students for professional and academic careers in biostatistics. Graduates find positions in pharmaceutical, health care, and research companies and institutions; in universities and government agencies; and as consultants. The department also provides training for non-biostatistics students.

Current research interests in the Department of Biostatistics include computer intensive statistics, Bayesian methods, design and analysis of clinical trials, longitudinal data analysis, survival analysis, spatial modeling, analysis of data subject to missingness, time series, model selection, quality control, survey sampling, and public health statistics. Biostatistics faculty members work closely with both clinical and basic science investigators on the University of Iowa health sciences campus in the design and analysis of research projects.

## Graduate Programs

The department offers a Master of Science and a Doctor of Philosophy in biostatistics. It also offers the biostatistics subtrack for the Master of Public Health; see "M.P.H." Subtrack" below.

### Master of Science

The Master of Science in biostatistics requires a minimum of 38 s.h. of graduate credit. The program provides training in the design of experiments and in analysis of data related to biomedical or public health problems. It emphasizes mathematical, statistical, and computer methods for dealing with quantitative information, and provides opportunities for students to gain statistical consulting experience with a variety of problems.

Graduates find career opportunities in many areas, including pharmaceuticals, health care, research companies and institutions, consulting firms, universities, and government agencies.

All M.S. students are required to complete an in-depth preceptorship under the direction of a departmental faculty member and a final comprehensive-style examination.

Graduate students in biostatistics must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program.

### CORE COURSES

All of these:

171:178 Biostatistical Computing	3 s.h.
171:201-171:202 Biostatistical Methods I-II	8 s.h.
171:203 Biostatistical Methods in Categorical Data	3 s.h.
171:266 Statistical Methods in Clinical Trials	3 s.h.
171:280 Preceptorship in Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.

One of these sequences:

22S:153-22S:154 Mathematical Statistics I-II	6 s.h.
22S:193-22S:194 Statistical Inference I-II (preferred for Ph.D. students)	6 s.h.

One of these:

002:169 Introduction to Bioinformatics	4 s.h.
055:122 Computational Genomics	3 s.h.
061:157 General Microbiology	5 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.

096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.
127:191 Human Molecular Genetics	3 s.h.
172:101 Introduction to Health Promotion and Disease Prevention	3 s.h.
174:102 Introduction to the U.S. Health Care System	3 s.h.
175:197 Environmental Health	3 s.h.

### ELECTIVES

At least 3 s.h. from these:

22S:138 Bayesian Statistics	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:248 Computer Intensive Statistics	3 s.h.
22S:255 Linear Models	4 s.h.
171:173 Design of Sample Surveys	3 s.h.
171:174 Introductory Longitudinal Data Analysis	3 s.h.
171:185 Microarray Data Analysis	3 s.h.
171:230 Statistical Data Mining in Public Health	3 s.h.
171:242 Applied Survival and Cohort Data Analysis	3 s.h.
171:251 Theory of Biostatistics I	4 s.h.
171:252 Theory of Biostatistics II	4 s.h.
171:261 Survival Data Analysis	3 s.h.
171:262 Analysis of Categorical Data	3 s.h.
171:264 Longitudinal Data Analysis	3 s.h.
171:282 Problems/Special Topics in Biostatistics	1 s.h.

### M.P.H. Subtrack

The Department of Biostatistics offers the biostatistics subtrack for the Master of Public Health. The subtrack focuses on applying biostatistical methods to public health and biomedical sciences, and applying methodology for design and analysis of research investigations in the health sciences. Graduates of the program are prepared for work as statistical consultants and data analysts for public health projects. See Master of Public Health Program in the Catalog.

### Doctor of Philosophy

The Doctor of Philosophy in biostatistics requires a minimum of 79 s.h. of graduate credit, including credit from a master's degree. The program prepares students for professional and academic careers in biostatistics, especially for positions that emphasize developing and applying statistical methodology to solve important biological and public health problems.

All Ph.D. students must successfully complete a qualifying examination, a comprehensive examination, and a dissertation—a substantial scholarly treatise. The research topic and content, which vary depending on the program of study, must be approved by the student's dissertation committee. Other degree requirements include approved electives chosen from Department of Biostatistics and other University of Iowa courses.

Graduate students in biostatistics must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program.

Requirements for the Ph.D. are as follows.

#### MASTER OF SCIENCE BACKGROUND

Ph.D. students must take the following courses (26 s.h.) required for the Master of Science in biostatistics. Students who have completed equivalent course work at other institutions may request waivers and/or transfers of credit. Students who earned a Master of Science in biostatistics at The University of Iowa automatically receive credit for these courses.

One of these sequences:

22S:153-22S:154 Mathematical Statistics I-II	6 s.h.
22S:193-22S:194 Statistical Inference I-II	6 s.h.

All of these:

171:201-171:202 Biostatistical Methods I-II	8 s.h.
171:203 Biostatistical Methods in Categorical Data (171:241 may be substituted if taken fall 2006 or earlier)	3 s.h.
171:280 Preceptorship in Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
One approved biology/public health course	

#### CORE COURSES

22S:255 Linear Models	4 s.h.
171:251 Theory of Biostatistics I	4 s.h.
171:252 Theory of Biostatistics II	4 s.h.
171:261 Survival Data Analysis	3 s.h.
171:262 Analysis of Categorical Data	3 s.h.
171:264 Longitudinal Data Analysis	3 s.h.

#### ELECTIVES

With approval of their advisors, students choose 15-22 s.h. of graduate-level courses in biostatistics, statistics, genetics, microbiology, and so forth. They may count a maximum of 5 s.h. earned in nonquantitative courses (e.g., community and behavioral health, epidemiology, microbiology) toward the requirement. They also may count courses required for the Master of Science that are not listed under "Master of Science Background," above, toward the requirement.

Ph.D. students may take the following courses.

002:170 Bioinformatics	3 s.h.
22S:138 Bayesian Statistics	3 s.h.
22S:156 Applied Time Series Analysis	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:195 Probability and Stochastic Processes I	3 s.h.
22S:248 Computer Intensive Statistics	3 s.h.
171:243 Cohort Data Analysis	1 s.h.
171:280 Preceptorship in Biostatistics (in addition to preceptorship required for M.S.)	3 s.h.
171:290 Advanced Biostatistics Seminar	0-3 s.h.

#### DISSERTATION

171:300 Thesis/Dissertation (at least two semesters in residence)	10-17 s.h.
---	------------

#### Admission

The biostatistics faculty considers several factors when evaluating applications for admission, including GRE scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. A student with deficiencies in one area *may* be admitted if all other components of his or her application are very strong.

All M.S. and Ph.D. program applicants must hold a baccalaureate degree, have a cumulative g.p.a. of at least 3.00, and have taken the Graduate Record Examination (GRE) General Test. Applicants whose first language is not English and who do not hold a baccalaureate degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 550-599 (paper-based), 213-249 (computer-based), or 81-99 (Internet-based) on TOEFL are required to take English fluency courses. Applicants who score below those ranges are not considered for admission. In place of TOEFL scores, the department accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All biostatistics applicants and students are required to have strong written and oral communication skills.

All M.S. applicants must be competent in at least one computer programming language. They also must have mathematical sciences training in methods and techniques of single variable and multivariable differential and integral calculus, and in linear algebra.

Completion of an M.S. program in statistics or biostatistics generally is required for admission to the Ph.D. program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

#### **APPLICATION DEADLINES**

M.S. (fall entrance): January 15 (early), March 15 (late)

Ph.D. (fall entrance): January 15 (early), March 15 (late)

#### **Financial Support**

A limited number of teaching and research assistantships are available. Assistantships offer financial support and resident tuition with a partial tuition scholarship, and provide valuable on-the-job training experiences.

For information on financing education through jobs, grants, and loans, contact the Office of Student Financial Aid.

### **Resources**

Department of Biostatistics resources and activities include the Biostatistics Consulting Center, the Clinical Trials Statistical and Data Management Center, and the Center for Public Health Statistics. The Biostatistics Consulting Center provides opportunities for students to gain valuable experience working with faculty and staff in the health sciences at The University of Iowa. The Clinical Trials Statistical and Data Management Center serves the statistical design, data management, and analysis needs of a variety of multicenter clinical trials, including studies of new treatments for acute ischemic stroke and studies of islet transplantation. The Center for Public Health Statistics facilitates the collection, statistical analyses, and dissemination of health data in support of the University's research, teaching, and service missions and in partnership with the Iowa Department of Public Health.

### **Biostatistics Courses**

- 171:121 General Biostatistics** 4 s.h.  
Biostatistics and biostatistical computation; biostatistical aspects of health-related areas--clinical trials, disease modeling, disease mapping, genetics, and epidemiology; brief introduction to survival and longitudinal analyses.
- 171:151 Biostatistics for Biomedical Research** 1 s.h.  
Application of statistical techniques to biological data analysis; normal distribution, sampling distribution of the mean, variance, nonparametric methods, linear regression, power, and sample size. Same as 156:204.
- 171:161 Introduction to Biostatistics** 3 s.h.  
Application of statistical techniques to biological data, including descriptive statistics; probability; normal, binomial, and Poisson distributions; sampling distributions; tests of significance; confidence intervals; analysis of frequency data; simple linear regression. Offered fall and spring semesters. Requirements: college algebra.
- 171:162 Design and Analysis of Biomedical Studies** 3 s.h.  
Simple and multiple linear regression and correlation; one- and two-way layout considerations in planning experiments; factorial experiments; multiple comparison techniques; orthogonal contrasts. Offered spring semesters. Prerequisites: 171:161. Same as 22S:140.
- 171:164 Research Data Management** 3 s.h.  
Overview of problems encountered in gathering and processing data from biomedical investigations; introduction to data management techniques useful in biomedical studies; introduction to Microsoft Access. Offered fall semesters of odd years. Requirements: Fortran or C programming capability.
- 171:173 Design of Sample Surveys** 3 s.h.  
Challenges in designing sample surveys; emphasis on construction and number of strata, unbiased ratio estimators, multistaged sampling, estimation of variance in complex surveys, double sampling, sampling frame construction problems, panel studies, and problems due to nonresponse. Offered fall semesters. Prerequisites: 22S:154 or 22S:194 or 171:202.
- 171:174 Introductory Longitudinal Data Analysis** 3 s.h.

Statistical models and estimation methods used to analyze correlated data (e.g., same subject measured repeatedly); emphasis on use of statistical software. Offered fall semesters of even years. Prerequisites: 171:161, and 171:162 or 22S:152. Same as 22S:160.

**171:178 Biostatistical Computing** 3 s.h.

Groundwork in SAS and R programming; emphasis on data management, Monte Carlo simulations, and expectation maximization techniques. Offered fall semesters. Corequisites: 171:201. Recommendations: C and C++ skills.

**171:185 Microarray Data Analysis** 3 s.h.

Basic statistical principles and techniques used in bioinformatics, including analyzing microarray gene expression data. Offered spring semesters. Prerequisites: 22S:030 or 22S:101 or 171:161. Same as 002:176, 127:176.

**171:201 Biostatistical Methods I** 4 s.h.

Problem-oriented probability distributions, moments, estimation, parametric and nonparametric inference for one-sample and two-sample problems, analysis of frequency data, linear regression, and correlation analysis, with emphasis on use of computers. Offered fall semesters. Requirements: two semesters of calculus.

**171:202 Biostatistical Methods II** 4 s.h.

Continuation of 171:201, which is prerequisite; linear regression and correlation, multiple linear regression, multiple factor experiments, multiple comparisons, orthogonal contrasts, block and split-plot designs, confounding interactions, and mixed models. Offered spring semesters. Prerequisites: 171:201.

**171:203 Biostatistical Methods in Categorical Data** 3 s.h.

Introduction to methods for allied categorical data analysis; estimation of proportions, rates, and risks; measures of relative risk and odds ratios, stratified analysis, case control studies, logistic regression. Offered spring semesters. Prerequisites: 171:178 and 171:201. Corequisites: 22S:154 or 22S:194, and 171:202.

**171:230 Statistical Data Mining in Public Health** 3 s.h.

Introduction to a set of supervised statistical methods (e.g., regression, decision tree, neural network) and some unsupervised methods (e.g., association rules, and clustering) for data analysis in health-related applications. Offered spring semesters of even years. Prerequisites: 171:202, and 22S:153 or 22S:193.

**171:241 Applied Categorical Data Analysis** 3 s.h.

Overview of methods to analyze categorical data from health science investigations; estimation of rates and risks, measures of relative risk, stratified analysis, logistic regression analysis. Offered fall semesters. Prerequisites: 171:162 and 173:140.

**171:242 Applied Survival and Cohort Data Analysis** 3 s.h.

Nonparametric and semiparametric methods for survival data; methods of directly comparing standardized rates and standardization mortality ratios; Poisson regression for cohort data. Offered spring semesters of odd years. Prerequisites: 171:203 and 171:241.

**171:243 Cohort Data Analysis** 1 s.h.

Methods of comparing direct standardized rates and standardized mortality ratios; Poisson regression for cohort data. Offered spring semesters of odd years. Prerequisites: 171:241.

**171:251 Theory of Biostatistics I** 4 s.h.

Intermediate study of sufficiency, exponential families, methods of estimation, uniform minimum variance unbiasedness, information, likelihood theory, confidence intervals, the Neyman-Pearson lemma, asymptotic theory and its applications. Offered fall semesters of even years. Prerequisites: 22S:154 or 22S:194, and 171:202.

**171:252 Theory of Biostatistics II** 4 s.h.

Nonparametric hypothesis tests, semiparametric estimation, generalized linear models, generalized estimation equations, generalized linear mixed models, EM algorithm, computer-intensive methods; application of theory learned in 171:251 to classical and new methods in biostatistics. Offered spring semesters of odd years. Prerequisites: 171:251.

**171:261 Survival Data Analysis** 3 s.h.

Types of censoring and truncation; survival function estimation; life tables; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; analysis of correlated survival data. Offered fall semesters. Prerequisites: 22S:154 or 22S:194, and 171:202. Same as 22S:225.

**171:262 Analysis of Categorical Data**

3 s.h.

Models for discrete data, distribution theory, maximum likelihood and weighted least squares estimation for categorical data, tests of fit, models selection. Offered spring semesters. Prerequisites: 22S:154 or 22S:194, and 22S:164 or 171:202. Same as 22S:220.

**171:264 Longitudinal Data Analysis**

3 s.h.

Introduction to statistical methodology for analyzing data from observational and experimental studies in which the response variable from each subject is measured repeatedly; emphasis on use of statistical software packages and specialized programs. Offered spring semesters of odd years. Prerequisites: 22S:154 or 22S:194, and 171:202.

**171:266 Statistical Methods in Clinical Trials**

3 s.h.

Survey of statistical methods commonly used in clinical trials; methodologic perspective on the design, conduct, and analysis of trials; emphasis on Phase III randomized controlled clinical trials. Offered spring semesters. Prerequisites: 22S:154 or 22S:194, and 171:202.

**171:271 Advanced Survival Analysis**

3 s.h.

Counting process/martingale theory leading to asymptotic results of survival methods; semiparametric regression of accelerated failure time and additive hazard models; multivariate survival models for clustered, multiple event, and recurrent event data; special topics. Prerequisites: 171:261.

**171:280 Preceptorship in Biostatistics**

arr.

Work experience using knowledge and skill acquired in classroom; arranged in conjunction with ongoing departmental or collegiate activities or with governmental agencies or private industry; preparation of prospectus and presentation of research results in a department seminar. Repeatable.

**171:281 Independent Study in Biostatistics**

arr.

In-depth pursuit of an area of special interest in biostatistics requiring substantial creativity and independence. Repeatable.

**171:282 Problems/Special Topics in Biostatistics**

arr.

Didactic material in biostatistics; may include tutorials, seminars, faculty-directed independent work (e.g. literature search, project, short research project). Repeatable.

**171:290 Advanced Biostatistics Seminar**

0-3 s.h.

Current topics; supervised experience in reading and interpreting biostatistical literature. Offered spring semesters.

**171:295 Research in Biostatistics**

arr.

Research that may lead to a dissertation. Repeatable.

**171:300 Thesis/Dissertation**

arr.

Repeatable.

## Certificate in Public Health

**Coordinator:** Katie Yamaki

**Undergraduate nondegree program:** Certificate in Public Health

**Graduate nondegree program:** Certificate in Public Health

**Web site:** [http://www.public-health.uiowa.edu/academics/certificate\\_ph/](http://www.public-health.uiowa.edu/academics/certificate_ph/)

The College of Public Health offers the Certificate in Public Health via distance education. The program is designed to improve public health practice and public health workforce capacity in Iowa and the upper Midwest. The Certificate in Public Health is intended primarily for individuals in public health practice, those in the workforce, and those interested in acquiring a basic knowledge of public health practice. The program is open to undergraduate and graduate students.

### Certificate in Public Health

The Certificate in Public Health requires 12 s.h. All certificate courses are offered on the Internet at least once a year. Some also are offered on the University of Iowa campus and during the College of Public Health Summer Institute.

In order to earn the certificate, students must complete the required course work in less than five years and must maintain a g.p.a. of at least 2.75 in work for the certificate. Students must have access to a computer and the Internet.

The following courses are required.

Both of these:

170:101 Introduction to Public Health	3 s.h.
173:099 Evidence-Based Public Health Methods	3 s.h.

Two of these:

172:101 Introduction to Health Promotion and Disease Prevention	3 s.h.
174:102 Introduction to the U.S. Health Care System	3 s.h.
175:197 Environmental Health	3 s.h.

Applicants to the certificate program must have completed at least 60 s.h. of postsecondary education course work and must have a cumulative g.p.a. of at least 2.75. They must submit official transcript(s), a statement of purpose, two reference letters, a résumé, and an application form.

Students who have graduate standing when they complete the certificate course work, and are admitted to the M.P.H. program after earning the certificate, may apply 9 s.h. of credit from the certificate program toward the M.P.H.

## Community and Behavioral Health

**Head:** Edith A. Parker

**Professors:** Elizabeth Altmaier (Psychological and Quantitative Foundations), Julie Andsager (Journalism and Mass Communication), Leslie Baxter (Communication Studies), Joe D. Coulter (Anatomy and Cell Biology), Karen Farris (Pharmacy), Kristi Ferguson (Internal Medicine), Paul Greenough (History), Ann Marie McCarthy (Nursing), Edith A. Parker, Jerry Suls (Psychology), Michael Teague (Health and Human Physiology)

**Professors emeriti:** Melanie Dreher (Nursing), Peter Nathan

**Adjunct professor:** Frank Boster

**Adjunct professor (clinical):** Gene Lutz

**Associate professors:** Shelly Campo, Faryle Nothwehr, Nancy Thompson, Jingzhen Yang

**Associate professors (clinical):** Mary Aquilino, Anne Helene Skinstad, Deb Waldron (Pediatrics)

**Adjunct associate professors:** Kevin Kelly, Connie Kohler

**Adjunct associate professor (clinical):** Mary Losch

**Assistant professors:** Yong-Chan Kim, Erica Prussing (Anthropology), Sandra Ramey (Nursing)

**Adjunct lecturers:** Ro Foege, Dawn Gentsch, Kevin Teale, Laurie Walkner

**Graduate degrees:** M.S., Ph.D. in Community and Behavioral Health

**Web site:** <http://www.public-health.uiowa.edu/cbh>

The Department of Community and Behavioral Health examines the relationship between human behavior and community health and focuses on creating effective strategies for change. Its faculty members come from a variety of disciplines within the social and health sciences, drawn together by an interest in health behavior and promoting healthy communities.

Community and behavioral health students learn how to design, implement, and evaluate interventions directed toward identified public health problems in communities. They learn how public and institutional policy, the media, and community organizations can promote healthy behavior and effect positive change.

## Graduate Programs

The department offers a Master of Science in community and behavioral health, with a subtrack in health communication; and a Doctor of Philosophy in community and behavioral health, with an addiction studies subtrack and a health communication subtrack.

It also offers two subtracks for the Master of Public Health: the community and behavioral health subtrack and the health communication subtrack. See "M.P.H. Subtracks" below.

### Master of Science

The Master of Science in community and behavioral health requires 35 s.h. of graduate credit, including a thesis. The program prepares students for research and professional positions in community and behavioral health or for Ph.D. study in community and behavioral health. The degree is offered with an optional subtrack in health communication; see "M.S. Subtrack in Health Communication" below.

During the first semester, M.S. students work with their academic advisor to develop a plan of study that satisfies their interests and professional goals as well as the program's requirements. Students are required to attend departmental seminars and to complete the following courses.

#### COLLEGE OF PUBLIC HEALTH CORE

All of these (9 s.h.):

171:161 Introduction to Biostatistics	3 s.h.
172:101 Introduction to Health Promotion and Disease Prevention	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.

#### BEHAVIORAL AND SOCIAL SCIENCES CORE

Three of these (9 s.h.):

172:106 Designing and Implementing Interventions	3 s.h.
172:110 Community Development in Public Health	3 s.h.
172:130 Social Determinants of Health	3 s.h.
172:135 Health Disparities and Cultural Competence	2-4 s.h.
172:150 Health Behavior and Health Education	3 s.h.
172:185 Communicating with the Community	3 s.h.
172:240 Health Communication	3 s.h.
172:242 Persuasion and Health	3 s.h.
172:246 Health Communication Campaigns	3 s.h.



**RESEARCH METHODS CORE**

Two of these (6 s.h.):

07P:243 Intermediate Statistical Methods	4 s.h.
07P:249 Factor Analysis and Structural Equation Models	3 s.h.
07P:252 Introduction to Multivariate Statistical Methods	3 s.h.
044:106 Foundations of GIS	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
171:241 Applied Categorical Data Analysis	3 s.h.
172:181 Evaluation I: Theory and Applications	3 s.h.
172:183 Qualitative Research for Public Health	3 s.h.
172:202/113:202 Ethnographic Field Methods	3 s.h.
172:282 Evaluation II: Design and Methods	3 s.h.
172:285 Research Methods in Community and Behavioral Health	3 s.h.

**CONTENT AREA ELECTIVES**

Students work with their advisors to select at least 5 s.h. of course work appropriate to their educational goals and emphasis areas. They may choose from any community and behavioral health courses not already taken, other College of Public Health courses, or other University of Iowa graduate-level courses.

**THESIS**

The thesis requirement is 6 s.h.

**M.S. Subtrack in Health Communication**

The M.S. subtrack in health communication is designed for students who wish to gain knowledge and skill in designing, evaluating, and implementing effective communication strategies and messages that use mediated and interpersonal channels to address the health needs of diverse audiences. The program focuses on clinician-patient interaction, family communication, group and organizational communication, and mass media and web-based campaigns.

The health communication subtrack combines the M.S. core course work with additional concentrated learning opportunities. Students fulfill the regular M.S. requirements, using the health communication core to satisfy the content area electives requirement.

**HEALTH COMMUNICATION CORE**

Four of these (12 s.h.):

036:371 Communication Theory	3 s.h.
172:140/019:160 Media and Health	3 s.h.
172:240/036:270 Health Communication	3 s.h.
172:242 Persuasion and Health	3 s.h.
172:246/036:379 Health Communication Campaigns	3 s.h.

**M.P.H. Subtracks**

The Department of Community and Behavioral Health offers two subtracks for the Master of Public Health: the community and behavioral health subtrack, and the health communication subtrack.

The M.P.H. subtrack in community and behavioral health prepares public health practitioners for a variety of positions in community development, health program implementation, and health education.

The M.P.H. subtrack in health communication prepares public health practitioners for a variety of employment opportunities in health communication strategies, health communication in groups and organizations, and mass media/web-based campaigns in health promotion.

For detailed information about the M.P.H. degree, see Master of Public Health Program in the Catalog.

**Doctor of Philosophy**

The Doctor of Philosophy in community and behavioral health requires at least 75 s.h. of graduate credit, including credit from a master's degree. The program prepares individuals for academic, research, and policy-making work in the

social and behavioral health sciences. This fast-growing academic specialty offers many career opportunities in academic and research institutions. The Ph.D. is offered with subtracks in addiction studies and health communication; see "Ph.D. Subtrack in Addiction Studies" and "Ph.D. Subtrack in Health Communication" below

Ph.D. students must successfully complete a qualifying exam, a comprehensive exam, and a dissertation--a substantial scholarly treatise. The research topic must be approved by the student's dissertation committee.

During the first semester, students work with their academic advisors to develop a plan of study that satisfies their interests and professional goals as well as the program's requirements. Students are required to attend departmental seminars and to complete the following courses.

#### **COLLEGE OF PUBLIC HEALTH CORE**

All of these (9 s.h.):

171:161 Introduction to Biostatistics	3 s.h.
172:101 Introduction to Health Promotion and Disease Prevention	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.

#### **BEHAVIORAL AND SOCIAL SCIENCES CORE**

Seven of these (21 s.h.):

172:106 Designing and Implementing Interventions	3 s.h.
172:110 Community Development in Public Health	3 s.h.
172:130 Social Determinants of Health	3 s.h.
172:131/113:184 Anthropology and International Health	3 s.h.
172:135 Health Disparities and Cultural Competence	2-4 s.h.
172:150 Health Behavior and Health Education	3 s.h.
172:173/113:185 Medical Anthropology	3 s.h.
172:185 Communicating with the Community	3 s.h.
172:240 Health Communication	3 s.h.
172:242 Persuasion and Health	3 s.h.
172:246 Health Communication Campaigns	3 s.h.

#### **RESEARCH METHODS CORE**

Five of these (15 s.h.):

07P:243 Intermediate Statistical Methods	4 s.h.
07P:249 Factor Analysis and Structural Equation Models	3 s.h.
07P:252 Introduction to Multivariate Statistical Methods	3 s.h.
034:214 Introduction to Sociological Data Analysis	3 s.h.
034:215 Sampling, Measurement, and Observation Techniques	3 s.h.
034:216 Linear Models in Sociological Research	3 s.h.
034:218 Advanced Statistical Modeling of Data	3 s.h.
034:219 Structural Equation Modeling	3 s.h.
044:106 Foundations of GIS	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
171:241 Applied Categorical Data Analysis	3 s.h.
172:181 Evaluation I: Theory and Applications	3 s.h.
172:183 Qualitative Research for Public Health	3 s.h.
172:202/113:202 Ethnographic Field Methods	3 s.h.
172:282 Evaluation II: Design and Methods	3 s.h.
172:285 Research Methods in Community and Behavioral Health	3 s.h.

#### **CONTENT AREA ELECTIVES**

Students work with their advisors to select at least 18 s.h. of course work appropriate to their educational goals and emphasis areas. They may choose from any Department of Community and Behavioral Health courses they have not already taken, other College of Public Health courses, or other University of Iowa graduate-level courses.

#### **DISSERTATION**

The dissertation requirement is 12 s.h.

### **Ph.D. Subtrack in Addiction Studies**

The Ph.D. subtrack in addiction studies is designed for students who wish to gain skill in developing and evaluating addiction prevention and intervention programs. This area of study and practice examines addiction prevention and treatment from both a public health and a biopsychosocial perspective.

The addiction studies subtrack combines core course work from the Ph.D. curriculum with additional specialized training. Students fulfill the regular Ph.D. requirements, using the addiction studies core to satisfy the content area electives requirement.

#### **ADDICTION STUDIES CORE**

Students work with their advisor to select 18 s.h. of addictions studies course work offered by the department. Courses focusing on treatment of substance abuse and comorbid psychopathology, prevention of substance abuse and comorbid psychopathology, and assessment and diagnosis of addiction and comorbid psychopathology are under development.

### **Ph.D. Subtrack in Health Communication**

The Ph.D. subtrack in health communication is designed for students who wish to prepare for academic, research, and policy-making careers in the area of health communication.

The health communication subtrack combines the core course work from the Ph.D. curriculum with additional specialized training. Students fulfill the regular Ph.D. requirements, using the health communication core to satisfy the content area electives requirement.

#### **HEALTH COMMUNICATION CORE**

Four of these (12 s.h.):

036:371 Communication Theory	3 s.h.
172:140/019:160 Media and Health	3 s.h.
172:240/036:270 Health Communication	3 s.h.
172:242 Persuasion and Health	3 s.h.
172:246/036:379 Health Communication Campaigns	3 s.h.

### **Admission**

The community and behavioral health faculty considers several factors when evaluating applications for admission, including scores on the Graduate Record Exam, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. A student with deficiencies in one area may be admitted if all other components of his or her application are very strong.

All applicants must submit academic transcripts, three letters of recommendation, and a statement of purpose. Forms are available from the Department of Community and Behavioral Health or on its web site (see "Prospective Students").

Applicants to the M.S. program must have a cumulative grade-point average of at least 3.00 and should hold a bachelor's degree from an accredited college or university. No specific undergraduate major is required. Preference is given to applicants with Graduate Record Exam verbal scores of at least 520, quantitative scores of at least 600, and analytical writing scores of at least 4.0.

Applicants to the Ph.D. program must have a graduate grade-point average of at least 3.40 and should hold a graduate degree from an accredited college or university--ideally, an M.S. in community and behavioral health, or another public health degree, or a related social science degree, or a clinical health degree. Applicants who do not hold a graduate degree should apply to the M.S. program. Preference is given to applicants with Graduate Record Exam verbal scores of at least 520, quantitative scores of at least 620, and analytical writing scores of at least 4.0. Ph.D. program applicants also must submit their master's thesis, or if no thesis is available, a sample of their scholarly writing.

Applicants whose first language is not English and who do not hold a baccalaureate degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 550-599 (paper-based), 213-249 (computer-based), or 81-99 (Internet-based) are required to take English fluency courses. Applicants who score below those ranges are not considered for admission.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations

of the Graduate College or the Graduate College section of the Catalog.

#### APPLICATION DEADLINES

Fall entry: April 1

Applications received by January 20 receive maximum consideration for financial aid.

#### Financial Support

Several forms of financial support are available, including scholarships and awards, student loans, and graduate assistantships.

Graduate assistantships provide a stipend and entitle students to resident tuition and reduced health insurance costs. Research assistantships are competitive and are awarded according to department need and student merit.

Scholarships and fellowships are available through federal agencies, such as the Centers for Disease Control and the National Institutes of Health, and from private foundations.

#### Resources

The department houses the Center for Health Communication and Social Marketing, the Iowa Tobacco Research Center, the Prairielands Addiction Technology Transfer Center, and the Prevention Research Center.

The Center for Health Communication and Social Marketing promotes communication research to address today's public health challenges. The Iowa Tobacco Research Center supports research and education on tobacco use and prevention of tobacco use. It also supports culturally competent and accessible smoking cessation services. The Prairielands Addiction Technology Transfer Center provides state-of-the-art training, curricula, and resources on substance use issues for counselors, health care professionals, and members of the community. The Prevention Research Center focuses on improving the health of rural Iowans.

Graduate students may have opportunities to work with ongoing research projects in the centers.

#### Community and Behavioral Health Courses

##### **172:101 Introduction to Health Promotion and Disease Prevention** 3 s.h.

Basic concepts, strategies, and methods of health promotion and disease prevention; health promotion in the context of public health, theories and principles that underpin health promotion; overview of policy formation and health promotion planning, implementation, evaluation. Offered spring semesters. Requirements: graduate standing.

##### **172:106 Designing and Implementing Interventions** 3 s.h.

Background and skills necessary to plan a public health intervention program; program planning models. Offered fall semesters. Prerequisites: 172:150. Requirements: admission to College of Public Health.

##### **172:110 Community Development in Public Health** 3 s.h.

Concepts, strategies, and methods of community development as major approaches to creating healthy communities and promoting social change; role of public health practitioners as agents of change in organizations, communities. Offered fall semesters. Requirements: graduate standing.

##### **172:115 Community Preventive Programs and Services** 3 s.h.

Current public health problems and associated community preventive interventions. Offered fall semesters.

##### **172:122 Maternal, Child, and Family Health** 3 s.h.

Major issues, policies, and programs for health of women, children, and families in the United States; social, political, and economic determinants. Offered spring semesters. Prerequisites: 096:030 and 173:140.

##### **172:130 Social Determinants of Health** 3 s.h.

Relationship between social factors and health, with focus on family, neighborhood, community, and social group levels. Offered spring semesters. Requirements: graduate standing.

##### **172:131 Anthropology and International Health** 3 s.h.

Anthropological contributions to and critiques of the international health enterprise; case studies illustrating anthropology and international health's intersection, and their differences. Offered spring semesters. Same as 113:184, 152:184.

**172:133 The Anthropology of Women's Health** 3 s.h.  
How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: 113:003 or 113:010 or 131:010. Same as 113:133.

**172:135 Health Disparities and Cultural Competence** 2-4 s.h.  
Characteristics, causes, and effects of health disparities in the U.S. health care system; foundation for development of knowledge, attitudes, and skills required of culturally competent health care providers; definitions and models of cultural competence, characteristics of culturally effective practitioners and workplaces; health disparities among specific populations, evidence for cultural competence as a remedy; taking a culturally appropriate history; working with interpreters; legal and professional imperatives for cultural competence. Same as 046:377, 096:125.

**172:140 Media and Health** 3 s.h.  
Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as 019:160.

**172:150 Health Behavior and Health Education** 3 s.h.  
Common theories of health behavior and health education and their application to varied public health problems and settings. Offered spring semesters. Requirements: graduate standing.

**172:155 Public Health Issues in Overweight Management** 3 s.h.  
Overview of overweight and obesity from a public health perspective, including epidemiology, measurement issues, and intervention approaches at individual, community, and policy levels. Prerequisites: 170:101 or 172:101.

**172:160 Substance Use and Misuse in America** 3 s.h.  
Current data on epidemiology, assessment and diagnosis, treatment, prevention of substance misuse. Prerequisites: 031:002. Requirements: grade of C- or higher in 031:010 and grade of C- or higher in 031:013. Recommendations: 031:163. Same as 031:173.

**172:161 Substance Abuse Prevention and Intervention** 3 s.h.  
Prevalence and characteristics of several substance use disorders and the impact of such disorders on the individual, the community, and public health workers; how prevalence of substance use disorders varies among different ethnic and cultural groups, between men and women, across the life span, and through different socio-economic levels; how outcomes of substance abuse disorders vary at both the individual and community level as a function of these factors. Requirements: graduate standing and substance abuse course.

**172:162 Prevention and Early Intervention of Mental Health Disorders** 3 s.h.  
Prevalence and characteristics of mental health disorders; differences between ethnicity and culture, gender, age, and socioeconomic background; primary and secondary prevention; assessment and tertiary treatment approaches to mental health disorders.

**172:163 Tobacco Use: Prevention and Control** 3 s.h.  
Tobacco use, particularly cigarette smoking, as a major public health concern; key factors contributing to tobacco use; strategies to reduce smoking in communities.

**172:170 Special Topics** arr.  
Didactic material in community and behavioral health that may include tutorial, seminar, or faculty-directed independent work (e.g., literature search, project, short research project).

**172:173 Medical Anthropology** 3 s.h.  
Major theoretical, methodological approaches; international health and development; biomedicine as a cultural system; ethnomedicine; anthropology and AIDS, human reproduction, epidemiology, ethnopsychiatry. Prerequisites: 113:003 or 113:010. Same as 113:185, 152:185.

**172:181 Evaluation I: Theory and Applications** 3 s.h.

Program evaluation methods in public health; overview of evaluation theory and models of program evaluation, examples of public health program evaluation, criteria for judging evaluation methods and products. Offered fall semesters. Prerequisites: 172:150 and 173:140. Requirements: public health student.

**172:183 Qualitative Research for Public Health** 3 s.h.

Introduction to methods and theories of qualitative research that facilitate description and explanation of social phenomena related to health behavior, illness, prevention, and treatment in the public health domain. Offered fall semesters. Requirements: graduate standing.

**172:185 Communicating with the Community** 3 s.h.

Communication skills for research and practice settings, taught from a cultural perspective with reference to gender, age, ethnicity; individual and constructive interviewing, public speaking, conducting focus groups. Offered fall semesters. Requirements: graduate standing.

**172:202 Ethnographic Field Methods** 3 s.h.

Basic data-gathering techniques for field research in sociocultural anthropology. Requirements: anthropology graduate standing. Same as 113:202.

**172:240 Health Communication** 3 s.h.

Theories, concepts, research associated with health communication; interpersonal and mass communication approaches. Offered summer sessions. Same as 036:270.

**172:242 Persuasion and Health** 3 s.h.

Theories of persuasion and social influence; attitude formation, relationship between attitudes and behavior, persuasion theories and their applications across health topics. Offered spring semesters.

**172:246 Health Communication Campaigns** 3 s.h.

Design and analysis of health campaigns; theory, practice, methods; mass media, community, organization, and interpersonal approaches. Offered spring semesters. Same as 036:379.

**172:248 Health Information and Health Literacy** 3 s.h.

How health information is accessed, sought, used, and delivered in various health information contexts; current issues about health information and literacy, including concepts, measures, factors, consequences, interventions.

**172:270 Independent Study in Community and Behavioral Health** arr.

Pursuit of an interest in community and behavioral health requiring substantial creativity and independence. Repeatable.

**172:282 Evaluation II: Design and Methods** 3 s.h.

Research design and methodology for evaluation of public health and related programs; causality, evaluation theory, threats to validity, selection and comparison of research designs, sample selection and size, survey and scale construction, quantitative and qualitative data collection and analysis, data management, reporting; based on case study of an infant mortality prevention program. Offered spring semesters. Prerequisites: 172:181. Requirements: biostatistics or statistics course.

**172:285 Research Methods in Community and Behavioral Health** 3 s.h.

Overview of quantitative research methods for community and behavioral health; major elements of behavioral and social science research, critical evaluation of research related to community and behavioral health, application of research methods in public health practice; opportunities for students to build skills for evaluation of research and application of quantitative research methods. Prerequisites: 171:161 and 173:140.

**172:300 CBH Thesis/Dissertation** arr.

Work on M.S. thesis or Ph.D. dissertation in community and behavioral health, with thesis/dissertation advisor.

# Emerging Infectious Disease Epidemiology

**Coordinator:** Katie Yamaki

**Graduate nondegree program:** Certificate in Emerging Infectious Disease Epidemiology

**Web site:** [http://www.public-health.uiowa.edu/academics/certificate\\_eide.html](http://www.public-health.uiowa.edu/academics/certificate_eide.html)

The College of Public Health offers the Certificate in Emerging Infectious Disease Epidemiology. The graduate-level program provides basic information and training related to infectious diseases. It has a required on-campus component (summer), but the remaining work may be done either on campus or by distance education.

Emerging infectious diseases increasingly are recognized as global and regional issues. Some infectious diseases are controlled effectively with the help of modern technology. But new diseases—such as SARS, West Nile, and avian influenza virus infections—appear frequently, and older ones, including malaria, tuberculosis, and bacterial pneumonia, are now appearing in forms that are resistant to drug treatments. All of them have the potential to seriously affect human and animal health as well as economies locally and worldwide. They pose novel and unceasing challenges for professionals in health care, government, and private agencies.

The certificate program is designed for a broad range of individuals, including graduate students, international public health professionals, laboratory professionals, physicians, nurses, veterinarians, and medical technologists who seek graduate-level training in emerging infectious diseases.

## Certificate in Emerging Infectious Disease Epidemiology

The Certificate in Emerging Infectious Disease Epidemiology requires 12 s.h. of graduate credit. Students must maintain a g.p.a. of at least 2.75 in work toward the certificate and must complete the required courses within five years after beginning the program. Students who complete the certificate and are admitted subsequently to the Master of Public Health program may count a maximum of 9 s.h. of certificate work toward the M.P.H. requirements. Those working concurrently toward the certificate and the M.P.H. may apply a maximum of 3 s.h. of certificate work toward the M.P.H. requirements.

Three required certificate courses must be completed on campus during the two-week College of Public Health Summer Institute: 173:157 Zoonotic Diseases, 173:158 Public Health Laboratory Techniques, and 173:159 Applied Infectious Disease Epidemiology. The remaining courses may be completed on campus or by distance education.

The certificate requires the following courses.

All of these (6 s.h.):

173:157 Zoonotic Diseases	2-3 s.h.
173:158 Public Health Laboratory Techniques	1 s.h.
173:159 Applied Infectious Disease Epidemiology	2 s.h.

Two of these (6 s.h.):

171:161 Introduction to Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
173:155 Diagnostic Microbiology for Epidemiology	3 s.h.
175:197 Environmental Health	3 s.h.

Applicants to the certificate program must hold a baccalaureate degree from an accredited college or university and must have a g.p.a. of at least 2.75 (or foreign equivalent). Detailed information about the application process, including deadlines, is available from the program's coordinator.

# Epidemiology

**Head:** James C. Torner

**Professors:** Trudy Burns (Pediatrics/Nursing), Elizabeth Chrischilles (Pharmacy), Michael Cohen (Pathology/Urology), William Field (Occupational and Environmental Health), Laurence Fuortes (Occupational and Environmental Health/Internal Medicine/International Programs), Fredric Gerr (Occupational and Environmental Health/Internal Medicine), Loreen Herwaldt (Internal Medicine), Kathleen Janz (Health and Human Physiology), Susan Johnson (Obstetrics and Gynecology), Louis Kirchhoff (Internal Medicine), Steven Levy (Preventive and Community Dentistry), Charles Lynch (Pathology), Larry Mahoney (Pediatrics), Jody Murph (Pediatrics), Jeffrey Murray (Pediatrics/Biology/Pediatric Dentistry/Anatomy and Cell Biology), Corinne Peek-Asa (Occupational and Environmental Health/Nursing), Jennifer Robinson (Internal Medicine), Gary Rosenthal (Internal Medicine/Health Management and Policy), Audrey Saftlas, Elaine Smith (Preventive and Community Dentistry/Obstetrics and Gynecology), Linda Snetselaar (Internal Medicine), James Torner (Education/Surgery/Neurosurgery), Robert Wallace (Internal Medicine), Mary Wilson (Internal Medicine/Microbiology/International Programs), Craig Zwerling (Occupational and Environmental Health/Internal Medicine)

**Professors emeriti:** Gary Doern (Pathology), Claibourne Dungey (Pediatrics), James Hanson (Pediatrics), Herman Hein (Pediatrics), Michael Pfaller (Pathology), Helmut Schrott (Internal Medicine), Don VanDyke (Pediatrics), Robert Woolson (Biostatistics/Statistics and Actuarial Science)

**Adjunct professors:** James Cerhan, James Dickson, Bradley Doebbeling, Gregory Gray, Susan Joseph, Paul Pomrehn (Community and Behavioral Health), M. Patricia Quinlisk, James Roth, Wayne Sanderson (Occupational and Environmental Health)

**Associate professors:** Catherine Bradley (Obstetrics and Gynecology), John Brooks (Pharmacy/Health Management and Policy), Leslie Dennis, Peter Kaboli (Internal Medicine), David Katz (Internal Medicine), Paul Romitti, Neil Segal (Orthopaedics and Rehabilitation/Radiology), Carolyn Turvey (Psychiatry)

**Adjunct associate professors:** Caroline Doebbeling, Neal Kohatsu, Badrinath Konety, Annette O'Connor, Mario Schootman

**Clinical associate professor:** Michael Pentella

**Assistant professors:** Jess Fiedorowicz (Psychiatry), Philip Polgreen (Internal Medicine), Tara Smith, Anne Wallis

**Assistant professor (clinical):** Mary Charlton

**Adjunct assistant professors:** Lucy DesJardin, Daniel Gregory, Valerie Hoffman (Internal Medicine), Jesse Hostetter, Brian Lund (Pharmacy), Maureen McCue (International Programs), Christine Petersen, Shannon Putnam, Sheila Riggs, Kathleen Schneider, Anne Tabor

**Clinical assistant professor:** Ryan Carnahan

**Adjunct lecturers:** Glenda Dvorak, Tara Shochet, Phyllis Stumbo

**Adjunct instructor:** Kirk Phillips (Nursing)

**Associate:** Marin Schweizer

**Graduate degrees:** M.S., Ph.D. in Epidemiology; M.S. in Clinical Investigation

**Web site:** <http://www.public-health.uiowa.edu/epi>

The Department of Epidemiology focuses on surveillance for disease, risk factors for disease in the general population, behavioral factors in disease, use and outcome of health interventions and care, and the establishment and evaluation of disease control measures in the community. Students are guided by faculty members whose research interests include epidemiology of communication disorders, pharmacoepidemiology, cancer epidemiology, infectious disease epidemiology, adverse reproductive outcome epidemiology, anatomic pathology, genetics, cardiovascular disease, nutrition, smoking cessation, epidemiology of reproduction, dental epidemiology, clinical epidemiology, neuroepidemiology, meta-analysis, intervention trials, international health, and effects of aging.

## Graduate Programs

The department offers a Master of Science and a Doctor of Philosophy in epidemiology, and a Master of Science in clinical investigation. It also offers the epidemiology subtrack for the Master of Public Health; see "M.P.H. Subtrack" below.

### Master of Science in Epidemiology

The Master of Science in epidemiology requires 38 s.h. of graduate credit and is offered with or without thesis. The program prepares graduate students for professional careers in which specialized knowledge of epidemiological methods and analytic techniques are essential. Graduates find employment in local, state, and federal health agencies, academic institutions, and private enterprise.

Graduate students in epidemiology must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program. Students who choose to complete the degree without thesis are required to pass a comprehensive examination.

Students are required to attend 80 percent, for three semesters, of all Department of Epidemiology seminar meetings and journal club meetings. They also must present one scientific poster at an international, national, regional, state, University, or departmental level before they may graduate.

The 38 s.h. of graduate credit for the M.S. includes 30-31 s.h. in the required core and 7-8 s.h. of electives, as follows.

#### CORE COURSES

All of these:

171:161 Introduction to Biostatistics	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
171:241 Applied Categorical Data Analysis	3 s.h.
173:140 Epidemiology I: Principles (web-based course cannot be used)	3 s.h.
173:160 Introduction to Epidemiology Data Analysis With Computers	2 s.h.
173:240 Epidemiology II: Advanced Methods	4 s.h.

One of these:

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
---	--------



069:270 Pathogenesis of Major Human Diseases 3 s.h.

One of these:

173:255 Epidemiology of Infectious Diseases 3 s.h.

173:260 Epidemiology of Chronic Diseases 3 s.h.

One of these:

172:150 Health Behavior and Health Education 3 s.h.

173:280 Introduction to Health Care Organization and Policy 3 s.h.

175:197 Environmental Health 3 s.h.

One of these:

173:195 Preceptorship in Epidemiology (for nonthesis students) 3 s.h.

173:300 Thesis/Dissertation (for thesis students, may be taken twice) 3 s.h.

## ELECTIVES

Students must earn a total of 7-8 s.h. in elective course work, including at least 5 s.h. in Department of Epidemiology courses (prefix 173) and 2 s.h. in additional graduate-level course work pertinent to the student's educational goals and background (the additional 2 s.h. may be earned in an epidemiology course or in another graduate course, with the advisor's approval). The following courses are recommended.

171:164 Research Data Management 3 s.h.

171:174 Introductory Longitudinal Data Analysis 3 s.h.

171:242 Applied Survival and Cohort Data Analysis 3 s.h.

Students may need to do additional elective course work in order to complete the minimum 38 s.h. required for the degree.

## Master of Science in Clinical Investigation

The Master of Science in clinical investigation requires 30 s.h. of graduate credit. The program is designed for clinicians interested in pursuing careers in clinical research. It includes in-depth training in biostatistics, epidemiology, research ethics, and academic survival skills as well as didactic training applicable to clinical research careers.

Graduates of the program are able to critically evaluate clinical literature, write competitive grant proposals, design and conduct clinical research projects, work effectively with other researchers and support staff, and disseminate research results through manuscripts and presentations.

Applicants to the program must have completed at least 6 s.h. of pathology, physiology, and/or pharmacology. Students must remedy deficiencies by taking courses that fill this requirement during their enrollment in the program.

Graduate students in epidemiology must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program.

The M.S. in clinical investigation requires the following course work.

## CORE COURSES

Students earn a minimum of 15 s.h. as follows.

All of these:

173:150 Introduction to Clinical Epidemiology 2 s.h.

173:152 Clinical Research Career Development 1 s.h.

173:163 Seminar in Clinical and Translational Research (four semesters, 1 s.h. each) 4 s.h.

173:211 Grant Writing for Clinical Investigators 1 s.h.

173:295 Clinical Research Ethics 2 s.h.

One of these:

173:160 Introduction to Epidemiology Data Analysis With Computers 2 s.h.

173:161 Patient-Oriented Research Data Analysis 3 s.h.

One of these:

173:195 Preceptorship in Epidemiology 3-6 s.h.

173:300 Thesis/Dissertation

3-6 s.h.

**EPIDEMIOLOGY CORE**

Students earn a minimum of 12 s.h. as follows.

Both of these:

171:241 Applied Categorical Data Analysis (or approved substitute)

3 s.h.

173:140 Epidemiology I: Principles

3 s.h.

One of these:

171:161 Introduction to Biostatistics

3 s.h.

171:201 Biostatistical Methods I

4 s.h.

One of these:

171:162 Design and Analysis of Biomedical Studies

3 s.h.

171:202 Biostatistical Methods II

4 s.h.

**FOCUS AREA ELECTIVES**

Students earn a minimum of 3 s.h. from one focus area.

**General (Applicable to More Than One Focus Area)**

06J:269 Meta-Analysis in Behavioral Social Sciences (Ph.D.)

3 s.h.

171:242 Applied Survival and Cohort Data Analysis

3 s.h.

171:266 Statistical Methods in Clinical Trials

3 s.h.

172:183 Qualitative Research for Public Health

3 s.h.

173:210 Writing a Research Protocol

3 s.h.

173:290 Intervention and Clinical Trials

3 s.h.

174:221 Evaluation and Outcomes in Health Care

2 s.h.

**Patient-Oriented Research**

031:270 Clinical Research Methods

3 s.h.

142:215 Transcription and Multifunctional Regulation by RNA

1 s.h.

173:236 Nutrition Intervention in Clinical Trials Research

2 s.h.

**Epidemiology and Behavioral Research**

031:263 Psychological Appraisal I

3 s.h.

044:131 Geography of Health

1-3 s.h.

111:204 Principles of Oral Epidemiology

arr.

172:101 Introduction to Health Promotion and Disease Prevention

3 s.h.

172:150 Health Behavior and Health Education

3 s.h.

173:150 Introduction to Clinical Epidemiology

2 s.h.

173:225 Genetics and Epidemiology

4 s.h.

173:235 Nutritional Epidemiology

2 s.h.

173:240 Epidemiology II: Advanced Methods

4 s.h.

173:251 Injury Epidemiology

3 s.h.

173:253 Epidemiology of Occupational Injuries

3 s.h.

173:255 Epidemiology of Infectious Diseases

3 s.h.

173:256 Hospital Epidemiology

2 s.h.

173:260 Epidemiology of Chronic Diseases

3 s.h.

173:261 Epidemiology of Aging

1-2 s.h.

173:262 Neuroepidemiology

2 s.h.

173:263 Epidemiology of Reproductive Diseases

2 s.h.

173:265 Cardiovascular Disease Epidemiology

3 s.h.

173:267 Psychiatric Epidemiology	3 s.h.
173:270 Cancer Epidemiology and Control	3 s.h.
173:291 Pharmacoepidemiology	3 s.h.

#### Outcomes and Health Services Research

06J:270 Methods for Field Research (Ph.D.)	2 s.h.
07B:222 Introduction to Policy Analysis and Evaluation	3 s.h.
07P:165 Introduction to Program and Project Evaluation	3 s.h.
07P:265 Program Evaluation	3 s.h.
050:283 Health Informatics I (or II)	3 s.h.
172:181 Evaluation I: Theory and Applications	3 s.h.
172:282 Evaluation II: Design and Methods	3 s.h.
173:276 Health Care Utilization Outcomes	3 s.h.
173:280 Introduction to Health Care Organization and Policy	3 s.h.
174:204 Quantitative Management in Health Care	2-3 s.h.
174:212 Health Economics I	3 s.h.
174:228 Cost Effectiveness and Decision Analysis	3 s.h.
174:261 Analytic Issues in Health Services Research I	3 s.h.
174:268 Health Care Utilization Outcomes	3 s.h.

#### M.P.H. Subtrack

The Department of Epidemiology offers the epidemiology subtrack for the Master of Public Health. The subtrack focuses on fundamental concepts and methods and provides training in the use of data and methods for disease assessment and for evaluation of programs and interventions. Graduates of the program work in public health departments and other health care settings. See Master of Public Health Program in the Catalog.

#### Doctor of Philosophy

The Doctor of Philosophy in epidemiology requires a minimum of 75 s.h. of graduate credit. The program prepares graduate students for careers as scientists, teachers, and practitioners of epidemiologic methods. Employment opportunities exist in academic institutions; local, state, and federal health agencies; and in commercial enterprises.

Graduate students in epidemiology must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program.

All doctoral students must successfully complete a qualifying examination, a comprehensive examination, and a dissertation—a substantial scholarly treatise. The research topic and content, which vary depending on the program of study, must be approved by the student's dissertation committee. Other degree requirements include approved electives chosen from Department of Epidemiology courses and other University of Iowa courses.

Students are required to attend 80 percent, for three semesters, of all Department of Epidemiology seminar meetings and journal club meetings. They also must present one scientific poster at an international, national, regional, state, University, or departmental level before they may graduate.

The 75 s.h. of graduate credit for the Ph.D. includes 39-41 s.h. in the required core, 23-25 s.h. of electives, and a dissertation, as follows.

#### CORE COURSES

All of these:

171:161 Introduction to Biostatistics	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
171:164 Research Data Management	3 s.h.
171:241 Applied Categorical Data Analysis	3 s.h.
171:242 Applied Survival and Cohort Data Analysis	3 s.h.
173:140 Epidemiology I: Principles (web-based course cannot be used)	3 s.h.
173:160 Introduction to Epidemiology Data Analysis With Computers	2 s.h.
173:205 Research in Epidemiology	3 s.h.
173:210 Writing a Research Protocol	3 s.h.

173:240 Epidemiology II: Advanced Methods	4 s.h.
173:340 Epidemiology III: Theories	3 s.h.

One of these:

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
069:270 Pathogenesis of Major Human Diseases	3 s.h.

One of these:

027:130 Human Physiology	3 s.h.
072:153 Graduate Physiology	4 s.h.

Ph.D. students also must earn 3 s.h. in epidemiology courses outside their emphasis area.

## **ELECTIVES**

Students must complete a total of 23-25 s.h. of elective course work. They must earn 3 s.h. in a Department of Epidemiology course (prefix 173) outside their emphasis area and at least 20 s.h. in courses in their emphasis area. Course selection must be approved by the student's advisor and Ph.D. plan of study committee.

## **DISSERTATION**

All doctoral students must successfully complete a Ph.D. thesis.

173:300 Thesis/Dissertation	10-18 s.h.
-----------------------------	------------

## **Admission**

### **M.S. and Ph.D. in Epidemiology**

The epidemiology faculty considers several factors when evaluating applications for admission, including GRE scores, grade-point average, letters of recommendation, intent and motivation for graduate study, and research interests. A student with deficiencies in one area may be admitted if all other components of his or her application are very strong.

All M.S. program applicants must hold a baccalaureate degree and have a cumulative g.p.a. of at least 3.00. Undergraduate preparation must include two semesters of biological sciences, and mathematics through algebra.

Ph.D. program applicants must hold a baccalaureate degree (an M.S. or M.P.H. usually is required), and must have a cumulative g.p.a. of at least 3.00. Courses in the biological, physical, and mathematical sciences provide important background; one semester of calculus and two semesters of biological sciences are highly recommended. Computing skills also are desirable.

All applicants to the M.S. or Ph.D. program must have taken the Graduate Record Examination (GRE) General Test.

Applicants whose first language is not English and who do not hold a baccalaureate degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 550-599 (paper-based), 213-249 (computer-based), or 81-99 (Internet-based) are required to take English fluency courses. Applicants who score below those ranges are not considered for admission. In place of TOEFL scores, the department accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All M.S. and Ph.D. applicants and students are required to have strong written and oral communication skills.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Application deadlines for fall entrance to the M.S. in epidemiology are July 1 for U.S. citizens, April 15 for international applicants. Application deadlines for spring entrance are April 15 for U.S. citizens, March 1 for international applicants.

Application deadline for fall entrance to the Ph.D. in epidemiology is April 1. Application deadline for spring entrance (not encouraged) is October 1.

### **M.S. in Clinical Investigation**

Applicants to the M.S. program in clinical investigation must hold a doctoral-level degree in a clinical discipline (e.g., M.D., D.O., D.D.S., Ph.D., Pharm.D., D.V.M) or be enrolled in the Medical Scientist Training Program (Carver College of Medicine). They must hold a baccalaureate degree with a cumulative g.p.a. of at least 3.00; foreign-trained applicants must have an outstanding doctoral training record.

All applicants must have taken the Graduate Record Examination (GRE), Medical College Admission Test (MCAT), or Dental Admission Test (DAT). Applicants whose first language is not English and who do not hold a degree from an accredited English-speaking college or university must have taken the Test of English as a Foreign Language (TOEFL).

Applicants are considered based on their credentials, prior training, and research training plans. An applicant with deficiencies in one area may be admitted if all other components of his or her application are strong.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

The M.S. in clinical investigation accepts students only for summer entrance. Application deadlines are April 15 for U.S. citizens, March 1 for international applicants.

## Financial Support

A limited number of graduate research assistantships are available for advanced M.S. and Ph.D. students; for information, consult the department. For information on financing education through jobs, grants, and loans, contact the Office of Student Financial Aid.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

## Resources

Department of Epidemiology resources and activities include the State Health Registries of Iowa, the Preventive Intervention Center, the Lipid Research Clinic, the Health Effectiveness Research Center, the Center for Emerging Infectious Diseases, and the Nutrition Center.

The State Health Registries of Iowa, which encompasses the Iowa Cancer Registry and the Iowa Registry for Congenital and Inherited Disorders, works in cooperation with the Iowa Department of Public Health to collect medical data on Iowans. It is one of 10 registries nationwide that report data to the National Cancer Institute.

The Preventive Intervention Center conducts population-based intervention trials to prevent occurrence and recurrence of disease and to promote wellness, with a focus on the elderly. The Lipid Research Clinic specializes in research promoting prevention of cardiovascular disease and provides an interdisciplinary approach to risk factor interventions. The Healthcare Effectiveness Research Center is a collaborative research enterprise with the College of Pharmacy that studies whether particular health care treatments or services are over- or underutilized. The Center for Emerging Infectious Diseases employs epidemiological methods, laboratory technologies, and clinical evaluations to achieve a better understanding of emerging infectious diseases. The Nutrition Center provides expertise in nutrition and dietary assessment, dietary interventions, and nutrition lifestyle change strategies.

## Epidemiology Courses

### **173:099 Evidence-Based Public Health Methods** 3 s.h.

How to choose, conduct, and evaluate evidence-based programs and policies in public health; finding and using scientific evidence, implementing and evaluating interventions that produce new evidence. Offered summer sessions. Requirements: Certificate in Public Health enrollment.

### **173:111 International Health** 3 s.h.

Urgent health problems in the developing world and among disadvantaged populations in developed countries; biological, social, cultural, political aspects of international health problems; applications of research methods from epidemiology, environmental health, social sciences. Same as 152:111, 175:111.

### **173:120 Principles of Public Health Informatics** 3 s.h.

Systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics.

### **173:130 Food Safety** 3 s.h.

Current issues and concepts of food safety in the United States, from plant to table; foodborne illness from microbial agents, food toxins, adulterants; disease investigation, risk analysis, risk mitigation, prevention.

### **173:132 Exotic and Emerging Diseases of Animals** 1 s.h.

Major exotic and emerging animal diseases; veterinarian's role in recognizing and diagnosing such diseases; how outbreaks affect economies and veterinary medicine; public health concerns; responding agencies and their roles in control and eradication.

**173:140 Epidemiology I: Principles**

3 s.h.

Epidemiological concepts and methods; design of descriptive and analytic studies, such as aggregate, case series, cross-sectional, case-control, cohort studies, clinical trials; application of epidemiology to public health practice; communication and dissemination of epidemiological findings.

**173:145 Public Health Data**

2 s.h.

Concepts and methods of obtaining and using public health data in community settings; how public health data are used for epidemiologic investigations and prevention programs. Offered spring semesters. Corequisites: 171:161 and 173:140, if not taken as prerequisites.

**173:147 Applied Veterinary Epidemiology/Biostatistics**

3 s.h.

Epidemiology and biostatistics applied to veterinary public health; outbreak investigations, surveillance, analyzing and evaluating diagnostic tests, translation methodology, risk assessment, data analysis software programs. Prerequisites: 171:161 and 173:140.

**173:150 Introduction to Clinical Epidemiology**

2-3 s.h.

Epidemiologic applications and methods used in clinical settings to evaluate clinical medicine and other health profession disciplines, including health measurement, health outcome determination, diagnostic process, risk assessment and communication, prognosis, study design, patient surveys, clinical trials, decision analysis and meta-analysis, health services research. Offered fall semesters. Corequisites: 171:161 and 173:140, if not taken as prerequisites.

**173:152 Clinical Research Career Development**

1 s.h.

Practical skills of clinical research; grant development and management, data management, communication of research findings, and academic career development. Offered summer sessions.

**173:153 Surveillance Internship: IRCID**

2 s.h.

Experience in the Iowa Registry for Congenital and Inherited Disorders; active, population-based surveillance for selected congenital and inherited disorders. Prerequisites: 173:140, 173:160, and 173:240.

**173:154 Cancer Registration Internship**

2 s.h.

Sources of data necessary for operation of a population-based cancer registry; potential uses of the data; methods and personnel required for collecting, editing, storing, reporting, and assuring quality of data. Prerequisites: 173:140.

**173:155 Diagnostic Microbiology for Epidemiology**

3 s.h.

Introduction to microbiological culture, antigen detection, immunological and molecular amplification laboratory techniques for bacteria, viruses, parasites, fungi. Offered spring semesters. Prerequisites: 061:103 or 061:112 or 061:157 or 061:164.

**173:156 Introduction to Molecular Epidemiology**

3 s.h.

Introduction to basic techniques of molecular biology (DNA, RNA, protein techniques) and their use in epidemiological research (e.g., diagnosis of disease, biomarker discovery and validation). Corequisites: 173:140, if not taken as a prerequisite.

**173:157 Zoonotic Diseases**

2-3 s.h.

Introduction to the epidemiology and control of zoonotic diseases; zoonoses endemic to the midwestern United States. Offered summer sessions. Prerequisites: 061:103 or 061:112 or 061:157 or 061:164 or 173:155 or 173:255.

**173:158 Public Health Laboratory Techniques**

1 s.h.

Common laboratory techniques in emerging infectious respiratory disease research and epidemiologic surveillance laboratories; emphasis on techniques for culturing, characterization, and serological surveillance of exposure to influenza viruses. Requirements: completion of online Basic Biological Safety and Blood-borne Pathogens courses; completed certificates must be brought to class.

**173:159 Applied Infectious Disease Epidemiology**

2 s.h.

Introduction to infectious disease surveillance, diagnostic tools, outbreak investigations, vaccine trials, public health interventions, biodefense, emerging infectious diseases, and analytical approaches pertaining to infectious disease prevention and control; emphasis on respiratory viral diseases. Duplicates 173:255.

**173:160 Introduction to Epidemiology Data Analysis With Computers** 2 s.h.  
Organization, collection, management, and analysis of epidemiological data using computer programs. Offered fall semesters. Corequisites: 171:161 and 173:140, if not taken as prerequisites.

**173:161 Patient-Oriented Research Data Analysis** 3 s.h.

**173:163 Seminar in Clinical and Translational Research** 1 s.h.  
Presentation of ongoing clinical research projects, grant applications, and methodological articles, with emphasis on works in progress.

**173:170 Injury and Violence Prevention** 3 s.h.  
Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as 175:170.

**173:175 Research Methods in Disaster Studies** 3 s.h.  
Epidemiologic study of disasters and their health consequences; research to identify and reduce health effects, research in context of response and preparedness. Same as 175:175.

**173:190 Problems and Special Topics in Epidemiology** arr.  
Didactic material in epidemiology; may include tutorial, seminar, faculty-directed independent work (e.g. literature search, project, short research project).

**173:195 Preceptorship in Epidemiology** arr.  
Quantitative research-oriented project performed with a preceptor; preparation of prospectus, presentation of research results in a publication-quality report and a scientific poster session.

**173:199 Practicing Evidence-Based Public Health** 3 s.h.  
How epidemiologic and other scientific studies underlie public health practice; relationship between evidence and action; controversies at interface of science and policy. Offered spring semesters.

**173:200 Independent Study in Epidemiology** arr.  
In-depth pursuit of an area of special interest in epidemiology requiring substantial creativity and independence. Repeatable.

**173:205 Research in Epidemiology** arr.  
Research that may lead to a dissertation. Repeatable.

**173:207 Social Epidemiology** 3 s.h.  
Introduction with global focus and emphasis on methodological issues, including definition/measurement of social constructs, appropriate research designs, analytic approaches. Prerequisites: 173:140 and 171:161.

**173:208 Conducting Literature Syntheses** 1 s.h.  
Opportunity to develop skills for conducting literature searches and writing literature summaries or reviews, for grant or thesis background sections. Prerequisites: 171:161 and 173:140. Recommendations: 173:160 or Hardin Library Reference Works course.

**173:209 Behavioral Epidemiology** 3 s.h.  
Behavioral epidemiology, including diet, exercise, smoking, social support; use of design and measurement concepts and problem-solving skills in research, including focus groups, cognitive interviewing, and pilot studies that use qualitative methods to design quantitative questions regarding behavior. Prerequisites: 171:161 and 173:140.

**173:210 Writing a Research Protocol** 3 s.h.  
Small group projects to develop research protocols using epidemiological study designs; presentation and defense of proposals before faculty site visitors. Offered fall semesters. Prerequisites: 171:161, 173:140, and 173:240.

- 173:211 Grant Writing for Clinical Investigators** 1 s.h.  
Development of skills for writing effective, scientifically sound applications for external research grants; for students who have completed the literature review section for their topic. Prerequisites: 171:161 and 173:140.
- 173:215 Writing for Medical Journals** 1 s.h.  
Skill development in writing medical journal articles for publication.
- 173:220 Environmental and Occupational Epidemiology** 3 s.h.  
Environmental and occupational epidemiologic study designs; basic and novel methods of exposure assessment; methodologies to improve study validity. Prerequisites: 173:140. Corequisites: 171:161 and 175:197. Same as 175:220.
- 173:225 Genetics and Epidemiology** 4 s.h.  
Basic human genetic and population genetics principles; methods of integrating genetic principles into epidemiological studies; analytical methods for case control and family data. Prerequisites: 171:161 and 173:140.
- 173:230 Principles of Dietary Assessment** 1 s.h.  
Overview of current dietary assessment methods; evaluation of dietary records, dietary recall, food frequency questionnaires, brief dietary scanners, nutrient database, nutrient intakes standards. Offered spring semesters. Requirements: 3 s.h. of college nutrition courses.
- 173:233 Evidence-Based Nutrition Policy** 3 s.h.  
Concepts and methods used in setting public health nutrition policy; evidence-based aspects of nutrition policy formation in public health settings; evaluation of nutritional public health policy implementation. Offered summer sessions.
- 173:235 Nutritional Epidemiology** 2 s.h.  
Application of epidemiology study designs to nutrition variables and chronic disease; analysis of nutrition epidemiology studies; research protocol design. Offered spring semesters. Recommendations: a basic nutrition course.
- 173:236 Nutrition Intervention in Clinical Trials Research** 2 s.h.  
Nutrition interventions in clinical trials; disease related to nutrition variables; research that links effects of diet on chronic diseases. Offered fall semesters. Recommendations: a basic nutrition course.
- 173:237 Nutrition Intervention in Research Lab** 3 s.h.  
Development, demonstration of group counseling skills in ongoing nutrition research projects at The University of Iowa. Offered fall semesters. Corequisites: 173:236, if not taken as a prerequisite.
- 173:240 Epidemiology II: Advanced Methods** 4 s.h.  
Epidemiologic study design and analysis; bias, confounding, effect modification; case-control studies; cohort studies; field methods; measurement principles; exposure and disease classification; acute and chronic disease examples. Offered spring semesters. Prerequisites: 171:161, 173:140, and 173:160.
- 173:241 Statistical Methods in Epidemiology** 3 s.h.  
Overview of methods to analyze data from epidemiologic investigations; estimation of relative measures of risk, attributable risk, stratified analysis, model-fitting approaches using logistic and Poisson regression analysis; confounding and effect modification; analysis of epidemiologic data sets. Prerequisites: 171:161 and 171:162.
- 173:245 Epidemiology of Physical Activity** 3 s.h.  
Physical activity/disease relationships examined through application of epidemiologic methods, including research design, interpretation of studies, selection of measures to fit research questions. Same as 027:249.
- 173:251 Injury Epidemiology** 3 s.h.  
How epidemiology can be applied to injury prevention and control: epidemiology literature, specific methodological problems involved in the epidemiology of injuries, critical evaluation of research articles. Offered spring semesters of odd years. Prerequisites: 173:140. Same as 175:251.
- 173:253 Epidemiology of Occupational Injuries** 3 s.h.  
Epidemiological literature on occupational injuries and their prevention; focus on research methods. Offered spring semesters of even years. Prerequisites: 173:140. Same as 175:253.



- 173:255 Epidemiology of Infectious Diseases** 3 s.h.  
Underlying epidemiological concepts of infection disease, including causation and surveillance; prevention and control; case studies. Offered fall semesters. Prerequisites: 173:140. Same as 152:257.
- 173:256 Hospital Epidemiology** 2 s.h.  
Health care-associated infections; surveillance, investigative methods, resistant organisms, molecular epidemiology; methods for preventing spread of pathogens, including isolation precautions; environmental issues, construction, sterilization; interactive exercises. Prerequisites: 173:140.
- 173:257 Infectious Causes of Chronic Disease** 3 s.h.  
Evidence linking various infectious agents with the development of different types of chronic disease. Offered even years. Corequisites: 173:140, if not taken as a prerequisite.
- 173:260 Epidemiology of Chronic Diseases** 3 s.h.  
Chronic disease epidemiology; survey of leading chronic diseases, including measurement of disease, lifestyle, nutrition, occupation, family history. Offered spring semesters. Prerequisites: 173:140.
- 173:261 Epidemiology of Aging** 1-2 s.h.  
Epidemiologic methods for studying health and social problems of older persons; applications including research and public health practice and policy. Offered spring semesters. Prerequisites: 173:140. Same as 153:261.
- 173:262 Neuroepidemiology** 2 s.h.  
Basic epidemiologic concepts of neurologic disease; concepts, methods, examples of neuroepidemiology; varied diseases, methods. Prerequisites: 173:140 and 173:160.
- 173:263 Epidemiology of Reproductive Diseases** 2 s.h.  
Evaluation of methodological issues and current findings for reproductive diseases and conditions; etiological mechanisms, including behavioral and genetic. Offered fall semesters of odd years. Prerequisites: 173:140.
- 173:264 Epidemiology of Maternal and Infant Health** 2 s.h.  
Overview of maternal and infant epidemiologic and methodologic issues; prevalence and trends; risk factors; data sources, including limitations and availability; relevant measurement issues; directions for future research. Prerequisites: 171:161 and 173:140.
- 173:265 Cardiovascular Disease Epidemiology** 3 s.h.  
Natural history of atherosclerotic disease in humans and risk factors affecting its development; atherosclerotic disease by age, sex, and in varied populations worldwide; recent guidelines and clinical trials to delay onset, reduce incidence, improve outcome of cardiovascular disease. Offered fall semesters of odd years. Prerequisites: 171:161 and 173:140.
- 173:267 Psychiatric Epidemiology** 3 s.h.  
Population-based studies of psychiatric disorders and associated etiologic tools; diagnostic criteria used in psychiatric research, common structured interviews and rating scales; recent research relevant to common psychiatric disorders; experience writing a research idea using NIH PHS grant form. Offered spring semesters. Prerequisites: 173:140. Recommendations: 173:240 or two years of resident training in psychiatry. Same as 073:255.
- 173:270 Cancer Epidemiology and Control** 3 s.h.  
Incidence, mortality, survival; risk factors, cancer control options for major cancer sites; principles and methods of cancer registration; research examples by type of study design. Offered spring semesters of even years. Prerequisites: 069:133, 171:161, and 173:140.
- 173:272 Cancer Molecular Epidemiology Seminar** 2 s.h.  
Basic tumor biology and lab-based methods applied to development of translational approaches to prevention, early diagnosis, and treatment of human cancers. Offered fall semesters of even years. Same as 069:272.
- 173:276 Health Care Utilization Outcomes** 3 s.h.  
Research tools to assess changes in health care use and cost as outcomes of treatment; theories of health outcomes; analysis of hospital discharge data sets. Requirements: knowledge of SAS or SPSS. Same as 174:268.
- 173:280 Introduction to Health Care Organization and Policy** 3 s.h.

Organization of U.S. health care system, health policies that shape its development; historical, socioeconomic, political, environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy concepts, and terminology, including health determinants, access to care, system integration, policy development, federalism. Same as 174:200.

**173:290 Intervention and Clinical Trials**

3 s.h.

Methodologic introduction to rationale, design, conduct, analysis, and presentation of clinical trials; basics of clinical trial design, variety of designs, examples from clinical trials; biostatistical methods, including sample size determination. Offered fall semesters. Prerequisites: 171:161 and 173:140.

**173:291 Pharmacoepidemiology**

3 s.h.

Drug approval process, methods for identification and attribution of adverse drug events, current understanding of the epidemiology of adverse drug events; study designs, data sources for pharmacoepidemiology, pharmacoeconomics. Offered fall semesters of even years. Prerequisites: 173:140.

**173:295 Clinical Research Ethics**

2-3 s.h.

Ethical and regulatory aspects of clinical research; historical background, current regulations, Institutional Review Board requirements related to human subjects protection issues. Requirements: K30 training grant or enrollment in degree program with clinical research project.

**173:300 Thesis/Dissertation**

arr.

Repeatable.

**173:320 Teaching in Epidemiology**

3 s.h.

Teaching methods in epidemiology; guided practicum experience in teaching epidemiology, in preparation for academic careers. Prerequisites: 173:140, 173:160, and 173:240.

**173:340 Epidemiology III: Theories**

3 s.h.

How epidemiology fits into the wider context of scientific inquiry. Offered fall semesters of odd years. Prerequisites: 171:241, 173:140, and 173:240.

## Health Management and Policy

**Head:** Keith J. Mueller

**Professors:** Kathleen Buckwalter (Nursing/Law/Psychiatry/Internal Medicine), Susan J. Curry, Franklin Dexter (Anesthesiology), Josephine Gittler (Law/Pediatrics/Nursing), Dennis Harper (Teaching and Learning/Rehabilitation and Counselor Education/Pediatrics), Charles Helms (Internal Medicine), Diane Huber (Nursing), Michael Kienzie (Medicine/Nursing), Samuel Levey (Distinguished Professor in Health Management and Policy), Keith J. Mueller (Gerhard Hartman Professor), Gary E. Rosenthal (Internal Medicine/Epidemiology), Gerard Rushton (Geography), Marcia M. Ward, Fredric D. Wolinsky (John W. Colloton Chair/Internal Medicine/)

**Professors emeriti:** Barry Greene, Larry D. Prybil

**Professor (clinical):** Christopher Atchison (Nursing)

**Adjunct professors:** William W. Hesson, Donna Katen-Bahensky, John H. Staley

**Associate professors:** Rachel L. Anderson (Nursing), John Brooks (Pharmacy/Epidemiology), Brian Kaskie, Thomas E. Vaughn (Nursing)

**Associate professor (clinical):** Tanya Uden-Holman (Nursing)

**Adjunct associate professors:** James Bahensky, Douglas Beardsley, Thomas Evans, Kenneth Fisher, Ian Montgomery, William D. Petasnick, Peter Roberts

**Adjunct associate professors (clinical):** Michelle Robnett (Nursing), Peter Wallace

**Assistant professors:** Jason Hockenberry, George Wehby

**Assistant professor (clinical):** Mary Charlton

**Adjunct assistant professors:** Lee Carmen, Shane Cerone, Thomas Clancy (Nursing), Mark Moser, Brian White, Ralph Wilmoth

**Adjunct instructor:** Thomas Persoon (Industrial Engineering)

**Adjunct lecturers:** Timothy Ahlers, Richard C. Breon, Charles E. Brown, Russell Cooner, Eric T. Crowell, Stacey T. Cyphert, Mary L. Hensley, Kenneth Kates, Thomas W. Keel, Christopher Klitgaard, Todd C. Linden, Duncan Moore, David Olson, Ronald R. Reed, Sarabdeep Singh, James H. Skogsbergh, Julie A. Stark Manas, Thomas F. Tibbitts, James A. Tinker, Stephen L. Ummel, John C. Woher

**Graduate degrees:** M.H.A.; Ph.D. in Health Services and Policy

**Web site:** <http://www.public-health.uiowa.edu/hmp>

The Department of Health Management and Policy educates health care professionals to assume leadership roles in an increasingly complex and dynamic health care system. Graduates hold key executive, academic, research, government, and consulting positions in all areas of health management and policy, both in the United States and abroad.

## Graduate Programs

The department offers the Master of Health Administration and a Doctor of Philosophy in health services and policy. It also offers joint degree programs with the Tippie College of Business (M.H.A./M.B.A.), the College of Law (M.H.A./J.D.), and the Graduate College's Urban and Regional Planning Program (M.H.A./M.A. or M.S.); see "Joint M.H.A. Degrees" below.

In addition, the department offers the policy subtrack for the Master of Public Health; see "M.P.H. Subtrack" below.

The department's degree programs rank among the foremost in the field. The M.H.A. is accredited by the Commission on Accreditation of Healthcare Management Education.

### Master of Health Administration

The Master of Health Administration requires 60 s.h. of graduate credit over two academic years of full-time study. The program prepares students for a wide variety of positions in health care management. It is designed to provide a comprehensive understanding of issues encountered by health care delivery organizations, and strong business skills. Graduates are well prepared to advance to senior executive roles in a variety of health care organizations.

Students work with their advisors to create a plan of study that incorporates required and elective course work that supports their career goals in areas such as operations management, managed care, or financial management. Required courses in management, economics, law, managerial finance, and financial accounting focus on health care applications. Students also may take course work in other University of Iowa departments and programs, such as business, urban and regional planning, and aging studies.

During the first year, students are introduced to the social, political, economic, and financial environments of health care organizations. The concepts, tools, and techniques necessary for effective management also are presented. During the second year, courses focus on in-depth health care applications of management concepts that integrate prior course work and develop skills in areas relating to students' special interests and career objectives.

Transfer credit and course waivers may be accepted, but all students are expected to complete a minimum of 54 s.h. at The University of Iowa during their course of study.

### CORE COURSES

06N:215 Corporate Financial Reporting	3 s.h.
06N:225 Managerial Finance	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
174:100 Executive Seminar Series	0 s.h.
174:200 Introduction to Health Care Organization and Policy	3 s.h.
174:201 Health Care Management	3 s.h.

174:203 Strategic Planning and Marketing	3 s.h.
174:204 Quantitative Management in Health Care	2 s.h.
174:205 Issues in Health Management and Policy	3 s.h.
174:208 Health Services Information Systems	2 s.h.
174:212 Health Economics I	3 s.h.
174:216 Financial Management of Health Institutions	3 s.h.
174:221 Evaluation and Outcomes in Health Care	2 s.h.
174:223 Seminar in Health Care Ethics	2 s.h.
174:224 Human Resources for Health Organizations	2 s.h.
174:237 Legal Aspects of Health and Medical Care	3 s.h.
174:243 Health Policy	2 s.h.
175:101 Health, Work, and the Environment	3 s.h.

## **ELECTIVES**

Students choose 14 s.h. of elective course work, which must include 8 s.h. in Department of Health Management and Policy courses.

### **Summer Internships, Fellowships, Residencies**

The department facilitates placement of M.H.A. students in required summer internships between the first and second years of study. Internships offer opportunities for practical experience interacting with executives in a health care setting. Internships are full-time positions that usually last 10-12 weeks and may carry up to 3 s.h. of credit. Students normally receive a salary or stipend, and in some cases, assistance with living arrangements.

Most M.H.A. students complement their academic training with a postgraduate fellowship or residency. Such experiences provide opportunities to observe, develop, and demonstrate management skills and to develop connections with colleagues. The department takes an active role in helping students identify and secure fellowship and residency positions.

### **Joint M.H.A. Degrees**

The Department of Health Management and Policy offers joint degree programs with the Tippie College of Business, the College of Law, and the Department of Urban and Regional Planning. Students who wish to pursue an integrated program combining an M.H.A. with a master's or professional degree in another field should discuss their plans with both academic units and indicate their interest when they apply to the M.H.A. program.

#### **Joint M.H.A./M.B.A.**

Students interested in combining the traditional strengths of health management and policy with additional management course work may pursue the joint master's degree program with the Tippie College of Business.

This combination leads to a Master of Health Administration (M.H.A.) in health management and policy and a Master of Business Administration (M.B.A.). It requires 75 s.h. of graduate credit and normally is completed in two and a half to three years. Separate admission to each degree program is required. For information about the M.B.A., see Master of Business Administration Program in the Catalog.

#### **Joint M.H.A./J.D.**

The joint program with the College of Law is highly individualized, allowing students to gain training in both health care management and law.

The program leads to a Master of Health Administration (M.H.A.) in health management and policy and the Juris Doctor (J.D.). It requires a minimum of 126 s.h. of postbaccalaureate credit and usually takes four years to complete. Separate admission to each degree program is required. Students register only for law courses during their first year. For information about the J.D., see Juris Doctor in the Catalog.

#### **Joint M.H.A./M.A. in Urban and Regional Planning**

Students interested in developing special expertise in community and health planning may pursue a joint master's degree with the Graduate College's Urban and Regional Planning Program. They prepare to develop public policy alternatives that help improve the quality of life in cities and throughout regions.

The joint program leads to a Master of Health Administration (M.H.A.) in health management and policy and a Master of Arts or Master of Science in urban and regional planning. It requires 76 s.h. of graduate credit and can be completed in three years. Separate admission to each degree program is required. See Urban and Regional Planning in the Catalog.

## M.P.H. Subtrack

The Department of Health Management and Policy offers the policy subtrack for the Master of Public Health. The subtrack prepares individuals for careers in health policy analysis, system and organizational planning, and program evaluation. Graduates find positions in federal, state, and local government as well as in professional associations and private agencies. See Master of Public Health Program in the Catalog.

## Doctor of Philosophy

The Doctor of Philosophy in health services and policy requires a minimum of 77 s.h. of graduate credit, which may include up to 30 s.h. earned for a master's degree. The program, established in 1950, was the nation's first doctoral program in health care management. It prepares students for careers in health services research, education, and policy leadership in universities, government agencies, and health organizations.

The program is oriented toward applied, interdisciplinary research. Students develop mastery of theories and research methodologies necessary to study the complex American health system. Students work closely with faculty mentors on research projects and develop research design and methodology skills through course work and an apprenticeship model of training.

The program's faculty members are committed to interdisciplinary scholarly inquiry and research. Individual plans of study allow students to prepare for specific careers, and small class size encourages frequent student-faculty interaction, including participation in research projects as well as scholarly publications.

### CORE COURSES

Ph.D. students take course work in core content areas covering health care systems, health economics, health outcomes, and health policy. Courses in research design and statistical analysis are required. Credit may be awarded for guided and independent research project work. Students may waive specific courses, depending on their background.

173:140 Epidemiology I: Principles	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
171:174 Introductory Longitudinal Data Analysis	3 s.h.
174:200 Introduction to Health Care Organization and Policy	3 s.h.
174:212 Health Economics I	3 s.h.
174:213 Health Economics II	3 s.h.
174:217 Health Insurance and Managed Care	3 s.h.
174:221 Evaluation and Outcomes in Health Care	2 s.h.
174:242 Federalism and Health Policy	3 s.h.
174:243 Health Policy	3 s.h.
174:245 Seminar in Health Policy	3 s.h.
174:252 Organizational Behavior and Theory in Health Care	3 s.h.
174:255 Seminar in Contemporary Health Issues (two semesters)	0 s.h.
174:257 Ph.D. Guided Research	3 s.h.
174:259 Design Issues in Health Service Research	3 s.h.
174:260 Ph.D. Independent Research	3 s.h.
174:261 Analytic Issues in Health Services Research I	3 s.h.
174:262 Analytic Issues in Health Services Research II	3 s.h.
174:268 Health Care Utilization Outcomes	3 s.h.
174:270 Seminar in Health Research and Instruction	3 s.h.
174:285 Ph.D. Dissertation	8-15 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.

### EXAMINATIONS

All Ph.D. students must pass a preliminary examination that tests the student's mastery of core material covered during the first year in the department, including American health systems and health services research methods.

Students take the comprehensive examination at or near the end of their formal course work. The comprehensive exam focuses on the student's specific area of research and theoretical interest.

### DISSERTATION

Doctoral candidates prepare dissertations based on original research that tests, extends, or applies concepts or principles to a problem in health care. Students may choose to complete a traditional dissertation or may complete a dissertation based on three publishable papers.

## **Admission**

Applicants to the M.H.A. program must hold a bachelor's degree from an accredited college or university. No specific undergraduate major is required, but prospective applicants are strongly advised to complete introductory courses in accounting, economics, and statistics and to gain facility in using spreadsheet and presentation software. A cumulative g.p.a. of at least 3.00 is expected. M.H.A. program applicants must submit scores on the Graduate Record Exam (GRE) General Test (a combined verbal and quantitative score of 1100 or above is preferred) or the Graduate Management Admission Test (a score of 600 or above is preferred); official MCAT, VAT, LSAT, or DAT scores are accepted in place of GRE or GMAT scores. Previous work experience in health care is desirable.

Applicants to the Ph.D. program must have a bachelor's or master's degree. Experience in health care and a master's degree in health administration, public health, or health planning are excellent preparation for the program. A graduate degree in social science, management, economics, or law is acceptable, depending on the applicant's background and career goals. A cumulative g.p.a. of at least 3.25 is usually required. All Ph.D. applicants must submit GRE scores (a combined verbal and quantitative score of 1100 or above is preferred).

All applicants must submit academic transcripts, a resume, three letters of recommendation, and a statement of objectives form (contact the Department of Health Management and Policy).

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 550-599 (paper-based), 213-249 (computer-based), or 81-99 (Internet-based) are required to take English fluency courses. Applicants who score below those ranges are not considered for admission.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Students begin the program in fall semester. Campus visits are encouraged, and personal interviews are required before admission. The admissions committee conducts telephone interviews with applicants unable to interview on campus.

## **Financial Support**

A variety of financial assistance is available, including scholarships and awards, student loans, and research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding scholarship and experience, regardless of need.

Research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health services research and management projects. Research assistants work 10-20 hours per week and must apply for reappointment each year. Research assistantships provide a stipend and some tuition assistance and entitle students to resident tuition.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the Office of Student Financial Aid.

## **Resources**

The Center for Health Policy and Research is the research arm of the Department of Health Management and Policy and a University-wide interdisciplinary research facility. The center collaborates with health provider associations, policy and planning groups, insurance organizations, health delivery institutions, and other members of the health services research community. It also sponsors educational activities, including weekly seminars.

Department of Health Management and Policy faculty members are involved in a wide range of research topics and methodologies and have research grants and contracts of \$7 million in the center. This large research portfolio provides excellent training opportunities for students.

## **Alumni Relations**

An active alumni association with more than 1,000 members supports the program in a number of ways, including

scholarships, consultation on curriculum, continuing education, research, and fund development. Alumni serve as visiting faculty, consultants, mentors, and preceptors for summer internships, residencies, and fellowships. The alumni association also provides a network for graduates entering the profession.

Graduates maintain their Iowa connection and learn about news of their classmates, the department, and faculty members and students through the *Alumni Newsletter*.

The Department of Health Management and Policy and its alumni association jointly sponsor the Annual Iowa Healthcare Executive Symposium each fall. Renowned speakers from across the country present a variety of symposium topics. Health care leaders, alumni, educators, students, and friends of the department attend the symposium, which offers students a high quality educational experience in addition to the opportunity to network with faculty and alumni.

## Health Management and Policy Courses

- 174:100 Executive Seminar Series** 0 s.h.  
Issues in the health care industry; presentations by executives from health care fields including academic health centers, multihospital systems, government agencies, community hospitals, and health insurance industry.
- 174:102 Introduction to the U.S. Health Care System** 3 s.h.  
The U.S. health care system; socioeconomic, political, and environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy, concepts, terminology. Same as 06J:159.
- 174:144 Medicare and Medicaid Policy** 3 s.h.  
Health policies most pertinent to Americans over age of 65. Same as 153:144.
- 174:200 Introduction to Health Care Organization and Policy** 3 s.h.  
Organization of U.S. health care system, health policies that shape its development; historical, socioeconomic, political, environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy concepts, and terminology, including health determinants, access to care, system integration, policy development, federalism. Same as 173:280.
- 174:201 Health Care Management** 3 s.h.  
Application of basic management principles such as leadership, goal setting, decision making, human resource management, to health care organizations.
- 174:202 Hospital Organization and Management** 2-3 s.h.  
Role of hospitals, governance, organizational structure, medical staff organization, departmental operations. Prerequisites: 174:200 and 174:201.
- 174:203 Strategic Planning and Marketing** 3 s.h.  
Strategy in health care including role of mission, vision, values, environmental analysis, strategic alternatives, organizational design, and evaluation of strategic decisions. Prerequisites: 174:201.
- 174:204 Quantitative Management in Health Care** 2-3 s.h.  
Quantitative analysis techniques used by managers in health care settings to assist with planning, decision making, resource allocation.
- 174:205 Issues in Health Management and Policy** 3 s.h.  
Integration and application of theories, concepts, principles; case studies. Prerequisites: 174:201 and 174:203.
- 174:207 Group Practice and Ambulatory Care Administration** 3 s.h.  
Delivery of ambulatory health care services, for-profit, and not-for-profit organizations; emphasis on structures, payment mechanism, compensation, effects of managed care, other internal issues. Prerequisites: 174:200, 174:201, and 174:202.
- 174:208 Health Services Information Systems** 2-3 s.h.  
Conceptual, practical aspects of analysis, development, and use of computer-based information systems; emphasis on application to the health sciences environment.

- 174:212 Health Economics I** 3 s.h.  
Microeconomic principles applied to health care, health insurance, information and uncertainty, models of physician and hospital behavior, theory of the firm, market structure, regulation, competitive reform, managed care.
- 174:213 Health Economics II** 3 s.h.  
Economic theory and its application to health behavior, markets for health care and health insurance, public policy related to health. Prerequisites: 174:212.
- 174:216 Financial Management of Health Institutions** 3 s.h.  
Issues in working capital management, capital financing, cost analysis and rate setting, budgeting, reimbursement, managed care contracting and health reform initiatives; emphasis on use of information from accounting, financial management systems.
- 174:217 Health Insurance and Managed Care** 3 s.h.  
History and theory of insurance, comparative health systems, health systems and networks, HMOs, public health insurance, care for uninsured; emphasis on public policy. Prerequisites: 046:263 or 174:212, and 174:200. Same as 152:217.
- 174:218 Topics in Health Administration** 1-3 s.h.  
Topics related to contemporary problems that concern health care students, administrators. Repeatable.
- 174:221 Evaluation and Outcomes in Health Care** 2 s.h.  
Qualitative and quantitative methods for evaluating health care quality, effectiveness; program evaluation, health outcomes, clinical and cost effectiveness, evaluation across health care delivery systems. Prerequisites: 174:102 or 174:200.
- 174:223 Seminar in Health Care Ethics** 1-2 s.h.  
Biomedical and organization ethics in the contemporary health care environment; ethical concepts and principles, ethical issues that confront executive, clinical, and governance leaders in context of complex health organizations.
- 174:224 Human Resources for Health Organizations** 2-3 s.h.  
Overview of human resource management theories and practices for health care organizations; strategic human resource management, equal employment, staffing, training and development, appraisal, compensation. Prerequisite: 174:201.
- 174:225 Decision Modeling and Project Management** 1-3 s.h.  
Basic project management skills to ensure benefits from health care projects; quantitative decision modeling for a scientific approach to decision making.
- 174:226 Health Informatics I** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Requirements: graduate standing. Same as 021:275, 050:283, 051:187, 056:186, 074:191, 096:283, 200:110.
- 174:228 Cost Effectiveness and Decision Analysis** 3 s.h.  
Methods of cost-effectiveness analysis and decision analysis; applications to resource allocation decisions in public health and medicine.
- 174:229 Lean Sigma Principles: Applications in Health Care** 1-3 s.h.  
General lean and six sigma principles (1 s.h.); application to health care situations (3 s.h.); examples from University of Iowa Hospitals and Clinics, other institutions.
- 174:234 Administrative Internship** arr.
- 174:235 Administrative Residency/Fellowship** arr.
- 174:236 Administrative Practicum** 3 s.h.  
Experience with operational and planning matters in a health care setting. Requirements: second-year standing and g.p.a. of at least 3.00 for two consecutive semesters.



- 174:237 Legal Aspects of Health and Medical Care** 3 s.h.  
Statutory, common law frameworks applicable to health care system; court decisions that illustrate applications of general legal doctrines in hospital, health settings.
- 174:242 Federalism and Health Policy** 3 s.h.  
How American government's organization shapes development and implementation of health policy, programs, services.
- 174:243 Health Policy** 1-3 s.h.  
Policy process, policies and programs that shape provision of health care in the United States; health policies such as Medicare, Medicaid, Older Americans Act.
- 174:245 Seminar in Health Policy** 3 s.h.  
Contemporary health policy issues; theoretical and applied perspectives; social justice and health care for vulnerable populations (e.g., mental health, nursing homes); readings, discussion. Prerequisites: 174:243.
- 174:247 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as 021:263, 024:247, 028:257, 032:227, 042:247, 06J:247, 091:320, 102:278.
- 174:248 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: (for 091:322) 091:320; (for 174:248) 06J:247 or 024:247 or 174:247. Same as 021:265, 024:248, 028:258, 032:228, 042:248, 06J:248, 091:322, 102:279.
- 174:252 Organizational Behavior and Theory in Health Care** 3 s.h.  
Key concepts of organizational behavior and organizational theory and their application to health care organizations and health services; perspectives from theoretical writings and empirical studies. Requirements: Ph.D. standing and knowledge of human services organizations.
- 174:253 History and Health Policy in the U.S.** arr.  
Books, articles, other readings on history of the medical and nursing professions, evolution of the hospital and other key sectors of the health economy; health policy issues and their implications.
- 174:255 Seminar in Contemporary Health Issues** 0 s.h.  
Review of relevant literature on methodological substantive issues in health care, presentations by researchers on health services and policy research.
- 174:257 Ph.D. Guided Research** 1-3 s.h.  
Experience with empirical research, guided by a faculty mentor; structured and supervised research activities.
- 174:259 Design Issues in Health Service Research** 3 s.h.  
Design and causal inference reliability and validity in measurement; rules of evidence; research design for randomized-control trials, observational studies, meta-analysis.
- 174:260 Ph.D. Independent Research** 1-3 s.h.  
Experience in empirical research through one or more substantive research experiences, with faculty mentor; authorship or coauthorship of at least one manuscript suitable for publication in peer review journal. Requirements: Ph.D. in health services and policy and satisfactory completion of Ph.D. preliminary exams.
- 174:261 Analytic Issues in Health Services Research I** 3 s.h.  
Analytic tools used in health services research; focus on applications in nonexperimental research settings, such as analyses using administrative claims data or preexisting public use data sets. Prerequisites: 171:162. Same as 046:261.
- 174:262 Analytic Issues in Health Services Research II** 3 s.h.  
Continuation of 174:261; advanced applications, including panel data and qualitative response models. Prerequisites: 174:261. Same as 046:262.

**174:266 Advanced Case Management: Interdisciplinary Approach**

3 s.h.

Theory, evidence, and strategies for health care coordination and integration examined through analysis of case management and disease management interventions; interdisciplinary approach; leadership for interdisciplinary teamwork; analysis and critique of case and disease management theory and models; synthesis of case and disease management principles as a framework for managing health care outcomes for cost and quality, identification of evidence-based clinical care guidelines; analysis of financial, legal, ethical, and outcomes management components of case and disease management practice. Same as 096:266.

**174:268 Health Care Utilization Outcomes**

3 s.h.

Research tools to assess changes in health care use and cost as outcomes of treatment; theories of health outcomes; analysis of hospital discharge data sets. Requirements: knowledge of SAS or SPSS. Same as 173:276.

**174:270 Seminar in Health Research and Instruction**

1-3 s.h.

Opportunity for Ph.D. students to develop research and teaching skills through presentations, readings, workshops. Requirements: satisfactory completion of Ph.D. preliminary exams.

**174:280 Independent Study and Research**

arr.

Supervised tutorial.

**174:285 Ph.D. Dissertation**

arr.

Research for preparation of dissertation; seminar presentation.

# Master of Public Health Program

**Director:** Mary L. Aquilino  
**Graduate degree:** M.P.H.  
**Web site:** <http://www.public-health.uiowa.edu/mph/>

The Master of Public Health is recognized as the primary professional degree in public health. The objective of Iowa's M.P.H. program is to provide education and practical training in public health to students who will be leaders in their respective communities. The program is appropriate for individuals who already have professional experience and/or training in public health as well as for those whose expertise lies outside of public health.

The M.P.H. is awarded by the University of Iowa Graduate College. Combined degree programs for law, medical, nursing, and pharmacy students are available; see "Joint J.D./M.P.H.," "Joint M.D./M.P.H.," "Joint M.S.N./M.P.H.," and "Joint Pharm.D./M.P.H." in this section of the Catalog. The M.P.H. Program also offers two programs in collaboration with the College of Veterinary Science at Iowa State University; see "M.P.H. for Practicing Veterinarians" and "Joint D.V.M./M.P.H.".

## Master of Public Health

The Master of Public Health requires 42-59 s.h. of graduate credit, depending on the choice of specialization. Students must choose one of seven subtracks: biostatistics, community and behavioral health, epidemiology, ergonomics, health communication, occupational and environmental health, and policy.

Degree requirements include a core course in public health practice and in each of the five core disciplines of public health (epidemiology, biostatistics, environmental health, health administration, and social and behavioral sciences); a practicum; a set of content-specific required courses; and a set of content-specific electives. Students in the epidemiology subtrack and the occupational and environmental health subtrack also must complete a bioscience course. A final written report with oral presentation or a poster presentation related to the practicum constitutes the final examination.

All M.P.H. students complete the course work listed under "Common Requirements." In addition, each student completes the course work listed for his or her chosen subtrack.

### Common Requirements

The following course work is required for all M.P.H. students. Students must earn a B-minus or higher on each core course. Students may repeat courses to achieve this standard.

#### CORE COURSES

All of these (15 s.h.):

170:101 Introduction to Public Health	3 s.h.
171:161 Introduction to Biostatistics (biostatistics subtrack students must substitute 171:201 for 4 s.h.)	3 s.h.
172:101 Introduction to Health Promotion and Disease Prevention	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
175:197 Environmental Health	3 s.h.

One of these (3 s.h.):

174:102 Introduction to the U.S. Health Care System	3 s.h.
174:200 Introduction to Health Care Organization and Policy	3 s.h.

#### PRACTICUM

The practicum is a fieldwork experience in which students show proficiency in applying academic principles in community settings. There are many practicum opportunities for M.P.H. students in Iowa and surrounding states; the college's Institute for Public Health Practice coordinates placements. The practicum is the culmination of the M.P.H. program.

Students must choose an approved topic and complete the six core courses before registering for and beginning the practicum. A final written report with an oral presentation or a poster presentation is required. The practicum constitutes the final examination for the M.P.H.

170:299 M.P.H. Practicum Experience	3 s.h.
-------------------------------------	--------

## Biostatistics Subtrack

The Master of Public Health with biostatistics subtrack requires 44 s.h. of graduate credit. The subtrack is offered by the Department of Biostatistics (College of Public Health).

The subtrack focuses on application of biostatistical methods to public health and biomedical sciences, and applications of methodology for design and analysis of research investigations in the health sciences. It also provides fundamental training in the public health sciences, core biostatistical theory, and core biostatistical methods vital for health science investigations. Graduates of the program are prepared for work as statistical consultants and data analysts for public health projects.

Applicants to the biostatistics subtrack should have a bachelor's degree or equivalent in the biological, mathematical, or physical sciences. Applicants should have mathematics training in methods and techniques of single variable and multivariable differential and integral calculus, and in linear algebra. They also should be competent in at least one computer language, preferably FORTRAN, Pascal, or C.

Applicants with deficiencies in any of these areas may apply for admission and make up the deficiencies during the first year of graduate study. The following University of Iowa courses provide training at the required level.

22M:025 Calculus I	4 s.h.
22M:026 Calculus II	4 s.h.
22M:027 Introduction to Linear Algebra	4 s.h.
22M:028 Calculus III	4 s.h.

In addition to the M.P.H. course work listed under "Common Requirements" above, the biostatistics subtrack requires the following courses.

### SUBTRACK CORE

All of these (13 s.h.):

22S:153-22S:154 Mathematical Statistics I-II	6 s.h.
171:202 Biostatistical Methods II	4 s.h.
171:241 Applied Categorical Data Analysis	3 s.h.

One of these (3 s.h.):

171:173 Design of Sample Surveys	3 s.h.
171:242 Applied Survival and Cohort Data Analysis	3 s.h.

### ELECTIVES

At least 6 s.h. chosen from these:

22S:138 Bayesian Statistics	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:255 Linear Models	4 s.h.
171:164 Research Data Management	3 s.h.
171:242 Applied Survival and Cohort Data Analysis	3 s.h.
171:261 Survival Data Analysis	3 s.h.
171:262 Analysis of Categorical Data	3 s.h.
171:264 Longitudinal Data Analysis	3 s.h.
171:266 Statistical Methods in Clinical Trials	3 s.h.
171:271 Advanced Survival Analysis	3 s.h.

## Community and Behavioral Health Subtrack

The Master of Public Health with community and behavioral health subtrack requires 42 s.h. of graduate credit. The subtrack is offered by the Department of Community and Behavioral Health (College of Public Health).

The subtrack prepares public health practitioners for a variety of positions related to community development, health program implementation, and health education. Students learn how to design, implement, and evaluate evidence-based interventions directed toward identified public health problems in populations.

A bachelor's degree in the social and behavioral sciences is good preparation for this program, but students come from a variety of educational backgrounds. Preference is given to applicants who have professional experience.

In addition to the M.P.H. course work listed under "Common Requirements" above, the community and behavioral

health subtrack requires the following courses.

#### **SUBTRACK CORE**

At least 12 s.h. chosen from these:

172:106 Designing and Implementing Interventions	3 s.h.
172:130 Social Determinants of Health	3 s.h.
172:135 Health Disparities and Cultural Competence	3 s.h.
172:150 Health Behavior and Health Education	3 s.h.
172:181 Evaluation I: Theory and Applications	3 s.h.
172:183 Qualitative Research for Public Health	3 s.h.
172:185 Communicating with the Community	3 s.h.
172:240 Health Communication	3 s.h.

#### **ELECTIVES**

At least 9 s.h. chosen from these:

044:106 Foundations of GIS	3 s.h.
172:110 Community Development in Public Health	3 s.h.
172:115 Community Preventive Programs and Services	3 s.h.
172:122 Maternal, Child, and Family Health	3 s.h.
172:131 Anthropology and International Health	3 s.h.
172:133 The Anthropology of Women's Health	3 s.h.
172:140 Media and Health	3 s.h.
172:161 Substance Abuse Prevention and Intervention	3 s.h.
172:170 Special Topics	arr.
172:202/113:202 Ethnographic Field Methods	3 s.h.
172:242 Persuasion and Health	3 s.h.
172:246 Health Communication Campaigns	3 s.h.
172:270 Independent Study in Community and Behavioral Health	arr.
172:282 Evaluation II: Design and Methods	3 s.h.
172:285 Research Methods in Community and Behavioral Health	3 s.h.

#### **Epidemiology Subtrack**

The Master of Public Health with epidemiology subtrack requires 42 s.h. of graduate credit. The subtrack is offered by the Department of Epidemiology (College of Public Health).

The subtrack focuses on fundamental epidemiological concepts and methods and provides training in the use of public health data and methods for disease assessment and in methods for evaluating the need and outcome of programs and interventions. Graduates of the program work in public health departments and other health care settings.

Epidemiology subtrack students are required to attend departmental seminars and journal club. They also must present one scientific poster at an international, national, regional, state, university, or departmental poster session.

In addition to the M.P.H. course work listed under "Common Requirements" above, the epidemiology subtrack requires the following courses.

#### **SUBTRACK CORE**

All of these (10 s.h.):

171:162 Design and Analysis of Biomedical Studies	3 s.h.
173:158 Public Health Laboratory Techniques	1 s.h.
173:160 Introduction to Epidemiology Data Analysis With Computers	2 s.h.
173:240 Epidemiology II: Advanced Methods	4 s.h.

One of these (2-3 s.h.):

173:145 Public Health Data	2 s.h.
173:199 Practicing Evidence-Based Public Health	3 s.h.

One of these (2 s.h.):

173:153 Surveillance Internship: IRCID	2 s.h.
173:154 Cancer Registration Internship	2 s.h.

Bioscience—one of these (3-4 s.h.):

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
069:270 Pathogenesis of Major Human Diseases	3 s.h.
096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.

Students who already have completed a course equivalent to one of these bioscience courses may substitute an additional elective.

### **ELECTIVES**

Students earn at least 2 s.h. in elective courses (or 5 s.h. if they substitute an elective for the bioscience requirement). At least 3 s.h. of elective credit must be earned in courses offered by the Department of Epidemiology (prefix 173) or in one of the following biostatistics courses.

171:241 Applied Categorical Data Analysis	3 s.h.
171:242 Applied Survival and Cohort Data Analysis	3 s.h.

### **Ergonomics Subtrack**

The Master of Public Health with ergonomics subtrack requires 42 s.h. of graduate credit. The subtrack is offered by the Department of Occupational and Environmental Health (College of Public Health).

The subtrack takes advantage of interdisciplinary faculty strengths in the Colleges of Public Health and Engineering and the Carver College of Medicine. Ergonomics students gain a thorough understanding of workplace physical environments that contribute to musculoskeletal injuries and illness. They also acquire knowledge of engineering and administrative methods to control workplace risk factors. The program prepares students for work in industry and government agencies, as well as for further academic training.

In addition to the M.P.H. course work listed under "Common Requirements" above, the ergonomics subtrack requires the following courses.

### **SUBTRACK CORE**

All of these (16 s.h.):

050:270 Responsible Conduct in Research	0 s.h.
056:144 Human Factors	3 s.h.
056:147 Ergonomics	3 s.h.
175:180 Occupational and Environmental Health Seminar	1 s.h.
175:190 Occupational Ergonomics I	3 s.h.
175:230 Occupational Health	3 s.h.
175:295 Clinical Ergonomics	3 s.h.

### **ELECTIVES**

Ergonomics subtrack students earn 5 s.h. in elective courses. Electives may be chosen from the following list or may include a related course approved by the student's advisor.

175:192 Occupational Safety	3 s.h.
175:231 Industrial Hygiene Fundamentals	3 s.h.
175:251 Injury Epidemiology	3 s.h.
175:253 Epidemiology of Occupational Injuries	3 s.h.

### **Health Communication Subtrack**

The Master of Public Health with health communication subtrack requires 42 s.h. of graduate credit. The subtrack is offered by the Department of Community and Behavioral Health (College of Public Health).

The subtrack provides opportunities for students to develop knowledge and skill in designing, evaluating, and implementing effective communication strategies and messages that speak to the health needs of diverse audiences. The program addresses clinician-patient interaction, family communication, group and organizational communication, and mass media and web-based campaigns. The M.P.H. may be of interest to clinicians, such as physicians, nurses, pharmacists, and dentists, as well as other professionals who do not wish to earn a Ph.D.

In addition to the M.P.H. course work listed under "Common Requirements" above, the health communications subtrack requires the following courses.

#### **SUBTRACK CORE: HEALTH COMMUNICATION**

Four of these (12 s.h.):

036:371 Communication Theory	3 s.h.
172:140/019:160 Media and Health	3 s.h.
172:185 Communicating with the Community	3 s.h.
172:240/036:270 Health Communication	3 s.h.
172:242 Persuasion and Health	3 s.h.
172:246/036:379 Health Communication Campaigns	3 s.h.

#### **SUBTRACK CORE: COMMUNITY AND BEHAVIORAL HEALTH**

Three of these (9 s.h.):

044:106 Foundations of GIS	3 s.h.
172:106 Designing and Implementing Interventions	3 s.h.
172:130 Social Determinants of Health	3 s.h.
172:135 Health Disparities and Cultural Competence	3 s.h.
172:150 Health Behavior and Health Education	3 s.h.
172:181 Evaluation I: Theory and Applications	3 s.h.
172:183 Qualitative Research for Public Health	3 s.h.
172:202/113:202 Ethnographic Field Methods	3 s.h.

#### **Occupational and Environmental Health Subtrack**

The Master of Public Health with occupational and environmental health subtrack requires 42 s.h. of graduate credit. The subtrack is offered by the Department of Occupational and Environmental Health (College of Public Health).

The subtrack provides students with a broad perspective on public health and career preparation for a variety of professional positions in occupational and environmental health. Public health experience provides desirable background for this subtrack.

In addition to the M.P.H. course work listed under "Common Requirements" above, the occupational and environmental health subtrack requires the following courses.

#### **SUBTRACK CORE**

All of these (18-22 s.h.):

050:270 Responsible Conduct in Research	0 s.h.
175:180 Occupational and Environmental Health Seminar	1 s.h.
Occupational and environmental health courses not already listed, or other approved courses	17-21 s.h.

Bioscience—one of these (3-4 s.h.):

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
069:270 Pathogenesis of Major Human Diseases	3 s.h.
096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.

Students who already have completed a course equivalent to one of these bioscience courses may substitute an additional elective.

#### **Policy Subtrack**

The Master of Public Health with policy subtrack requires 59 s.h. of graduate credit. The subtrack is offered by the Department of Health Management and Policy (College of Public Health).

The subtrack offers course work and applied learning experiences that prepare students for careers in health policy analysis, system and organizational planning, and program evaluation. Graduates of the program find positions in federal, state, and local government; professional associations; and private agencies. Varied academic backgrounds are appropriate preparation for this program, including business, liberal arts and sciences, and the health professions.

In addition to the M.P.H. course work listed under "Common Requirements" above, the policy and administration subtrack requires the following courses.

#### **SUBTRACK CORE**

All of these:

174:144 Medicare and Medicaid Policy	3 s.h.
174:212 Health Economics I	3 s.h.
174:217 Health Insurance and Managed Care	3 s.h.
174:221 Evaluation and Outcomes in Health Care	2 s.h.
174:223 Seminar in Health Care Ethics	1-2 s.h.
174:237 Legal Aspects of Health and Medical Care	3 s.h.
174:242 Federalism and Health Policy	3 s.h.
174:243 Health Policy	3 s.h.
174:245 Seminar in Health Policy	3 s.h.

#### **ELECTIVES**

At least 6 s.h. chosen from these:

030:113 American State Politics	3 s.h.
030:120 Public Administration and Bureaucratic Politics	3 s.h.
030:125 Interest Groups	3 s.h.
030:126 American Public Policy	3 s.h.
030:150 Public Policy Around the World	3 s.h.
030:151 Political Leadership	3 s.h.
030:152 The Legislative Process	3 s.h.
030:153 The Judicial Process	3 s.h.
030:200 Introduction to Political Analysis	4 s.h.
030:310 Modeling American Politics	4 s.h.
030:315 The Presidency	4 s.h.
030:319 Problems in American Politics	4 s.h.
030:339 Problems in Political Theory	4 s.h.
030:352 Legislative Behavior	4 s.h.
091:261 Health Law	3 s.h.
091:650 Law and Colonialism	arr.

Policy courses not already listed in the required section, or other approved courses.

### **M.P.H. for Practicing Veterinarians**

The University of Iowa College of Public Health, in collaboration with the College of Veterinary Medicine at Iowa State University, offers a Master of Public Health for practicing veterinarians. The degree requires a minimum of 42 s.h. of graduate credit. The program, which is offered primarily through distance learning, enables students to prepare for new career opportunities and equips them to respond to public health challenges such as zoonotic diseases, food security and foodborne illnesses, bioterrorism, and environmental health.

Students participate in two summer institutes, one on each campus during consecutive summers (two weeks in May and June); the rest of the program is Internet-based, so students may complete requirements at times that fit their schedules. Specific courses are required each semester of the program.

The M.P.H. Program for practicing veterinarians requires the following course work.

#### **M.P.H. COMMON REQUIREMENTS**

Students must complete courses listed under "Common Requirements" for the Master of Public Health; see the beginning of this Catalog section.

#### **ADDITIONAL REQUIRED COURSES**

All of these (21 s.h.):

170:175 Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	2 s.h.
--	--------



173:120 Principles of Public Health Informatics	3 s.h.
173:130 Food Safety	3 s.h.
173:132 Exotic and Emerging Diseases of Animals	1 s.h.
173:147 Applied Veterinary Epidemiology/Biostatistics	3 s.h.
173:155 Diagnostic Microbiology for Epidemiology	3 s.h.
173:159 Applied Infectious Disease Epidemiology	2 s.h.
175:209 Rural Health and Agricultural Medicine	3 s.h.
175:211 Veterinary Public Health: The Profession	1 s.h.

### **Joint D.V.M./M.P.H.**

The University of Iowa College of Public Health and the College of Veterinary Medicine at Iowa State University (ISU) offer the joint Doctor of Veterinary Medicine/Master of Public Health degree. The joint D.V.M./M.P.H. requires a minimum of 42 s.h. in addition to the requirements of the D.V.M. degree; see Doctor of Veterinary Medicine in the Iowa State University catalog. Students who complete the program are granted both degrees. The program prepares students for work as state veterinarians, as college and university faculty members, in local and state departments of public health, in the Public Health Commissions Corp., in state agricultural departments, and for public health positions in the military.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. For M.P.H. admission requirements, see "Admission" later in this section.

The joint D.V.M./M.P.H. requires the following course work.

#### **M.P.H. COMMON REQUIREMENTS**

Students must complete courses listed under "Common Requirements" for the Master of Public Health; see the beginning of this Catalog section.

#### **M.P.H. ELECTIVES**

Students must earn at least 9 s.h. from the following courses.

173:130 Food Safety	3 s.h.
173:147 Applied Veterinary Epidemiology/Biostatistics	3 s.h.
173:155 Diagnostic Microbiology for Epidemiology (offered by distance education)	3 s.h.
173:159 Applied Infectious Disease Epidemiology	2 s.h.
173:255 Epidemiology of Infectious Diseases (offered by distance education)	3 s.h.
175:170 Injury and Violence Prevention (offered by distance education)	3 s.h.
175:209 Rural Health and Agricultural Medicine (offered by distance education)	3 s.h.
175:210 Current Topics in Agricultural Health (offered by distance education)	0-1 s.h.
175:211 Veterinary Public Health: The Profession	1 s.h.

#### **REQUIRED D.V.M. COURSES**

All of these (ISU courses):

Principles of Public Health (VMPM 388)	3 s.h.
Small Animal Internal Medicine (VCS 436)	2 s.h.
Infectious Diseases and Preventive Medicine (VMPM 437)	3 s.h.
Pharmacology and Therapeutics (BMS 443)	3 s.h.
Laboratories in Public Health (VMPM 486)	1 s.h.

### **Joint J.D./M.P.H.**

The College of Law and the College of Public Health offer the joint Juris Doctor/Master of Public Health. The joint J.D./M.P.H. requires a minimum of 42 s.h. of graduate credit in addition to the requirements of the J.D. degree. Students who complete the program are granted both degrees.

The joint J.D./M.P.H. program helps students develop special expertise in public health legal issues. It is designed to train qualified students for leadership roles in both the public and private sectors.

Separate application to each degree program is required. Applicants must be admitted to both programs before they

can be admitted to the joint degree program.

Contact the College of Law and the College of Public Health for details. For detailed information about the J.D., see Juris Doctor (College of Law) in the Catalog.

The joint J.D./M.P.H. requires the following course work.

#### **M.P.H. COMMON REQUIREMENTS**

Students must complete courses listed under "Common Requirements" for the Master of Public Health; see the beginning of this Catalog section.

#### **M.P.H. ELECTIVES**

Students earn 9 s.h. in elective courses chosen from one of the following public health areas: aging studies; biostatistics; community and behavioral health; epidemiology; global health; health policy; maternal, child, and family health; nutrition and exercise; or occupational and environmental health. Students choose electives in consultation with their advisors in the College of Law and the College of Public Health.

#### **J.D. REQUIREMENTS**

J.D./M.P.H. students must complete the professional curriculum of the J.D. program; see Juris Doctor (College of Law) in the Catalog. Students must be enrolled in the College of Law to take College of Law courses.

#### **COURSES THAT COUNT TOWARD BOTH DEGREES**

Students may count up to 12 s.h. earned in any of the following College of Law courses toward the M.P.H.

091:204 Administrative Law	3 s.h.
091:245 Domestic Abuse Law	arr.
091:250 Employment Law	2, 3 s.h.
091:251 Topics in Employee Benefits Law	arr.
091:255 Environmental Law	3 s.h.
091:261 Health Law	2, 3 s.h.
091:262 Federal Regulations of Health Care Industry: Fraud and Abuse	2, 3 s.h.
091:268 Family Law	3, 4 s.h.
091:284 Insurance	1, 2, 3 s.h.
091:291 International Environmental Law	3 s.h.
091:292 Labor Law	3, 4 s.h.
091:320 Nonprofit Organizational Effectiveness I	3 s.h.
091:322 Nonprofit Organizational Effectiveness II	3 s.h.
091:341 Managing National Security	1, 2, 3 s.h.
091:342 Negotiations	2, 3, 4 s.h.
091:354 State and Local Government	1, 2, 3 s.h.
091:409 Child and Family Advocacy Clinic	arr.
091:455 Health Law and Policy Practicum	1, 2, 3 s.h.

#### **Joint M.D./M.P.H.**

The Carver College of Medicine and the College of Public Health offer the joint Doctor of Medicine/Master of Public Health. The joint M.D./M.P.H. requires a minimum of 42 s.h. of graduate credit in addition to the requirements of the M.D. degree. Students who complete the program are granted both degrees. They enjoy expanded career opportunities and are well prepared to apply the principles of medicine and public health in their work.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the combined program.

Contact the Carver College of Medicine and the College of Public Health for details. For detailed information about the M.D. program, see Doctor of Medicine (Carver College of Medicine) in the Catalog.

The joint M.D./M.P.H. requires the following course work.

#### **M.P.H. COMMON REQUIREMENTS**

Students must complete courses listed under "Common Requirements" for the Master of Public Health; see the beginning of this Catalog section.

#### **M.P.H. ELECTIVES**

Students earn 9 s.h. in elective courses chosen from one of the following public health areas: biostatistics, community and behavioral health, epidemiology, health communication, health policy, occupational and environmental health. Students choose electives in consultation with their advisors in the Carver College of Medicine and the College of Public Health.

#### **M.D. REQUIREMENTS**

Students in the joint M.D./M.P.H. program must complete the professional curriculum of the M.D. program; see Doctor of Medicine (Carver College of Medicine) in the Catalog.

#### **COURSES THAT COUNT TOWARD BOTH DEGREES**

Students may count up to 12 s.h. earned in the following courses, which are required for the M.D. degree, toward the M.P.H.

050:180 Community-Based Primary Care (up to 10 s.h.)	arr.
050:183 Healthcare Ethics, Law, and Policy	2 s.h.
078:101 Inpatient Internal Medicine	arr.
078:102 Outpatient Internal Medicine	3, 4 s.h.

#### **Joint M.S.N./M.P.H.**

The College of Nursing and the College of Public Health offer the joint Master of Science in Nursing/Master of Public Health. The joint M.S.N./M.P.H. requires a minimum of 60 s.h. of graduate credit. Students who complete the program are granted both degrees. The program prepares students for positions such as director of a public or community health agency, director of occupational health for a company or corporation, case manager for specific populations, information systems specialist for a public health agency or organization, or advanced nurse practitioner in a school, occupational, or public health organization.

Separate application to each degree program is required; applicants must be admitted to both programs before they can be admitted to the joint degree program. Each college's admission committee reviews each candidate independently.

Applicants must hold a baccalaureate degree in nursing from an accredited program and have an undergraduate g.p.a. of at least 3.00 and satisfactory Graduate Record Exam (GRE) General Test scores. They must submit a formal application, complete transcripts from each undergraduate and graduate school they have attended, and three professional recommendations (University of Iowa recommendation forms are required).

Contact the College of Nursing and the College of Public Health for details.

In addition to M.P.H. common requirements and M.S.N. core courses, students complete 9-12 s.h. in a nursing focus and 3 s.h. in an M.P.H. capstone project. A master's project or nursing portfolio is required. The remaining credit is earned in elective courses. Areas of emphasis are informatics, nursing administration, community health, and occupational health/ergonomics.

For availability of nursing courses, contact the College of Nursing or see "Courses" in the College of Nursing section of the Catalog.

#### **M.P.H. COMMON REQUIREMENTS**

Students must complete courses listed under "Common Requirements" for the Master of Public Health; see the beginning of this Catalog section.

#### **M.S.N. CORE COURSES**

All of these:

096:208 Leadership for Advanced Nursing Practice	3 s.h.
096:209 Health Systems/Economics/Policy	3 s.h.

**Joint Pharm.D./M.P.H.**

The College of Pharmacy and the College of Public Health offer the joint Doctor of Pharmacy/Master of Public Health. The joint Pharm.D./M.P.H. requires 42 s.h. of graduate credit in addition to the requirements of the Pharm.D. degree; see "Professional Program (Pharm.D.)" in the College of Pharmacy section of the Catalog. Students who complete the program are granted both degrees.

The joint Pharm.D./M.P.H. program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety. Its graduates may work in areas of interest common to pharmacy and public health, such as spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program.

Admission requirements include a bachelor's degree or a minimum of 120 s.h. of undergraduate course work; an undergraduate cumulative g.p.a. of at least 3.00; one semester each of college algebra and biology; transcripts of all college course work; scores (preferably at or above the national median) on the Graduate Record Exam or the Pharmacy College Admission Test (PCAT); and three professional recommendations (University of Iowa recommendation forms are required).

Contact the College of Pharmacy and the College of Public Health for details.

The joint Pharm.D./M.P.H. requires the following course work.

**M.P.H. COMMON REQUIREMENTS**

Students must complete courses listed under "Common Requirements" for the Master of Public Health; see the beginning of this Catalog section.

**M.P.H. ELECTIVES**

Students select electives totaling 9 s.h. from one of the following public health areas: biostatistics, community and behavioral health, epidemiology, health communication, health policy, or occupational and environmental health. Electives are chosen in consultation with the student's advisors in the Colleges of Pharmacy and Public Health.

**PHARM.D. REQUIREMENTS**

Joint Pharm.D./M.P.H. program students must complete the professional curriculum of the Pharm.D. program; see "Doctor of Pharmacy (Pharm.D.)" in the College of Pharmacy section of the Catalog).

Students must be enrolled in the College of Pharmacy in order to take College of Pharmacy courses.

**COURSES THAT COUNT TOWARD BOTH DEGREES**

Students may count up to 12 s.h. earned in the following courses, which are required for the Pharm.D. degree, toward the M.P.H.

046:129 Pharmaceutical Economics and Insurance	3 s.h.
046:154 Endocrinology, Ophthalmology, Women's and Men's Health Therapeutics	2 s.h.
046:156 Cardiovascular Therapeutics	2 s.h.
046:165 Infectious Disease Therapeutics	2 s.h.
069:133 Introduction to Human Pathology for Graduate Students	4 s.h.

**Admission**

Applicants to the M.P.H. program must have successfully completed one semester each of college algebra and biology.

All M.P.H. applicants must submit a Graduate College application form, three letters of reference, a statement of

purpose that describes their interest in public health and identifies a specialty area, and a résumé highlighting professional experience in public health or in nursing. They also must submit scores on the Graduate Record Exam (GRE) General Test, LSAT, DAT, VCAT, GMAT, or another professional placement exam; scores must be at or above the median scores for test takers applying to similar programs.

Applicants whose first language is not English and who do not hold a baccalaureate degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 550-599 (paper-based), 213-249 (computer-based), or 81-99 (Internet-based) are required to take English fluency courses. Applicants who score below those ranges are not considered for admission.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Students may enter the M.P.H. program in fall and summer. Application deadlines for fall entrance to the M.P.H. program are May 1 for U.S. citizens and permanent residents, April 1 for international applicants. Application deadlines for summer entrance are April 1 for U.S. citizens and permanent residents, March 15 for international applicants.

Application deadline for the M.P.H. for practicing veterinarians is March 1.

Students may enter the M.P.H. joint programs in fall, spring, and summer. Contact the individual joint programs for deadline information.

## Financial Support

A limited number of modest tuition awards are available each year for M.P.H. students. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

## Master of Public Health Program Courses

- |   |          |
|---|----------|
| <b>170:101 Introduction to Public Health</b>  | 3 s.h.   |
| Concepts, structures, and activities in public health practice. Offered fall semesters and summer sessions.   |          |
| <b>170:171 Problems in Public Health</b>  | arr.     |
| Didactic material in public health, including tutorial, seminar, faculty-directed independent work (e.g., literature search, project, short research project).  |          |
| <b>170:172 Independent Study in Public Health</b>   | arr.     |
| In-depth pursuit of an area of special interest in public health.   |          |
| <b>170:173 Service-Learning in Public Health</b>  | arr.     |
| Community service learning experience directly related to goals and objectives of a specific public health course; faculty-guided planning and reflection.  |          |
| <b>170:175 Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines</b>   | 2 s.h.   |
| Introduction to public health emergency preparedness for humans and animals; federal, state, local perspectives; preparing responders; preparedness information systems and communication techniques.   |          |
| <b>170:299 M.P.H. Practicum Experience</b>  | 0-6 s.h. |
| Comprehensive and integrated application of knowledge acquired in the M.P.H. program in a practice setting; demonstration of professional competence in public health practice. Prerequisites: 170:101, 171:161, 172:101, 173:140, 174:102 or 174:200, and 175:197. Requirements: an approved practicum proposal. |          |

## Occupational and Environmental Health

**Head:** Peter Thorne

**Professors:** Thomas Cook (Physical Therapy and Rehabilitation Science/International Programs), Kenneth Culp (Nursing), Kelley Donham (Nursing), William Field (Epidemiology), Laurence Fuortes (Epidemiology/International Programs), Fredric Gerr (Epidemiology/Internal Medicine), Vicki Grassian (Chemistry/Chemical and Biochemical Engineering/Education), Keri Hornbuckle (Civil and Environmental Engineering), Paul James (Family Medicine), Joel Kline (Internal Medicine), James Merchant (Nursing/Internal Medicine), Patrick O'Shaughnessy (Civil and Environmental Engineering), Gene Parkin (Civil and Environmental Engineering), Corinne Peek-Asa (Epidemiology/Nursing), Larry Robertson (Radiation Oncology), Jerald Schnoor (Civil and Environmental Engineering), Peter Thorne (Civil and Environmental Engineering), Craig Zwerling

**Professors emeriti:** L.W. Knapp Jr., Nancy Sprince

**Adjunct professor:** Wayne Sanderson (Epidemiology)

**Clinical professor:** Patrick Hartley (Internal Medicine)

**Associate professors:** Gabriele Ludewig, Thomas Schnell (Neurology/Electrical and Computer Engineering/Industrial Engineering), David Wilder (Biomedical Engineering)

**Adjunct associate professors:** Kevin Kelly (Anthropology/Community and Behavioral Health), Burton Kross, Kenneth McMains, Michael Rosmann

**Clinical associate professors:** Henri Cuddihy (Internal Medicine), David Osterberg (Geography), George Phillips (Pediatrics)

**Adjunct clinical associate professor:** Craig Bainbridge (Internal Medicine)

**Assistant professors:** Renee Anthony, Nathan Fethke, Marizen Ramirez

**Assistant professor emerita:** Pamela Willard

**Adjunct assistant professors:** Chandran Achutan, Danelle Bickett-Weddle, Razvan Chereches, Gregory Couser, Christine Deignan, Gregory Flamme, Dian Gottlob, Carrie LaSeur, Hans-Joachim Lehmler, Murray Madsen, John Rosecrance, Donald Simmons, Laurie Taylor, John Vargo, Londa Wanderwal, Peter Weyer, Michael Wichman, Catherine Zeman

**Adjunct clinical assistant professor:** Edward Bottei (Emergency Medicine/Pediatrics/Pharmacy)

**Adjunct associate:** Daniel McGehee

**Graduate degrees:** M.S., Ph.D. in Occupational and Environmental Health

**Web site:** <http://www.public-health.uiowa.edu/oeH>

The Department of Occupational and Environmental Health focuses on assessment of risk factors in the physical environment and their relationship to disease—particularly health problems of agricultural and industrial workers. Students are guided by faculty members whose research interests include rural health care delivery, agricultural health, environmental health, occupational medicine, occupational lung disease, mammalian toxicology, inhalation toxicology, ergonomics, indoor air quality, occupational injury, injury epidemiology, injury prevention programs, aerosol physics, air and water quality, environmental chemistry, analytical toxicology, and environmental health in developing countries.

## Graduate Programs

The department offers a Master of Science and a Doctor of Philosophy in occupational and environmental health. Both programs include an optional agricultural safety and health subtrack and an optional industrial hygiene subtrack. The department also offers a joint M.S./M.A. or M.S. with the Graduate College's Urban and Regional Planning Program; see "Joint M.S./M.A. in Urban and Regional Planning" below.

In addition, the department offers two subtracks for the Master of Public Health: the ergonomics subtrack and the occupational and environmental health subtrack. See "M.P.H. Subtracks" below. It also participates in the College of Public Health's graduate Certificate in Agricultural Safety and Health; see Agricultural Safety and Health in the Catalog.

Individuals who are not enrolled in one of the department's degree programs but wish to take departmental courses may apply for professional improvement status. The department also offers an occupational medicine residency training program.

### Master of Science

The Master of Science in occupational and environmental health requires a minimum of 38 s.h. of graduate credit. It is offered with two optional subtracks: agricultural safety and health and industrial hygiene. The M.S. with agricultural safety and health subtrack requires a minimum of 38 s.h. of graduate credit; the M.S. with industrial hygiene subtrack requires a minimum of 43 s.h. of graduate credit. All M.S. students are required to complete a thesis.

Requirements for the M.S. without a subtrack are as follows.

#### CORE COURSES

All of these:

175:197 Environmental Health	3 s.h.
175:230 Occupational Health	3 s.h.
175:260 Environmental Toxicology	3 s.h.
175:180 Occupational and Environmental Health Seminar (taken three times, twice for 0 s.h. and once for 1 s.h.)	1 s.h.
171:161 Introduction to Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
650:270 Principles of Scholarly Integrity	0 s.h.

One of these:

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.

**ELECTIVES**

Credit earned in elective courses and the thesis completes the 38 s.h. required for the degree. Students work with their advisors to select electives appropriate for their professional goals.

**THESIS**

A thesis is required. Students may earn a maximum of 6 s.h. for the thesis. Additional thesis credit may be allowed for students who earn more than 38 s.h.

175:300 Thesis/Dissertation	arr.
-----------------------------	------

**M.S. with Subtrack in Agricultural Safety and Health**

The M.S. with subtrack in agricultural safety and health requires a minimum of 38 s.h. of graduate credit. The program prepares students for careers in education, health care, insurance, and agribusiness as specialists in agricultural safety and health.

Requirements are as follows.

**SUBTRACK CORE**

175:196 Agricultural Safety: Theories and Practice	2 s.h.
175:209 Rural Health and Agricultural Medicine	3 s.h.
175:210 Current Topics in Agricultural Health (seminar, taken two times, once for 0 s.h. and once for 1 s.h.)	1 s.h.
175:197 Environmental Health	3 s.h.
175:230 Occupational Health	3 s.h.
175:260 Environmental Toxicology	3 s.h.
175:203 Preceptorship in Occupational and Environmental Health	1 s.h.
175:180 Occupational and Environmental Health Seminar (taken three times, twice for 0 s.h. and once for 1 s.h.)	1 s.h.
171:161 Introduction to Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
650:270 Principles of Scholarly Integrity	0 s.h.

One of these:

096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.

**ELECTIVES**

Credit earned in elective courses and the thesis completes the 38 s.h. required for the degree. Agricultural safety and health subtrack students must complete elective course work from one of five focus areas. The amount of credit required varies by focus area, as follows.

Industrial hygiene: 9 s.h.  
 Ergonomics: 9 s.h.  
 Occupational and environmental health: 9 s.h.  
 Occupational epidemiology: 9 s.h.  
 Occupational injury prevention: 8 s.h.

**THESIS**

A thesis is required. Students earn a minimum of 3 s.h. for the thesis.

175:300 Thesis/Dissertation	arr.
-----------------------------	------

### **M.S. with Subtrack in Industrial Hygiene**

The M.S. with subtrack in industrial hygiene requires a minimum of 43 s.h. of graduate credit. The program prepares students for careers in industrial hygiene as well as the broad field of occupational and environmental health. Career opportunities are available in health and safety departments of industries; in consulting firms; in academic institutions; and in local, state, and federal public health agencies.

Requirements are as follows.

#### **SUBTRACK CORE**

175:231 Industrial Hygiene Fundamentals	3 s.h.
175:232 Assessing Physical Agent Hazards	3 s.h.
175:233 Control of Occupational Hazards	3 s.h.
175:221 Aerosol Technology	3 s.h.
175:230 Occupational Health	3 s.h.
175:192 Occupational Safety	3 s.h.
175:190 Occupational Ergonomics I	3 s.h.
175:260 Environmental Toxicology	3 s.h.
175:197 Environmental Health	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
175:180 Occupational and Environmental Health Seminar (taken three times, twice for 0 s.h. and once for 1 s.h.)	1 s.h.
175:182 Statistics for Experimenters	3 s.h.
650:270 Principles of Scholarly Integrity	0 s.h.

#### **ELECTIVES**

Credit in elective courses and the thesis completes the 43 s.h. required for the degree. Students work with their advisors to select electives appropriate for their professional goals.

#### **THESIS**

A thesis is required. Students may earn a maximum of 6 s.h. for the thesis.

175:300 Thesis/Dissertation	arr.
-----------------------------	------

### **Joint M.S./M.A. or M.S. in Urban and Regional Planning**

The Department of Occupational and Environmental Health offers a joint master's degree program with the Graduate College's Urban and Regional Planning Program. The joint program leads to an M.S. in occupational and environmental health and an M.A. or M.S. in urban and regional planning. It requires a minimum of 65 s.h. of graduate credit. Separate application to each degree program is required. Applicants must be admitted to both programs before they can be admitted to the joint degree program. See Urban and Regional Planning Program in the Catalog.

### **M.P.H. Subtracks**

The Department of Occupational and Environmental Health offers two subtracks for the Master of Public Health: the ergonomics subtrack and the occupational and environmental health subtrack.

The ergonomics subtrack focuses on understanding how workplace environments contribute to musculoskeletal injuries and illness and on control of workplace risk factors. Graduates are prepared to work in industry and government agencies or pursue further academic training.

The occupational and environmental health subtrack provides a broad perspective on public health and career preparation for a variety of professional positions in occupational and environmental health.

For detailed information about the M.P.H. degree, see Master of Public Health Program in the Catalog.

### **Doctor of Philosophy**

The Doctor of Philosophy in occupational and environmental health requires 72 s.h. of graduate credit. The program prepares students for professional and academic careers in environmental and occupational health. It is offered with two optional subtracks: agricultural safety and health, and industrial hygiene.



All doctoral students must complete a dissertation--a substantial scholarly treatise. Ph.D. requirements are as follows.

### CORE COURSES

All of these:

175:197 Environmental Health	3 s.h.
175:230 Occupational Health	3 s.h.
175:180 Occupational and Environmental Health Seminar (taken three times, twice for 0 s.h. and once for 1 s.h.)	1 s.h.
171:161 Introduction to Biostatistics	3 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
650:270 Principles of Scholarly Integrity	0 s.h.

One of these:

069:133 Introduction to Human Pathology for Graduate Students	4 s.h.
096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.

### ELECTIVES

Students must earn a minimum of 24 s.h. in non-research-related courses, including classroom courses or equivalent web-based courses. Students work with their advisors to select courses appropriate for their professional goals.

### RESEARCH CREDIT

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All Ph.D. students must complete a dissertation.

175:172 Independent Study in Occupational and Environmental Health	arr.
175:201 Research in Occupational and Environmental Health	arr.
175:300 Thesis/Dissertation	arr.

### Ph.D. with Subtrack in Agricultural Safety and Health

The Ph.D. with subtrack in agricultural safety and health prepares doctoral students for academic, research, and policy-making careers in occupational and environmental health, with specialty in agricultural safety and health.

Requirements are as follows.

### SUBTRACK CORE

175:196 Agricultural Safety: Theories and Practice	2 s.h.
175:209 Rural Health and Agricultural Medicine	3 s.h.
175:210 Current Topics in Agricultural Health (seminar, taken two times, once for 0 s.h. and once for 1 s.h.)	1 s.h.
173:157 Zoonotic Diseases	2 s.h.
175:197 Environmental Health	3 s.h.
175:230 Occupational Health	3 s.h.
175:180 Occupational and Environmental Health Seminar (taken three times, twice for 0 s.h. and once for 1 s.h.)	1 s.h.
175:203 Preceptorship in Occupational and Environmental Health	1 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
650:270 Principles of Scholarly Integrity	0 s.h.

One of the following:

096:114 Human Pathophysiology: Organ Systems	3 s.h.
096:115 Human Pathophysiology: Cellular/Neurology/Immunology	3 s.h.

**ELECTIVES**

Agricultural safety and health subtrack students must complete elective course work from one of five focus areas. The amount of credit required varies by focus area, as follows.

Industrial hygiene: 24 s.h.

Ergonomics: 15 s.h.

Occupational and environmental health: 24 s.h.

Occupational epidemiology: 11 s.h.

Occupational injury prevention: 11 s.h.

**RESEARCH CREDIT**

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All Ph.D. students must complete a dissertation.

175:172 Independent Study in Occupational and Environmental Health	arr.
175:201 Research in Occupational and Environmental Health	arr.
175:300 Thesis/Dissertation	arr.

**Ph.D. with Subtrack in Industrial Hygiene**

The Ph.D. with subtrack in industrial hygiene provides doctoral students with specialized knowledge in industrial hygiene in addition to their expertise in the broad field of occupational and environmental health.

Requirements are as follows.

**SUBTRACK CORE**

175:231 Industrial Hygiene Fundamentals	3 s.h.
175:232 Assessing Physical Agent Hazards	3 s.h.
175:233 Control of Occupational Hazards	3 s.h.
175:221 Aerosol Technology	3 s.h.
175:230 Occupational Health	3 s.h.
175:192 Occupational Safety	3 s.h.
175:190 Occupational Ergonomics I	3 s.h.
175:260 Environmental Toxicology	3 s.h.
175:197 Environmental Health	3 s.h.
175:180 Occupational and Environmental Health Seminar (taken three times, twice for 0 s.h. and once for 1 s.h.)	1 s.h.
171:162 Design and Analysis of Biomedical Studies	3 s.h.
173:140 Epidemiology I: Principles	3 s.h.
650:270 Principles of Scholarly Integrity	0 s.h.

One of these:

175:182 Statistics for Experimenters	3 s.h.
171:161 Introduction to Biostatistics	3 s.h.

**ELECTIVES**

Students must earn a minimum of 12 s.h. in non-research-related courses, including classroom courses or equivalent web-based courses. Students work with their advisors to select courses appropriate for their professional goals.

**RESEARCH CREDIT**

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All Ph.D. students must complete a dissertation.

175:172 Independent Study in Occupational and Environmental Health	arr.
175:201 Research in Occupational and Environmental Health	arr.
175:300 Thesis/Dissertation	arr.

## Admission

The occupational and environmental health faculty takes several factors into consideration when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. A student with deficiencies in one area may be admitted if all other components of his or her application are very strong.

All M.P.H., M.S., and Ph.D. program applicants must hold a baccalaureate degree and have a cumulative g.p.a. of at least 3.00 (M.P.H. and M.S. applicants) or at least 3.25 (Ph.D. applicants). All applicants must have taken the GRE General Test. A minimum GRE score of 1050 (verbal plus quantitative) is recommended for master's applicants, 1100 for doctoral applicants.

Applicants whose first language is not English and who do not hold a baccalaureate degree from an accredited college or university in the United States, the United Kingdom, Canada (except Quebec), Australia, or New Zealand must score at least 600 (paper-based), 250 (computer-based), or 100 (Internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 550-599 (paper-based), 213-249 (computer-based), or 81-99 (Internet-based) are required to take English fluency courses. Applicants who score below those ranges are not considered for admission.

Undergraduate preparation for M.P.H. and M.S. applicants must include course work in mathematics, biology, chemistry, and either physical sciences or engineering, depending on the applicant's chosen specialty area.

M.S. applicants who intend to pursue the industrial hygiene subtrack also must have taken physics and mathematics through calculus; course work in biology, microbiology, and computer programming is highly recommended.

Completion of the M.S. program before beginning Ph.D. study is recommended. Undergraduate preparation for doctoral applicants must include at least two semesters of chemistry, one semester of physics, and one semester of calculus. Course work in biological sciences, microbiology, and computer programming are highly recommended, particularly for students interested in some specialized areas.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

Application deadlines for fall entrance for graduate study are July 1 for U.S. citizens and permanent residents, April 1 for international applicants. Application deadlines for spring entrance are December 1 for U.S. citizens and permanent residents, October 1 for international applicants.

## Financial Support

Several graduate student awards, including tuition and stipend support, are available for individuals interested in industrial hygiene, agricultural safety and health, ergonomics, occupational epidemiology, or occupational injury prevention. Both stipend and tuition support are available for all occupational medicine residents. Full-time graduate students in good academic standing (those not admitted on conditional status) are eligible for a stipend and tuition support. All other students are eligible for tuition support only; requests are considered case-by-case. All recipients must be U.S. citizens or permanent residents.

## Postdoctoral Positions

The College of Public Health's Environmental Health Sciences Training Program offers postdoctoral positions in environmental health/toxicology. Appointments are made for two years with the possibility of an additional year. Applicants must be U.S. citizens or permanent residents.

## Residency Program

In cooperation with University of Iowa Hospitals and Clinics, the department offers residency training in occupational medicine for physicians seeking specialty training in occupational medicine. For information contact the director of the Occupational Medicine Residency Program.

## Facilities and Resources

The Department of Occupational and Environmental Health is housed on the University's Oakdale Research Campus in the Institute for Rural and Environmental Health. College of Public Health-based laboratory facilities give researchers and students access to cutting-edge technologies for the study of occupational and environmental health.

The Inhalation Toxicology Facility (ITF) provides a full array of inhalation toxicology, aerosol science, and bioaerosol

assay services. A primary focus of the ITF is the study of toxicants found in the agricultural environment and related exposure situations. The facility is particularly well-equipped for studying organic dusts and bioaerosols.

The Occupational Hygiene Laboratory (OHL) provides expertise and equipment for exposure assessment in occupational settings. The OHL provides a range of sample collection capabilities and an extensive inventory of sampling equipment. The field and laboratory services available through the laboratory support exposure-response studies and control technology development studies in a variety of occupational arenas, including agriculture, construction, and indoor environments (home and office).

A computer laboratory is available for student use, and a library collection is located in the Institute for Rural and Environmental Health.

### **Heartland Center for Occupational Health and Safety**

The Heartland Center for Occupational Health and Safety, one of 16 education and research centers funded by the National Institute of Occupational Safety and Health (NIOSH), provides training, education, and outreach. Its program areas are occupational health nursing, industrial hygiene, occupational medicine, ergonomics, agricultural safety and health, occupational injury prevention research, occupational epidemiology, and continuing education/outreach.

## **Occupational and Environmental Health Courses**

### **175:101 Health, Work, and the Environment** 3 s.h.

Current topics in occupational and environmental health; how the United States protects workers, protects people from environmental agents, and reduces environmental harm. Same as 044:174.

### **175:111 International Health** 3 s.h.

Urgent health problems in the developing world and among disadvantaged populations in developed countries; biological, social, cultural, political aspects of international health problems; applications of research methods from epidemiology, environmental health, social sciences. Same as 152:111, 173:111.

### **175:170 Injury and Violence Prevention** 3 s.h.

Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as 173:170.

### **175:171 Problems in Occupational and Environmental Health** arr.

Didactic material in occupational and environmental health; may include tutorial, seminar, faculty-directed independent work (e.g., literature search, project, short research project).

### **175:172 Independent Study in Occupational and Environmental Health** arr.

In-depth pursuit of an area in occupational and environmental health requiring substantial creativity and independence.

### **175:175 Research Methods in Disaster Studies** 3 s.h.

Epidemiologic study of disasters and their health consequences; research to identify and reduce health effects, research in context of response and preparedness. Same as 173:175.

### **175:180 Occupational and Environmental Health Seminar** 0-1 s.h.

Contemporary topics in occupational health, agricultural and comparative medicine, environmental health.

### **175:182 Statistics for Experimenters** 3 s.h.

Application of statistical techniques to evaluate data derived from experimental samples designs; use of spreadsheets, statistical software; design and analysis of experiments; regression analysis; model building; practical applications.

### **175:185 Occupational Health Research Seminar** 2 s.h.

Tools necessary for making critical assessment of published scientific research reports from a methodological perspective; examples from recently published research studies in occupational and environmental health. Corequisites: 171:161 and 173:140.

### **175:190 Occupational Ergonomics I** 2-3 s.h.

Principles of ergonomics, with focus on physical capabilities of workers and their interactions with their work environment; physiological basis of work, patterns of work, occupational risk factors for musculoskeletal and neurovascular disorders, workplace and equipment design, integration of ergonomics in manufacturing processes.

- 175:192 Occupational Safety** 3 s.h.  
Principles and practices of occupational safety; applications in industrial and other occupational settings; interactions with other disciplines.
- 175:195 Global Environmental Health** 2 s.h.  
Current problems, including transboundary movement of pollutants, vectors of infectious agents, global warming and climatic change. Prerequisites: 175:111 or 175:197.
- 175:196 Agricultural Safety: Theories and Practice** 2 s.h.  
General theories and practice of injury prevention from varied fields, including industrial safety, engineering, regulation, education, epidemiology, social psychology; strategic application in agriculture.
- 175:197 Environmental Health** 3 s.h.  
Survey of the field; assessment of contemporary human health issues associated with biological, chemical, physical factors of environment; critical review of environmental factors that affect health; public policies governing recognition, intervention, control.
- 175:198 Solid and Hazardous Wastes** 3 s.h.  
Sources, characteristics, collection, disposal of solid and hazardous wastes; environmental impacts of hazardous waste management; resource recovery systems. Requirements: (for 053:158) 053:050; (for 175:198) 175:197. Same as 053:158.
- 175:201 Research in Occupational and Environmental Health** arr.  
Research that may lead to a dissertation. Repeatable.
- 175:203 Preceptorship in Occupational and Environmental Health** arr.  
Work experience using knowledge and skills acquired in the classroom; arranged in conjunction with departmental or collegiate activities or with governmental agencies or private industry. Repeatable.
- 175:209 Rural Health and Agricultural Medicine** 3 s.h.  
Clinical orientation of specific health problems of rural residents, agricultural workers; rural health care delivery, socioeconomic issues in agriculture and their effects on health and safety of the agricultural population; occupational health problems, environmental health hazards in rural areas. Requirements: 173:140 or medicine enrollment.
- 175:210 Current Topics in Agricultural Health** 0-1 s.h.  
Issues that affect the health of agricultural populations, such as agro-terrorism, antibiotic resistance, genetically modified organisms; current scientific literature.
- 175:211 Veterinary Public Health: The Profession** 1 s.h.  
History and overview of veterinary public health and the American College of Veterinary Preventive Medicine (ACVPM); preparation for ACVPM board of certification.
- 175:220 Environmental and Occupational Epidemiology** 3 s.h.  
Environmental and occupational epidemiologic study designs; basic and novel methods of exposure assessment; methodologies to improve study validity. Prerequisites: 173:140. Corequisites: 171:161 and 175:197. Same as 173:220.
- 175:221 Aerosol Technology** 3 s.h.  
Particle statistics and physics of aerosols, including inertia, diffusion, nucleation, evaporation, condensation, optics, electrical properties; relationship to fields such as agriculture, nanotechnology, environmental and occupational health, atmospheric chemistry, drug delivery.
- 175:230 Occupational Health** 3 s.h.  
Principles, practice of occupational medicine, fundamentals of industrial hygiene and safety, occupational health management, ergonomics, occupational health nursing. Offered fall semesters.
- 175:231 Industrial Hygiene Fundamentals** 3 s.h.  
Principles, with emphasis on recognition of chemical health hazards, physical health hazards at work. Corequisites: 175:230, if not taken as a prerequisite.
- 175:232 Assessing Physical Agent Hazards** 3 s.h.

Basic principles of recognizing and evaluating hazards presented by physical agents in occupational environments. Prerequisites: 175:230.

**175:233 Control of Occupational Hazards** 3 s.h.

Physical science concepts applied to control of occupational hazards ranging from dusts to mists to vapors; strategies, management issues, personal protective equipment, implementation skills; in-depth instruction on local exhaust ventilation system design. Prerequisites: 175:230 or 175:231.

**175:234 Quantitative Exposure Assessment: Study Design and Evaluation** 3 s.h.

Principles of designing occupational and environmental exposure assessment studies, analyzing exposure data, and conducting exposure-response evaluations. Prerequisites: 171:161 or 175:182.

**175:251 Injury Epidemiology** 3 s.h.

How epidemiology can be applied to injury prevention and control: epidemiology literature, specific methodological problems involved in the epidemiology of injuries, critical evaluation of research articles. Offered spring semesters of odd years. Prerequisites: 173:140. Same as 173:251.

**175:252 Environmental Health Policy** 3 s.h.

Major concerns in environment and human health, legislation enacted to deal with these concerns; emphasis on contemporary issues. Offered fall semesters of odd years. Requirements: (for 175:252) 175:197; (for 053:204) 053:050. Same as 053:204, 152:252.

**175:253 Epidemiology of Occupational Injuries** 3 s.h.

Epidemiological literature on occupational injuries and their prevention; focus on research methods. Offered spring semesters of even years. Prerequisites: 173:140. Same as 173:253.

**175:260 Environmental Toxicology** 3 s.h.

Sources, routes of absorption, effects of environmental toxicants affecting man; pathophysiology of toxicant actions, including those of air and water pollutants, metals, pesticides, solvents, food toxicants, chemicals. Requirements: college organic and inorganic chemistry, or physiology, or biochemistry.

**175:265 Advanced Toxicology** 4 s.h.

Hepatic metabolism and toxification mechanisms, pulmonary and immunotoxicology, nervous system poisons and their mechanisms of action, general and molecular concepts of chemical carcinogenesis. Prerequisites: 175:260.

**175:285 Advanced Topics in Occupational Medicine** 2 s.h.

Skills and knowledge for evaluating and treating patients with work-related illness.

**175:294 Occupational Ergonomics II** 3 s.h.

Application of ergonomic principles in varied work settings, through case study approach; participatory ergonomics, economics of ergonomics, workforce issues, psychosocial factors, shift work, integration of ergonomics into business models, current legislative issues, legal aspects of ergonomics, international perspectives; biomedical instrumentation used for risk factor exposure measurements.

**175:295 Clinical Ergonomics** 3 s.h.

Clinical orientation to specific ergonomic problems and issues; preparation for conducting independent on-site ergonomic evaluations in occupational settings; experience developing and evaluating ergonomic inventions in an occupational setting; rotation through an occupational medicine clinic. Prerequisites: 175:190.

**175:300 Thesis/Dissertation** arr.

Repeatable.

**175:996 Occupational Medicine** arr.

In-depth study of an area in occupational and environmental medicine, with clinical experience in an outpatient community setting. Four-week course. Requirements: M.D. enrollment.

# Public Health Genetics

**Interim head:** Leon Burnmeister

**Graduate degree:** Ph.D. in Statistical Genetics

**Graduate nondegree program:** Certificate in Statistical Genetics

## Graduate Programs

The Public Health Genetics Program offers a Doctor of Philosophy and a graduate certificate, both in statistical genetics. Admission to both programs has been suspended.

### Doctor of Philosophy

The Doctor of Philosophy in statistical genetics requires a minimum of 82 s.h. of graduate credit. The program prepares students for professional and academic careers in statistical genetics. It provides training in the development and evaluation of new statistical methods for analyzing human genetic data, and the application of those methods to discovering and understanding the genes underlying human disease. It also prepares students to contribute to collaborative clinical research by providing them with training in genetics and with opportunities to participate in research involving collaboration with molecular and clinical geneticists and genetic epidemiologists.

Students complete a 42 s.h. core; 9-12 s.h. in a concentration area outside statistical genetics (biostatistics/statistics, computer science/bioinformatics, biology/bioinformatics, or epidemiology/biostatistics); up to 25 s.h. of elective course work chosen in consultation with their advisors; and at least 6 s.h. of dissertation credit. They also must successfully complete a comprehensive examination and a dissertation--a substantial scholarly treatise for which they must earn at least 6 s.h. The dissertation research topic and content must be approved by the student's dissertation committee.

Ph.D. requirements are as follows.

#### CORE COURSES

All Ph.D. students must complete the following courses (42 s.h.).

22C:104 Introduction to Informatics	3 s.h.
22S:153 Mathematical Statistics I	3 s.h.
22S:154 Mathematical Statistics II	3 s.h.
070:110 Medical Genetics	2 s.h.
171:201 Biostatistical Methods I	4 s.h.
173:225 Genetics and Epidemiology	4 s.h.
185:272 Population and Quantitative Genetics	3 s.h.
185:274 Theory of Statistical Genetics	3 s.h.
185:276 Statistical Genetics Laboratory (taken three times)	9 s.h.
185:278 Computing Algorithms in Statistical Genetics	3 s.h.
185:285 Clinical Genetics Practicum	1 s.h.
650:270 Principles of Scholarly Integrity	1 s.h.

#### CONCENTRATION AREA

All Ph.D. students complete one of the following concentration areas.

##### Biostatistics/Statistics

Both of these:

171:251 Theory of Biostatistics I	4 s.h.
171:252 Theory of Biostatistics II	4 s.h.

One of these:

22S:138 Bayesian Statistics	3 s.h.
22S:161 Applied Multivariate Analysis	3 s.h.
22S:248 Computer Intensive Statistics	3 s.h.

171:261 Survival Data Analysis 3 s.h.

#### **Biology/Bioinformatics**

Both of these:

002:128 Fundamental Genetics 4 s.h.

002:170 Bioinformatics 3 s.h.

One of these:

002:131 Evolution 4 s.h.

002:162 Population Genetics and Molecular Evolution 3 s.h.

127:191 Human Molecular Genetics 3 s.h.

#### **Computer Science/Bioinformatics**

All of these:

002:170 Bioinformatics 3 s.h.

06K:272 Database Analysis and Design 3 s.h.

06K:275 Knowledge Discovery 3 s.h.

#### **Epidemiology/Biostatistics**

Both of these:

171:241 Applied Categorical Data Analysis 3 s.h.

173:140 Epidemiology I: Principles 3 s.h.

One of these:

173:255 Epidemiology of Infectious Diseases 3 s.h.

173:265 Cardiovascular Disease Epidemiology 3 s.h.

173:267 Psychiatric Epidemiology 3 s.h.

173:270 Cancer Epidemiology and Control 3 s.h.

#### **ELECTIVES**

Students select up to 25 s.h. of elective courses from this list. They also may substitute other courses with written approval of the program's director and their advisors.

22S:138 Bayesian Statistics 3 s.h.

22S:161 Applied Multivariate Analysis 3 s.h.

22S:255 Linear Models 4 s.h.

171:185 Microarray Data Analysis 3 s.h.

171:261 Survival Data Analysis 3 s.h.

171:262 Analysis of Categorical Data 3 s.h.

171:264 Longitudinal Data Analysis 3 s.h.

185:281 Independent Study in Statistical Genetics arr.

185:295 Research in Statistical Genetics arr.

#### **DISSERTATION**

Students must earn at least 6 s.h. for the dissertation and must be in residence a minimum of two years.



185:300 Dissertation in Statistical Genetics

6 s.h.

## Certificate

The Certificate in Statistical Genetics requires 16 s.h. of graduate credit. The program prepares students for careers as data analysts on research projects involving human genetic data.

The certificate is designed to complement an M.S. in biostatistics or a related field, such as statistics. It can be completed either in conjunction with or after completing an M.S. The certificate cannot be awarded before completion of an M.S.

The certificate requires the following course work. Students must maintain a g.p.a. of at least 3.00 in the required courses.

070:110 Medical Genetics	2 s.h.
173:225 Genetics and Epidemiology	4 s.h.
185:276 Statistical Genetics Laboratory	3 s.h.
185:280 Preceptorship in Statistical Genetics (must be approved by the head of the Program in Public Health Genetics)	3 s.h.
185:285 Clinical Genetics Practicum	1 s.h.

## Admission

Admission to the Ph.D. in statistical genetics has been suspended.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College or the Graduate College section of the Catalog.

## Public Health Genetics Courses

185:272 Population and Quantitative Genetics	3 s.h.
185:274 Theory of Statistical Genetics	3 s.h.
185:276 Statistical Genetics Laboratory	3 s.h.
185:278 Computing Algorithms in Statistical Genetics	3 s.h.
185:280 Preceptorship in Statistical Genetics	arr.
185:281 Independent Study in Statistical Genetics	arr.
185:285 Clinical Genetics Practicum	1 s.h.
Clinical case conferences, participation in clinical genetics journal club. Prerequisites: 650:270. Corequisites: 070:110. Requirements: statistical genetics Ph.D. standing.	
185:290 Statistical Genetics Seminar	1 s.h.
185:295 Research in Statistical Genetics	arr.
185:300 Dissertation in Statistical Genetics	arr.

# University College

**Dean:** Beth F. Ingram

University College is home to a wide range of programs for University of Iowa students and precollege students. It includes major college-level programs such as the University of Iowa Honors Program, Study Abroad, Career Center Programs, and study at Iowa Lakeside Laboratory.

University College offers a program leading to the Bachelor of Applied Studies (B.A.S.), which is designed for graduates of community college technical programs who wish to complete a bachelor's degree by distance education. The B.A.S. provides alternatives to traditional majors. Students work with their advisors to plan their own emphasis areas, which may help them advance in their chosen careers, begin new careers, or prepare for graduate or professional study.

The college also offers undergraduate certificate programs in Leadership Studies, Nonprofit Management, and Sustainability.

Some University College programs are designed to smooth entering students' transition to college life, such as the College Success Initiatives program and the First-Year Programs, or to provide opportunities for populations underrepresented in the sciences and engineering, such as Iowa Biosciences Advantage.

Lifetime Leisure Skills courses in a broad range of sport and fitness activities are offered through University College, as are special courses for student orientation advisors, residence hall assistants, fraternity and sorority community leaders, and students who design web sites for University departments and offices.

The University's Reserve Officer Training Corps programs, Aerospace Studies and Military Science, reside in University College.

In addition, University College offers courses in several precollege programs: the Belin-Blank Center for Gifted Education, the Center for Diversity & Enrichment, the Iowa Young Writers' Studio, the Secondary Student Training Program, and University of Iowa Upward Bound.

Courses offered through University College programs are taught by University of Iowa faculty and staff members.

## Aerospace Studies (Air Force ROTC)

**Head:** Lt. Col. Steven R. Nielsen

**Assistant professors:** Capt. Chris Klaiber, Capt. Randy Larson

**Web site:** <http://www.uiowa.edu/~afrotc>

The Aerospace Studies Program administers the Air Force Reserve Officer Training Corps (AFROTC) at The University of Iowa. AFROTC educates highly qualified students who are working toward a degree and a commission as an officer in the United States Air Force.

AFROTC is voluntary, with courses open to all undergraduate and graduate students. The amount of AFROTC academic credit that may be applied toward a degree varies from college to college at the University. The College of Liberal Arts and Sciences, for example, accepts a maximum of 20 s.h.

In order to receive a commission, AFROTC cadets must complete all University of Iowa requirements for a degree as well as courses specified by the U.S. Air Force.

### Programs

AFROTC offers programs lasting two years, three years, and four years. Joining early gives students the opportunity to try AFROTC without obligation. It also can give them an advantage in the scholarship selection process.

The AFROTC program's three main components are the general military course (GMC), the professional officer course (POC), and field training (FT).

#### General Military Course

The general military course (GMC) consists of one AFROTC course (1 s.h.) and a leadership laboratory taken each semester for two years. Any student who meets AFROTC qualifications and is in good academic standing is eligible to participate in the GMC. Students normally apply for the GMC up to the time they earn 60 s.h. Students who have earned more than 60 s.h. may enroll in the GMC if they are willing to extend their academic plan by a semester or more.

#### Professional Officer Course

The professional officer course (POC) consists of one AFROTC course (3 s.h.) and a leadership laboratory taken each semester for two years. Students accepted into the POC make a commitment to serve a minimum of four years as U.S. Air Force officers. To enter the POC, students must be selected to attend and must successfully complete field training. Students generally take the POC during their last 60 s.h.

#### Field Training

All POC applicants must successfully complete field training at a U.S. Air Force base. Field training is an intensive, four-week program completed the summer after the sophomore year. It provides a first-hand look at the active duty Air Force and develops military leadership and discipline. Students participate in aircraft and aircrew orientation, junior officer education, marksmanship, survival training, and physical fitness training. When they complete the program, they are ready to return to school and assume a leadership position in the AFROTC program.

Students receive authorized pay and allowances when they attend field training.

#### Activities

Students have the option to compete for acceptance to a variety of optional AFROTC summer training programs. They can shadow a junior officer in a career field of interest, or they can compete to attend the Air Force Academy's free-fall parachute, glider, or combat survival schools. Students can return to field training as cadet training assistants, go to the Pentagon to see how the Air Force operates, or travel to a foreign country for a cultural immersion program. The Air Force provides transportation, meals, lodging, and a daily expense allowance for all summer programs.

Throughout the year, students may learn more about the Air Force by choosing to participate in base visits, aircraft orientation rides, a Dining Out (a formal ball in Air Force tradition), and other activities.

The AFROTC Cadet Corps also sponsors many social events, including informal parties, formal dinners, and intramural athletics.

#### Education Delay

Cadets may request an education delay to postpone entry to active duty until after completion of an advanced degree or professional training program.

## Financial Aid

Merit scholarships are available for one, two, and three years of study. They provide tuition, fees, a \$900 stipend for books, and a tax-free subsistence allowance of \$300-500 per month. Applicants are selected based on objective and subjective factors. Students should apply directly to the head of aerospace studies. Students majoring in certain high-demand disciplines may be eligible for an express scholarship upon acceptance to AFROTC.

All cadets in the last two years of AFROTC are eligible for some financial assistance. They receive a tax-free subsistence allowance of \$450-500 per month. Uniforms are furnished as well as all books for AFROTC classes.

## Aerospace Studies Courses

- 23A:010 Foundations of the U.S. Air Force I** 1 s.h.  
Introduction to U.S. Air Force: military customs and courtesies, basic oral and written communication techniques, careers available to Air Force officers. Requirements: first-year or sophomore standing.
- 23A:011 AFROTC Leadership Laboratory (LLAB) AS 100-FA** 1 s.h.  
A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, military professional development, the life and work of a junior officer; leadership skills in a practical, supervised military lab setting. Offered fall semesters. Corequisites: 23A:010. Requirements: first-year or sophomore standing.
- 23A:012 Foundations of the U.S. Air Force II** 1 s.h.  
Continuation of 23A:010; leadership theory and practice, team building, diversity in the work force. Requirements: first-year or sophomore standing.
- 23A:013 AFROTC Leadership Laboratory (LLAB) AS 100-SP** 1 s.h.  
A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, military professional development, the life and work of a junior officer; leadership skills in a practical, supervised military lab setting. Offered spring semesters. Corequisite: 23A:012. Requirements: first-year or sophomore standing.
- 23A:020 Evolution of USAF Air and Space Power I** 1 s.h.  
Air power from Civil War hot air balloons through World War II; emphasis on developments in U.S. Air Force.
- 23A:021 AFROTC Leadership Laboratory (LLAB) AS 200-FA** 1 s.h.  
See 23A:011. Offered fall semesters. Corequisites: 23A:020.
- 23A:022 Evolution of USAF Air and Space Power II** 1 s.h.  
Continuation of 23A:020; air power from post-World War II to present; emphasis on developments in U.S. Air Force.
- 23A:023 AFROTC Leadership Laboratory (LLAB) AS 200-SP** 1 s.h.  
See 23A:011. Offered spring semesters. Corequisites: 23A:022.
- 23A:130 Air Force Leadership Studies I** 3 s.h.  
Emphasis on management, leadership, communication skills required of an Air Force officer. Requirements: junior or higher standing.
- 23A:131 AFROTC Leadership Laboratory (LLAB) AS 300-FA** 1 s.h.  
See 23A:011. Offered fall semesters. Corequisites: 23A:130.
- 23A:132 Air Force Leadership Studies II** 3 s.h.  
Continuation of 23A:130; leadership topics in counseling, accountability, ethics. Requirements: junior or higher standing.

**23A:133 AFROTC Leadership Laboratory (LLAB) AS 300-SP**

1 s.h.

See 23A:011. Offered spring semesters. Corequisites: 23A:132.

**23A:140 National Security Affairs and Active Duty Preparation I**

3 s.h.

America's evolving national security policy; structure of national security agencies, development of national security strategies; global regions and their historical and current importance to U.S. security policies. Requirements: junior or higher standing.

**23A:141 AFROTC Leadership Laboratory (LLAB) AS 400-FA**

1 s.h.

See 23A:011. Offered fall semesters. Corequisites: 23A:140.

**23A:142 National Security Affairs and Active Duty Preparation II**

3 s.h.

Continuation of 23A:140; Department of Defense structure, missions, and responsibilities, with emphasis on role of the U.S. Air Force; Air Force standards; preparation for active duty as Air Force junior officers. Requirements: junior or higher standing.

**23A:143 AFROTC Leadership Laboratory (LLAB) AS 400-SP**

1 s.h.

See 23A:011. Offered spring semesters. Corequisites: 23A:142.

**23A:150 Readings in Contemporary Military Issues**

1-4 s.h.

Independent research on the U.S. Air Force; historical topics, current missions, future technologies, comparisons to other nations.

## Bachelor of Applied Studies

**Coordinator:** Nancy Romine  
**Undergraduate degree:** B.A.S.  
**Web site:** [http://continuetolearn.uiowa.edu/ccp/blsbas/bas\\_introduction.htm](http://continuetolearn.uiowa.edu/ccp/blsbas/bas_introduction.htm)

The Bachelor of Applied Studies (B.A.S.) is designed for graduates of community college technical programs who wish to complete a bachelor's degree by distance education. The B.A.S. is a general undergraduate degree without a traditional academic major. Students work with their academic advisors to structure programs that meet their individual objectives.

B.A.S. students may plan programs designed to help them advance in their chosen careers, begin new careers, or prepare for graduate or professional study. Students who have specific career goals or advanced degree programs in mind should learn what educational background they will need in order to achieve their goals, and they should include appropriate course work in their B.A.S. programs.

Students may earn credit toward the degree through several types of courses, including Saturday & Evening Classes, web-based independent study courses, semester-based web courses, extension courses at sites throughout Iowa, and regular session courses.

B.A.S. students may not earn minors.

Individuals interested in applying to the B.A.S. program should hold an A.A.S., an A.A., or an A.S. degree; see "Admission" below for more detailed admission requirements.

The B.A.S. is awarded by University College and is administered by the Division of Continuing Education.

### Bachelor of Applied Studies

The Bachelor of Applied Studies requires a minimum of 120 s.h. and is intended to be completed entirely by distance education. Students must earn at least 30 s.h. of credit toward the degree in University of Iowa courses after admission to the B.A.S. program. They must earn at least 60 s.h. of the minimum 120 s.h. at four-year colleges, including 45 s.h. in course work defined as upper-level. For the B.A.S., University of Iowa courses are considered upper-level if they are numbered 100 and above. Some courses numbered below 100 may be considered upper-level for the B.A.S.; for a list of these courses, contact Distance Education.

The program of study requires that students complete 12 s.h. in three of the following five distribution areas (total of 36 s.h.). In each distribution area, 6 of the required 12 s.h. must be earned in upper-level courses.

Humanities (e.g., literature, history, philosophy, religion)

Communication and arts (e.g., journalism, speech, drama, art, music)

Natural sciences and mathematics (e.g., geology, biology, statistics, computer science)

Social sciences (e.g., geography, psychology, economics, political science, anthropology)

Professional fields (e.g., business, education, nursing, social work, library science)

Students must maintain a cumulative g.p.a. of 2.00 or higher in all course work attempted, work undertaken at The University of Iowa, and all upper-level course work.

All Division of Continuing Education policies regarding pass/nonpass and satisfactory/fail grading, academic standards, and so forth apply to B.A.S. students; see the Center for Credit Programs Student Handbook.

### Optional Certificate or Focus Area

Students may incorporate one of three online certificate programs into their B.A.S. studies: the Certificate in Entrepreneurial Management, the Certificate in Nonprofit Management, or the Certificate in Public Health. Or they may use an interdisciplinary approach to plan an individualized focus area.

#### CERTIFICATE IN ENTREPRENEURIAL MANAGEMENT

The Certificate in Entrepreneurial Management is offered by the Tippie College of Business. It requires 18-20 s.h. Courses are offered via the World Wide Web. See Entrepreneurship (Tippie College of Business) in the Catalog or contact the Tippie College of Business for details.

#### CERTIFICATE IN NONPROFIT MANAGEMENT

The Certificate in Nonprofit Management is offered by University College in collaboration with Distance Education and

the Larned A. Waterman Iowa Nonprofit Resource Center. The certificate requires 18 s.h. Courses are offered primarily on the World Wide Web. See Nonprofit Management (University College) in the Catalog or contact Distance Education for details.

#### **CERTIFICATE IN PUBLIC HEALTH**

The Certificate in Public Health is offered by the College of Public Health and is designed primarily for individuals working in public health practice and for those considering public health careers. The certificate requires 12 s.h. Courses are offered via the World Wide Web. Applicants must have substantial relevant work experience. Contact the College of Public Health for details.

#### **INTERDISCIPLINARY FOCUS AREA**

In collaboration with their B.A.S. advisor, students may design a focus in one of a variety of interdisciplinary areas (e.g., aging studies, human services, technical writing, family studies).

#### **Admission**

Individuals who wish to earn a B.A.S. must apply formally for admission to the program. Prospective students should contact the Distance Education office before applying.

The B.A.S. is designed for students who need to earn a bachelor's degree by distance education. Individuals who have access to the full range of the University's on-campus daytime classes should seek admission to the College of Liberal Arts and Sciences in order to earn a degree with a major. The interdepartmental studies major allows students to tailor a degree program to their individual interests (see Interdepartmental Studies in the Catalog).

Applicants to the B.A.S. program must have earned an Associate of Applied Science (A.A.S.) degree, an Associate of Arts (A.A.), or an Associate of Science (A.S.) from a community college that participates in the Iowa Community College/Regents Articulation Agreement. They must have a minimum of 60 s.h. of approved transfer credit. Applicants who graduated from an Iowa community college must have a cumulative g.p.a. of at least 2.00; those who graduated from a community college outside Iowa must have a cumulative g.p.a. of at least 2.50. The program recommends that applicants have three or more years of work experience.

It is recommended that B.A.S. applicants complete the following B.A.S. minimum core requirements before entering the program.

Rhetoric (course work equivalent to composition I, composition II, and speech)

Quantitative or formal reasoning (3 s.h.)

Social sciences (3 s.h.)

Cultural diversity (3 s.h.)

Business/management (6 s.h.)

See a B.A.S. advisor for a list of other acceptable courses.

Contact Distance Education for more information about the B.A.S. program.

# Belin-Blank Center for Gifted Education

**Director:** Nicholas Colangelo  
**Associate director:** Susan Assouline  
**Research director:** David Lohman  
**Web site:** <http://www.education.uiowa.edu/belinblank>

The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development is dedicated to serving the needs of the gifted community at local, national, and international levels. It offers courses for preservice and inservice educators, services for parents, and programs for students grades K–16, including those described below. The center is home to the Assessment and Counseling Clinic, the Institute for Research and Policy on Acceleration (IRPA), and the National Institute for Twice-Exceptionality (NITE).

The Belin-Blank Center offers the following residential summer programs held on the University of Iowa campus. Students in each program participate in cultural and recreational activities and have access to the University's libraries, computer facilities, and study areas. Housing and meals are provided at the University's residence halls.

For more information about the center's programs, contact the Belin-Blank Center for Gifted Education and Talent Development or visit the center's web site.

## Blank Summer Institute

The Blank Summer Institute for the Arts & Sciences (BSI) is a one-week program that provides an intensive, advanced educational experience designed to enhance exceptionally talented students' intellectual and social growth. The BSI study plan, which complements the regular school curriculum, consists of eight courses that explore advanced science, math problem solving, social sciences, creative writing, invention and innovation, visual arts, performing arts, and global and cultural studies.

To be eligible for the institute, students must be Iowa residents, must be completing grade 7 or 8, and must be nominated by their schools. Students selected for the institute receive a Myron and Jacqueline Blank Summer Scholarship to cover part of the institute's cost.

## Iowa Governor's Institute

The Iowa Governor's Institute for the Gifted and Talented (IGI) is a one-week program that provides an intensive, advanced educational experience designed to enhance exceptionally talented students' intellectual and social growth as leaders.

To be eligible for the institute, students must be Iowa residents, must be completing grade 7 or 8, and must submit a nomination packet. Students selected for the institute receive a Governor's Scholarship to cover part of the institute's cost.

## Junior Scholars Academy

The Junior Scholars Academy (JSA) is a one-week program in which students take a single advanced course and attend 12 class sessions over the week. JSA students may apply to attend one or two of the one-week sessions. Financial support is available.

## National Scholars Institute

The National Scholars Institute (NSI) is a one-week program that provides an advanced educational experience designed to enhance the development of talent in one advanced-level course and to encourage positive social interaction. Students select one of the following four courses: Visual Arts Studio, Creative Writing, Asian and Pacific Studies, or Advanced Leadership.

To be eligible for the institute, students must be completing grade 9, 10, or 11 and must submit a nomination packet. Students selected for the institute receive a scholarship to cover part of the institute's cost.

## Iowa Talent Project

The Belin-Blank Center collaborates with the Des Moines and Cedar Rapids school districts through the Iowa Talent Project (ITP) to identify talented and gifted students from underrepresented populations who are taking upper-level or advanced courses as they progress through secondary school. The project's goal is to help students recognize their potential and take advantage of rigorous courses of study that challenge them.

Participants attend a residential summer program at The University of Iowa that focuses on college preparation. In addition to enjoying recreational and cultural experiences on campus, they complete advanced placement (AP) courses and take at least three AP exams. The cost of attending the session is covered by the University.

Upon finishing high school, successful ITP students are admitted to The University of Iowa and are given financial aid based on need and merit. Once enrolled at the University, students must maintain a designated grade-point average



while taking approved courses as full-time students and must meet other specified requirements.

## **Belin-Blank Center for Gifted Education Courses**

<b>166:008 Iowa Talent Project</b>	0 s.h.
<b>166:010 National Scholars Academy</b>	0 s.h.
<b>166:012 Blank Summer Institute for the Arts and Sciences</b>	0 s.h.
<b>166:031 Junior Scholars Academy</b>	0 s.h.
<b>166:033 Iowa Governor's Institute</b>	0 s.h.
<b>166:034 Advanced Placement Academy</b>	0 s.h.
<b>166:035 Environmental Health Sciences Institute for Rural Youth</b>	0 s.h.
<b>166:036 Wallace Summer Institute</b>	0 s.h.
<b>166:037 Asian and Pacific Studies Institute</b>	0 s.h.
<b>166:039 Foreign Language Summer Institute</b>	0 s.h.

## Career Center Programs

**Director:** David Baumgartner  
**Web site:** <http://www.careers.uiowa.edu>

The University of Iowa Marvin A. and Rose Lee Pomerantz Career Center administers the University's Career Center Programs. The center helps students explore and plan careers, search for employment and internship opportunities, and prepare for interviews. Students may use the Pomerantz Career Center's services at any time during their academic careers, but the center encourages entering first-year and transfer students to visit after they arrive on campus and to make use of all of the center's services throughout their study at Iowa.

The center offers online workshops throughout the year on a variety of topics, including résumé writing, job and internship search techniques, employer research, interviewing skills, and more. It hosts several career fairs each fall and spring, offering students the opportunity to talk with and learn about prospective employers.

The Pearson Library contains career-related books, periodicals, and online resources--some broad in scope, others targeted to specific careers or jobs. Employer recruiting brochures join information on salaries, geographical cost of living, resources for jobs and internships, graduate schools, and other topics.

The Pomerantz Career Center facilitates job and internship interviewing with a wide range of employers--regional, national, and international; profit and nonprofit; state and federal government. Employers conduct on-campus interviews at specific times during the year, and many post immediate openings year-round, for internships and for full-time positions. On-campus recruiting and job postings are available on the center's web site. The center also offers career-related courses.

The center helps students find internships in Iowa, the Midwest, nationwide, and sometimes in other countries. For a list of discipline-related internships (all require course registration), see "Career Center Programs Courses"/"Internships" below.

For more information about the center's services and facilities, contact the Pomerantz Career Center.

## Career Center Programs Courses

### Career Exploration

**409:102 Job Search Strategies** 2-3 s.h.  
 How to conduct successful job search; résumé development, interviewing, networking, branding, job search strategies; develop career management plan.

**409:110 Career Exploration** 2 s.h.  
 Helps students identify their interests, skills, and values relative to majors and careers; self-assessment, information interviews, research on majors and careers, site visits.

### Internships

Students must register before beginning an internship in order for the internship to be noted on the transcript.

**409:001 Internship in Art** 0 s.h.

**409:002 Internship in Biological Science** 0 s.h.

**409:003 Internship in Communication Sciences and Disorders** 0 s.h.

**409:004 Internship in Chemistry** 0 s.h.  
 Prerequisites: 004:122. Requirements: junior standing, completion of 12 s.h. of UI course work, and minimum 2.75 cumulative g.p.a.

**409:006 Internship in Business** 0 s.h.

**409:007 Internship in Education** 0 s.h.  
 Requirements: admission to teacher education program.

<b>409:008 Internship in English</b>	0 s.h.
<b>409:009 Internship in French</b>	0 s.h.
<b>409:012 Internship in Geoscience</b> Requirements: cumulative g.p.a. of at least 2.50, g.p.a. in geology courses of at least 3.00, and grade of C or higher in 012:052.	0 s.h.
<b>409:013 Internship in German</b>	0 s.h.
<b>409:015 Internship</b>	0 s.h.
<b>409:016 Internship in History</b>	0 s.h.
<b>409:019 Internship in Journalism</b>	0 s.h.
<b>409:020 Internship in Classics</b>	0 s.h.
<b>409:021 Internship in Library Science</b>	0 s.h.
<b>409:022 Internship in Computer Science</b> Prerequisites: 22C:021, and 22M:025 or 22M:031. Requirements: 24 s.h. of undergraduate course work.	0 s.h.
<b>409:024 Internship in Museum Studies</b>	0 s.h.
<b>409:025 Internship in Music</b>	0 s.h.
<b>409:027 Internship in Integrative Physiology</b> Requirements: admission to integrative physiology.	0 s.h.
<b>409:028 Internship in Health and Sport Studies</b>	0 s.h.
<b>409:029 Internship in Physics and Astronomy</b>	0 s.h.
<b>409:030 Internship in Political Science</b>	0 s.h.
<b>409:031 Internship in Psychology</b> Requirements: completion of 12 s.h. of departmental course work.	0 s.h.
<b>409:032 Internship in Religious Studies</b>	0 s.h.
<b>409:033 Internship in Literature, Science, and the Arts</b>	0 s.h.
<b>409:034 Internship in Sociology</b>	0 s.h.
<b>409:035 Internship in Spanish</b>	0 s.h.
<b>409:036 Internship in Communication Studies</b> Requirements: declared communication studies major, completion of 12 s.h. of departmental course work, and minimum 2.50 cumulative g.p.a.	0 s.h.
<b>409:039 Internship in Asian Languages and Literature</b>	0 s.h.
<b>409:041 Internship in Russian</b>	0 s.h.
<b>409:042 Internship in Social Work</b>	0 s.h.
<b>409:044 Internship in Geography</b>	0 s.h.

Requirements: sophomore standing, completion of 12 s.h. of departmental course work, and minimum 2.25 cumulative g.p.a.

<b>409:045 Internship in American Studies</b>	0 s.h.
<b>409:048 Internship in Cinema and Comparative Literature</b>	0 s.h.
<b>409:049 Internship in Theatre Arts</b>	0 s.h.
<b>409:061 Internship in Microbiology</b>	0 s.h.
<b>409:062 Internship in Informatics</b> Prerequisites: 22C:080. Requirements: 24 s.h. of undergraduate course work.	0 s.h.
<b>409:070 Global Internship Preparation</b> Classroom preparation for international summer internship program in Paris, London, or Madrid; internship goal setting, predeparture orientation activities, reflective learning, professional development concepts.	1 s.h.
<b>409:074 Office of the Provost Internship</b> Internship in the Office of the Provost.	0 s.h.
<b>409:091 Internship in Law</b>	0 s.h.
<b>409:099 Internship in Biochemistry</b>	0 s.h.
<b>409:103 Internship in Linguistics</b>	0 s.h.
<b>409:104 Des Moines Center Classroom</b> Classroom section of Des Moines Center internship program; taught in Des Moines, Iowa. Corequisites: 409:105.	3 s.h.
<b>409:105 Des Moines Center Internship</b> Professional internship in Des Moines, Iowa; offered in areas including business, finance, accounting, marketing, nonprofit organizations, outreach, environmental science, government. Corequisites: 409:104. Requirements: enrollment in business or engineering or liberal arts and sciences, 2.50 g.p.a., and second-year or higher standing.	9 s.h.
<b>409:112 International Internship: London</b> One-week orientation to London followed by seven-week unpaid internship. Requirements: acceptance to undergraduate internship program in London.	2 s.h.
<b>409:113 Internship in Anthropology</b>	0 s.h.
<b>409:114 International Internship: Madrid</b> Ten-week program, includes orientation, Spanish language school, and eight-week unpaid internship. Requirements: acceptance to undergraduate internship program in Madrid.	2 s.h.
<b>409:115 International Internship: Paris</b> Ten-week program, includes orientation, French language school, and eight-week unpaid internship. Requirements: acceptance to undergraduate internship program in Paris.	s.h.
<b>409:122 Internship in Mathematics</b> Prerequisites: 22M:025 or 22M:031. Requirements: junior standing, completion of 12 s.h. of UI course work, and cumulative g.p.a. of at least 2.75.	0 s.h.
<b>409:131 Internship in Women's Studies</b>	0 s.h.
<b>409:137 Internship in Dance</b>	0 s.h.
<b>409:145 Internship in Interdepartmental Studies</b>	0 s.h.

<b>409:153 Internship in Aging Studies</b>	0 s.h.
<b>409:159 Internship in Environmental Sciences</b> Requirements: cumulative g.p.a. of at least 2.50.	0 s.h.
<b>409:169 Internship in Leisure Studies</b>	0 s.h.
<b>409:170 Internship in Public Health</b> Requirements: admission to the College of Public Health.	0 s.h.
<b>409:171 Internship in Biostatistics</b> Requirements: admission to the College of Public Health.	0 s.h.
<b>409:172 Internship in Community and Behavioral Health</b> Requirements: admission to the College of Public Health.	0 s.h.
<b>409:173 Internship in Epidemiology</b> Requirements: admission to the College of Public Health.	0 s.h.
<b>409:174 Internship in Health Mgmt &amp; Policy</b> Requirements: admission to the College of Public Health.	0 s.h.
<b>409:175 Internship in Occupational and Environmental Health</b> Requirements: admission to the College of Public Health.	0 s.h.
<b>409:187 Internship in International Studies</b>	0 s.h.
<b>409:188 Internship in Performing Arts</b>	0 s.h.
<b>409:190 Washington Center Internship Program</b> Internship placements for students in all University of Iowa majors (typical placements include Congress, the White House, the Center for Strategic and International Studies, the U.S. Department of Commerce, the U.S. Department of Defense, the Environmental Protection Agency, CNN, C-SPAN, BET, MCI Center, the Smithsonian Institution, the National Institutes of Health, Amnesty International, the Children's Defense Fund, Mexican Cultural Institute Embassies, the U.S. Marshall's Office, federal courts, law offices, and the U.S. Secret Service); participation in Presidential Lecture Series and Congressional Breakfast Series. Full semester or summer session.	arr.
<b>409:191 Washington Center Seminar</b> Combined classroom instruction, faculty-led discussions, and experiential work opportunities; usually offered in Washington, D.C., occasionally at other locations tied to an event (e.g., political convention); one or two weeks.	arr.
<b>409:192 Internship in Statistics and Actuarial Science</b> Requirements: junior standing.	0 s.h.
<b>409:193 Internship in Accounting</b> Requirements: admission to Tippie College of Business and accounting major.	0 s.h.
<b>409:194 Internship in Finance</b> Requirements: admission to Tippie College of Business and finance major.	0 s.h.
<b>409:195 Internship in Marketing</b> Requirements: at least 3.00 g.p.a. in 06M:100 and 06M:134, admission to Tippie College of Business, and marketing major.	0 s.h.
<b>409:196 Internship in Economics</b> Requirements: economics major.	0 s.h.
<b>409:197 Internship in Management and Organizations</b> Requirements: admission to Tippie College of Business and management and organizations major.	0 s.h.

**409:198 Internship in Management Information Systems**

0 s.h.

Requirements: admission to the Tippie College of Business and management sciences major.

## Center for Diversity & Enrichment

**Director:** Nancy J. Humbles  
**Web site:** <http://cde.uiowa.edu/>

The Center for Diversity & Enrichment offers the Life Science Summer Program (LSSP) for high school students who are interested in biology but who have not taken high school biology classes. The intensive, two-week program provides hands-on laboratory training and classroom instruction covering a wide range of topics in developmental biology. The curriculum also includes health-related issues and current events. For more information and to apply, visit the Life Science Summer Program web site or contact the Center for Diversity & Enrichment.

## Center for Diversity & Enrichment Courses

<b>402:002 Life Science Summer Program</b>	0 s.h.
--	--------

<b>402:023 Iowa First Nations</b>	0 s.h.
-----------------------------------	--------

## College Success Initiatives

The College Success Initiatives program is designed to enrich students' experiences at The University of Iowa. College Success Initiatives offers the following courses focused on helping first-year and entering students make a successful transition to the University: 407:001 The College Transition, a traditional first-year experience course; 407:011 The Transfer Transition, a transition course for transfer students; 407:007 Online at Iowa, a web-based course introducing students to electronic tools and resources at The University of Iowa; and 407:002 College Success Seminar, a course for first-year students who have been placed on academic probation.

College Success Initiatives is administered by the associate provost for undergraduate education. For more information about College Success Initiatives courses, contact the Academic Advising Center.

## College Success Initiatives Courses

- 407:001 The College Transition** 2 s.h.  
College culture, University of Iowa resources, refinement of study skills, test taking, identification of personal values, self-motivation, goal setting; taught in small sections with emphasis on classroom discussion. Requirements: entering first-year student.
- 407:002 College Success Seminar** 1 s.h.  
Skills, habits, and attitudes essential for college success; self-assessment, goal setting, problem solving, motivation, time management, study skills, preparing for and taking tests; campus resources, including the Pomerantz Career Center, University Counseling Service; emphasis on class participation and completion of assignments related to course topics. Requirements: selected students with first-year standing in the College of Liberal Arts and Sciences.
- 407:007 Online at Iowa** 1 s.h.  
Web-based introduction to electronic tools and resources at The University of Iowa; web sites, e-mail, databases; how to research courses, register for classes, and review grades; computer security; virtual campus tour.
- 407:008 Managing Your Money: Personal Finance for College Students** 1 s.h.  
Introduction to basic concepts and practices for management of resources and prevention of financial problems commonly associated with college, including credit and student loans.
- 407:011 The Transfer Transition** 2 s.h.  
University of Iowa resources, career and major selection, identification of personal values, self-motivation, goal setting, study and test-taking skills; small sections with classroom discussion. Requirements: entering transfer student.
- 407:020 Teamwork Practicum** 1-3 s.h.  
Participation on a University committee, completion of associated activities; effective team membership skills; how complex organizations function.
- 407:025 Mindfulness: Being Here With It All** 2 s.h.  
Training in Mindfulness-Based Stress Reduction; application to dealing with life changes (i.e., transition to University life); navigating daily life (academics, roommates, schedules); improving academic skills; self-regulation of emotions; questions of meaning and purpose. Same as 07P:026.
- 407:101 Learning Community Peer Educator** arr.  
Training and/or service as a peer educator in the University's living-learning communities program. Requirements: selection as a Learning Community Peer Educator.



## First-Year Programs

**Director:** Beth F. Ingram

First-Year Programs encompasses courses aimed at first-year students and provides special opportunities for students to interact with faculty and senior administrators.

### First-Year Programs Courses

**420:029 First-Year Seminar**

1 s.h.

Introduction to the intellectual life of the University; opportunity to work closely with a faculty member or senior administrator; active participation that eases the transition to college-level learning.

# Human Rights

**Director:** Greg Hamot

**Undergraduate nondegree program:** Certificate in Human Rights

**Web site:** <http://international.uiowa.edu/centers/human-rights/education/humanrightscertificate.asp>

Human rights concern the inherent dignity of all human beings and the promotion and protection of that dignity irrespective of race, color, gender, sexual orientation, religion, culture, nationality, birth, or other statuses. The Certificate in Human Rights program seeks to broaden students' understanding of human rights issues and to help them identify solutions using an interdisciplinary approach.

Course work for the certificate is drawn from units across the University. It prepares students to examine societal problems critically and to design specific solutions to human rights dilemmas in a wide range of areas, for example, civil governance, the situations of women and racial and sexual minorities, child welfare, socioeconomic development and well-being, hunger and poverty, education, health, immigration, ecological sustainability, and mass violence.

## Certificate

The Certificate in Human Rights requires 18 s.h. of credit, with a g.p.a. of at least 2.00. Students take two core courses and complete the certificate requirements with approved electives (see "Elective Courses" below).

Certificate courses may be used to fulfill requirements of the College of Liberal Arts and Sciences General Education Program or requirements of a major or minor. Students may count a maximum of 6 s.h. of transfer credit toward the certificate; they must have approval from the certificate program's faculty advisory group. A maximum of 3 s.h. of credit earned under satisfactory/unsatisfactory grading may be counted toward the certificate.

Current University of Iowa undergraduate students may complete the certificate as they work toward their bachelor's degree; the certificate is awarded upon completion of the degree. Holders of University of Iowa bachelor's degrees may return to the University to complete the certificate. Individuals who hold bachelor's degrees from other institutions and are not enrolled in a graduate or professional program at The University of Iowa may earn the certificate; they must apply for admission to the College of Liberal Arts and Sciences.

The Certificate in Human Rights requires the following course work.

### CORE COURSES

Philosophical foundations and contemporary issues in human rights—one of these (students who wish to take both courses may use one as a certificate elective):

091:193 Human Rights in the World Community 3 s.h.

187:080 Introduction to Human Rights 3 s.h.

Human rights in practice—all students must take this course:

187:180 Human Rights Advocacy 3 s.h.

### ELECTIVE COURSES

Certificate students must earn 12 s.h. of credit in elective course work chosen from the following lists. The courses below are grouped by theme to help students choose electives that meet their interests and objectives, but some courses could fit into more than one of these groupings. Each course's content is described on ISIS.

Students who would like to take a course not included in the following lists may submit a petition to the certificate's faculty advisory group. The petition should state the course's number and name and tell why the student wishes to include the course in his or her certificate electives. The petition should be submitted before the preregistration period for the session in which the course will be offered. Students must receive approval from the advisory group in order to count the course toward the certificate. Many courses have prerequisites, and some require enrollment in certain programs or colleges; students should consult the certificate program advisor to be sure they meet the registration requirements for the course they are petitioning to count toward the certificate.

#### Political and Legal Systems

16W:116 Dictatorships of Latin America 3 s.h.

030:155 International Courts: The Intersection of Law and Politics 3 s.h.

030:157 Voting Behavior and Elections 3 s.h.

034:045 Global Criminology 3 s.h.

034:126 Social Movements in the U.S.	3 s.h.
034:149 Sociology of Criminal Punishment	3 s.h.
034:150 Political Sociology	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:170 Geography of Justice	3 s.h.
091:651 Law in Asia	arr.
091:663 Advanced Topics in International Law (when topic is Human Rights Law and Policy Research)	arr.

#### Global Interactions

16E:130 Modern European Imperialism	3 s.h.
030:160 Women and Politics in Global Perspective	3 s.h.
032:155 Human Rights and Islam	3 s.h.
044:010 The Contemporary Global System	4 s.h.
044:170 Geography of Justice	3 s.h.
131:149 Transnational Feminism	3 s.h.
152:120 Global Health and Human Rights	2-3 s.h.
152:158 Promoting Health Globally	3 s.h.

#### Culture

01H:167 African American Art and Architecture (enroll in section 1)	3 s.h.
16A:104 History of the American Deaf Community	3-4 s.h.
032:003 Quest for Human Destiny	3 s.h.
036:051 Politics of Popular Culture	3 s.h.
049:185/033:185 Cultural Diversity and Identity	3 s.h.
091:618 Cultural Property/Heritage	arr.
113:187 Cultures in Collision	3 s.h.
149:005 Literatures of Native American Peoples	3 s.h.
172:135 Health Disparities and Cultural Competence	2-4 s.h.

#### Race

01H:167 African American Art and Architecture (enroll in section 1)	3 s.h.
16A:147/129:137 History of Slavery in the U.S.A.	3-4 s.h.
028:079/129:079 Race and Ethnicity in Sport	3 s.h.
030:164 Race in World Politics	3 s.h.
034:155 Comparative Studies in Race and Ethnicity	3 s.h.
034:175 Community and Urban Sociology	3 s.h.
129:063 African American Islam	3 s.h.
129:123 Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3 s.h.

#### Gender and Sexuality

07C:130 Human Sexuality	3 s.h.
16A:171 U.S. Women's History to 1870	3 s.h.
16A:175 Family, Gender, and Constitutional History	3 s.h.
16W:123 Slavery, Gender, and Identity in East Africa	3 s.h.
16W:125 Women and Gender in African History	3 s.h.
030:160 Women and Politics in Global Perspective	3 s.h.
034:018 Gender and Society	3-4 s.h.
091:640 Human Trafficking	arr.
131:010 Introduction to Gender, Women's, and Sexuality Studies	3 s.h.
131:105 Women's Studies Practicum	2-3 s.h.
131:149 Transnational Feminism	3 s.h.
131:157/16W:157/154:157 Gender, Sexuality, and Human Rights	3 s.h.
131:161/034:143 Gender and Violence	3 s.h.

**Rights of the Child**

07C:176 Child Abuse: Assessment, Intervention, and Advocacy	3 s.h.
091:640 Human Trafficking	arr.
187:175 Child Labor and International Human Rights	3 s.h.

**Migration/Immigration**

16A:146 Immigrant America 1845-1925	3 s.h.
045:145 Immigration and American Culture	3 s.h.
091:640 Human Trafficking	arr.
152:182 Health Experience of Immigrants, Migrants, and Refugees	3 s.h.

**Labor**

16A:141 Work and Society in Industrializing America	3 s.h.
16A:142 American Labor in the Twentieth Century	3-4 s.h.
16A:147/129:137 History of Slavery in the U.S.A.	3-4 s.h.
16W:123 Slavery, Gender, and Identity in East Africa	3 s.h.
091:640 Human Trafficking	arr.

**Health**

16A:106 Disability in American History	3 s.h.
152:120 Global Health and Human Rights	2-3 s.h.
152:135 Global Health and Global Food	3 s.h.
152:138 History of Global Health (enroll in section A02)	3 s.h.
152:158 Promoting Health Globally	3 s.h.
152:182 Health Experience of Immigrants, Migrants, and Refugees	3 s.h.
172:135 Health Disparities and Cultural Competence	2-4 s.h.

**Education**

07B:150 Leadership and Public Service I	3 s.h.
034:179 Sociology of Education	3 s.h.

**Economic Justice**

034:066 Social Inequality	3 s.h.
034:175 Community and Urban Sociology	3 s.h.

**Environment**

044:104 Environment and Development	3 s.h.
044:177 Environmental Justice	3 s.h.
113:187 Cultures in Collision	3 s.h.

**Mass Violence**

16E:132 War and Society in Modern Europe	3 s.h.
16E:158 Holocaust in History and Memory	3 s.h.
16W:183 Vietnam War on Film	3-4 s.h.

Topics

187:003 Issues in International Studies	1 s.h.
187:176 Topics in Human Rights	1-3 s.h.

## Intercollegiate Athletic Participation

Students who are members of University of Iowa intercollegiate athletics teams and are certified to participate in their sport may register for 408:021 Intercollegiate Athletic Participation. Each section of the course represents a specific sports team; students register for the appropriate section. Registration requires approval from the director of athletic student services. Qualified students may repeat the course. Members of University of Iowa sport clubs are not eligible to enroll in 408:021 Intercollegiate Athletic Participation.

## Intercollegiate Athletic Participation Courses

**408:021 Intercollegiate Athletic Participation**

1 s.h.

## Iowa Biosciences Advantage

**Directors:** Sarah K. England (Molecular Physiology and Biophysics), Vincent G.J. Rodgers (Physics and Astronomy)

**Lecturer:** Jodi L. Linley

**Web site:** <http://oge1.grad.uiowa.edu/iba/>

Iowa Biosciences Advantage (IBA) is a highly competitive undergraduate research and academic enrichment program funded by the National Institutes of Health. The program identifies academically talented undergraduate, underrepresented minority students who aspire to research careers and gives them first-rate training that facilitates entry into doctoral programs in biomedical, behavioral, and biophysical sciences.

Iowa Biosciences Advantage students have opportunities to work in research laboratories with faculty mentors during the course of their undergraduate careers. The program's faculty represents a broad range of disciplines in the basic and biomedical sciences. IBA students also benefit from specialized course work, career workshops, and academic advising for biomedical and bioscience careers.

Students selected for IBA must maintain good standing in academics and research. Good academic standing requires a g.p.a. of at least 3.00 and is evaluated at the end of each semester. Good research standing is determined by each student's research mentor. Students work with their mentors throughout the academic year and summer.

### STUDENTS ACCEPTED FROM HIGH SCHOOL

Students admitted to IBA from high school spend their first year at The University of Iowa establishing good academic standing and conducting laboratory rotations.

During fall semester, IBA students enroll in 407:001 The College Transition (2 s.h., graded satisfactory/unsatisfactory), which covers topics such as defining college culture, discovering University resources, refining study skills, taking tests, and setting goals.

During spring semester, IBA students enroll in two courses. They take 168:041 IBA Student Development Seminar (1 s.h.), an extension of subject matter introduced in The College Transition. They also take a special section of 168:047 IBA Research in Biomedical Science (0 s.h.) and complete two research rotations. The rotations, which are set up by IBA staff, introduce students to laboratory research at the University.

At the end of the first year, each student is evaluated for admission to the IBA Scholar Program. Students selected as IBA scholars remain on campus for the eight-week summer session and continue in the program throughout the year. They earn wages for laboratory work with their research mentors, live in the IBA Summer Learning Community, and participate in IBA events.

### STUDENTS ACCEPTED FROM COLLEGE

Applications also are accepted from current University of Iowa undergraduates majoring in the sciences as well as students transferring to Iowa. Students accepted to IBA during their first, second, or third year of college join the appropriate cohort of IBA scholars. During their first semester of participation, new undergraduates complete lab rotations and establish good academic standing. They also enroll in 168:041 IBA Student Development Seminar. Once students are matched with a research mentor, they earn wages for their laboratory work during summer and the academic year.

### Admission

Students apply to Iowa Biosciences Advantage during their senior year of high school or once they are undergraduate students.

Applicants must:

- have a strong interest in pursuing a research career;
- have a qualifying academic major;
- be in good academic standing;
- submit an IBA application, including short essays and a release for IBA to obtain the applicant's transcripts; and
- submit one letter of recommendation from a science or math instructor.

Admission requires an interview. Admission decisions are made throughout the year.

### Faculty

Faculty members from the University's broad range of basic and biomedical science disciplines serve as teachers and mentors to IBA students. They represent many departments, including anatomy and cell biology, biochemistry, biology,

biomedical engineering, chemistry, integrative physiology, microbiology, molecular physiology and biophysics, neuroscience, and psychology.

## Iowa Biosciences Advantage Courses

### **168:039 Introduction to Laboratory Techniques**

2 s.h.

Exercises that teach basic laboratory techniques through experimentation with biological materials; preparation for conducting research in the mentor's laboratory.

### **168:041 IBA Student Development Seminar**

0-1 s.h.

Academic and professional development; presentations by faculty researchers, admissions representatives, or students in graduate bioscience programs; discussions about succeeding at the University; talks by professional educators on topics such as effective study skills.

### **168:047 IBA Research in Biomedical Science**

arr.

Registration in a section taught by the student's research mentor. Requirements: enrollment in IBA.



## Iowa Lakeside Laboratory

**Director:** Peter J. van der Linden

**University of Iowa coordinator:** Diana Horton (Biology)

**Iowa State University participating faculty:** Bonnie S. Bowen (Ecology, Evolution, and Organismal Biology), Lee Burras (Agronomy)

**University of Iowa participating faculty:** John F. Doershuk (Anthropology)

**University of Northern Iowa participating faculty:** John R. Groves (Earth Science), Thomas Hockey (Earth Science), Lee S. Potter (Earth Science), Daryl D. Smith (Biology), De Anna Tibben (Earth Science)

**Web site:** <http://www.continuetolearn.uiowa.edu/lakesidelab/>

Iowa Lakeside Laboratory is a field station run cooperatively by The University of Iowa, Iowa State University, and the University of Northern Iowa. Iowa Lakeside Laboratory courses can be taken for credit through all consortium member schools. Students should check with their advisors to determine whether Iowa Lakeside Laboratory courses can be used to satisfy requirements of their academic majors or minors, or college or university general education requirements.

The laboratory was established in 1909 for the conservation and study of the rich flora and fauna of northwest Iowa, especially the numerous lakes, wetlands, and prairies of the Iowa Great Lakes region. The campus is located on approximately 140 acres of restored prairie, wetland, and gallery forest along the west shore of West Okoboji Lake. Lakeside's mission is to provide undergraduate and graduate students an opportunity for hands-on experience in a variety of natural and human environments through its field-oriented summer courses, and to provide research facilities and support for graduate students and faculty members working on research projects in northwestern Iowa.

Each summer Iowa Lakeside Laboratory offers students a unique educational experience--small, full-immersion, field-oriented courses in the natural sciences (archaeology, ecology, environmental science, evolution, geology, hydrology, soils, taxonomy). Courses are taught at the undergraduate level (sophomore and junior) and the senior/graduate level. Most courses meet all day Monday through Friday, last four weeks, and are limited to eight to ten students. Students usually earn 1 s.h. for each week (40 hours) in class. One- and two-week courses also are available, including courses designed especially for teachers.

Weather permitting, students normally spend at least part of each day doing fieldwork, either as part of their class work or for individual or group projects.

Not all courses are offered every year; visit the Iowa Lakeside Laboratory web site or consult the University of Iowa summer course offerings on ISIS (Iowa Student Information Services) to learn which courses will be offered during a particular summer session.

Research projects by undergraduates, graduate students, and faculty members can be completed either on the Iowa Lakeside Laboratory campus or at many nearby natural areas. Undergraduate and graduate students are strongly encouraged to do independent projects at the laboratory, and graduate students are welcome to use Lakeside as a base for their thesis and dissertation research. Laboratory space and other facilities are available for long-term or short-term research projects.

Teaching and research facilities include eight laboratory buildings, a library, and a lecture hall. Living accommodations include cottages, motel-style units, and a large mess hall. All students are encouraged to stay at Lakeside while they are taking courses to derive full advantage of its educational, professional, and social life.

## Registration

Students can enroll in Iowa Lakeside Laboratory courses only by submitting an Iowa Lakeside Laboratory Registration and Scholarship Form and the Lakeside housing form to the Iowa Lakeside Laboratory Administrative Office. Forms and information on registration and current courses are available on the Iowa Lakeside Laboratory web site.

Early registration is advisable. Because enrollment in Lakeside courses is limited, students should register before May 1 for the following summer session. Housing is limited at Lakeside. When students register for courses, they must either apply for housing or state that they plan to live off campus.

## Financial Support

Iowa Lakeside Laboratory scholarships are available to undergraduates and graduate students. Scholarships cover basic room and board; in some cases, they help reduce the cost of tuition. For information about how to apply for Iowa Lakeside Laboratory scholarships, see the Iowa Lakeside Laboratory web site. For information about other scholarships, work-study, and loan programs, consult the Office of Student Financial Aid.

The University of Iowa provides Thomas H. Macbride Scholarships in Natural Science for qualified students attending Lakeside. Application deadline is April 1.

## Iowa Lakeside Laboratory Courses

- 00L:010 Earth, Air, and Sky** 3 s.h.  
Essentials of earth science, including astronomy, meteorology, geology, and paleontology; includes laboratory and fieldwork.
- 00L:019 Soils and Environmental Quality** 3-4 s.h.  
The role of soils in environmental quality and natural resources management; soil erosion and conservation, water quality, environmental planning; weekend field trip.
- 00L:030 Natural History Workshop** 1-2 s.h.  
A specific aspect of the upper Midwest's natural history, or techniques for studying natural history; amphibians and reptiles, birds and birding, nature photography, mushrooms and other fungi, Iowa's trees and forests, fish biology, prairies, common algae, common insects, aquatic plants, life in rivers, life in lakes, mosses and liverworts, natural history of Iowa Great Lakes region, field archaeology, scuba diving, astronomy, nature sketching; five-day, nontechnical introductions.
- 00L:040 Archaeology** 4 s.h.  
Nature of cultural and environmental evidence in archaeology, how such evidence is used to model past human behavior and land use; emphasis on Iowa prehistory; basic reconnaissance surveying, excavation techniques.
- 00L:043 Illustrating Nature--Sketching** 2 s.h.  
Sketching plants, animals, terrain; visual communication, development of a personal style, integration of typographic and visual elements on a page.
- 00L:044 Illustrating Nature--Photography** 2 s.h.  
Beginning/intermediate technique and composition in color photography of natural areas, their plants and animals.
- 00L:050 Undergraduate Internship** 1-4 s.h.  
Placement with county conservation boards, camps, parks, and other agencies for experience as interpreters, rangers, technicians. Requirements: sophomore standing.
- 00L:064 Biology of Aquatic Plants** 4 s.h.  
Field-oriented introduction to the taxonomy and ecology of aquatic plants in lakes, wetlands, rivers; individual or group projects.
- 00L:100 Techniques for Biology Teaching** 1-2 s.h.  
Development and implementation of laboratory exercises suitable for inclusion in elementary, middle, high school, and community college biology and environmental courses; exercises built around common organisms and ecosystems in Iowa; animal biology, plant biology, fungi and lichens, aquatic ecology, prairie ecology, wetland ecology, limnology, animal behavior, insect ecology, biology of invertebrates, noninvasive use of living organisms, Project WET; field trips.
- 00L:102 Plant-Animal Interactions** 4 s.h.  
Introduction to ecology and co-evolution of plants and animals; emphasis on dispersal, pollination, plant-herbivore interactions; field and laboratory work, reading, discussion. Requirements: one biological science course.
- 00L:103 Aquatic Ecology** 4 s.h.  
Analysis of aquatic ecosystems; emphasis on basic ecological principles; ecological theories tested in the field; identification of common plants and animals. Requirements: ecology, chemistry, and physics courses.
- 00L:105 Plant Taxonomy** 4 s.h.  
Principles of classification and evolution of vascular plants; taxonomic tools and collection techniques; use of keys; field and laboratory studies emphasizing identification of local flowering plants, recognition of major plant families.
- 00L:109 Freshwater Algae** 4 s.h.  
Structure and taxonomy of freshwater algae based on field material collected; emphasis on genus-level identifications; habitat visits to lakes, fens, streams, rivers; algal ecology.

**00L:111 Summer Writing Festival at Iowa Lakeside Laboratory**

1 s.h.

Application of imagination to life experiences to become more effective writers; writing exercises invite imaginative leaps, thoughtful reflections, humor, and seriousness; participants work in various forms of expression, including personal essay, poetry, and short fiction; designed for young adult to adult writers of all levels. One week.

**00L:113 Undergraduate Independent Study**

1-4 s.h.

Requirements: junior or senior standing.

**00L:115 Field Mycology**

4 s.h.

Identification and classification of the common fungi; techniques for identification, preservation, and culture practiced with members of the various fungi groups.

**00L:117 Ecology and Systematics of Diatoms**

4 s.h.

Field and laboratory study of freshwater diatoms; techniques in collection, preparation, and identification of diatom samples; study of environmental factors affecting growth, distribution, taxonomic characters; project design and execution, including construction of reference and voucher collections; data organization and analysis.

**00L:119 Evolution**

4 s.h.

Mechanisms and patterns in microevolution, macroevolution; field exercises emphasizing studies of natural selection, adaptation, genetic variation, and population genetics of local plant, animal populations.

**00L:120 Freshwater Invertebrates**

4 s.h.

Field-oriented introduction to identification, life history, and ecology of common, free-living freshwater invertebrates of north-temperate lakes, rivers, wetlands; emphasis on invertebrates' role in aquatic food chains and litter processing. Requirements: an ecology course.

**00L:121 Plant Ecology**

4 s.h.

Principles of plant population, community, and ecosystem ecology illustrated through studies of native vegetation in local prairies, wetlands, forests; group or individual projects.

**00L:122 Prairie Ecology**

4 s.h.

Basic patterns, underlying physical and biotic causes of regional and local distributions of North American prairie plants and animals; field and laboratory analysis and projects. Prerequisite: familiarity with basic principles of biology and ecology.

**00L:124 Wetland Ecology**

4 s.h.

Ecology, classification, creation, restoration, and management of wetlands; field studies on composition, structure, and function of local natural wetlands, restored prairie pothole wetlands; individual or group projects. Prerequisites: 00L:031.

**00L:126 Ornithology**

4 s.h.

Biology, ecology, and behavior of birds; emphasis on field studies of local avifauna; group projects with focus on techniques of population analysis and methodology for population studies.

**00L:127 Introduction to Insect Ecology**

4 s.h.

Insects; their diversity and life history; emphasis on ecology and behavior; field, laboratory study.

**00L:128 Fish Ecology**

4 s.h.

Basic principles of fish interaction with biotic and abiotic environments; field methods, taxonomy, and biology of fish with emphasis on the fish fauna of northwestern Iowa.

**00L:129 Vertebrate Ecology and Evolution**

4 s.h.

Field and laboratory study of representative vertebrates of northwestern Iowa; observations and experimentation emphasize ecological histories by integrating concepts of functional morphology, behavioral ecology, evolutionary biology.

**00L:131 Ecology**

4 s.h.

Introduction to the principles of ecology at the population, community, ecosystem levels; field studies of local lakes, wetlands, and prairies used to examine factors that control distributions, interactions, and roles of plants and animals in native ecosystems. Requirements: two semesters of introductory biology.

**00L:133 Animals and Their Ecosystems**

4 s.h.

Vertebrate and invertebrate animals of the Midwest; observation of animals in nature, either through passive observational techniques or active trapping exercises; once identified, placement of animals in proper taxonomic position (i.e., "Tree of Life"); ecological perspective, including habitat preferences (i.e., wetland, lake, prairie, forest, river, edge), trophic position, and activity patterns; discussion and emphasis on conservation status. Requirements: introductory biology course.

**00L:135 Aquatic Toxicology and Wetland Dynamics in Freshwater Systems**

2-4 s.h.

Fundamental knowledge and understanding of scientific concepts related to the physio-chemical and biological environment; problems and issues (global, national, regional, and local) of freshwater systems; how wetland restoration is used to ameliorate problems; basic tools used to assess aquatic toxicological problems. Requirements: one year of biology and one year of chemistry.

**00L:140 Water Policy and Politics**

1 s.h.

Historical, legal, economic, cultural, and political dimensions of water resources; public perception and enjoyment of this abundant and important natural resource; how public policy developed; private rights; differences between the previous appropriation system in the western U.S. and eastern riparian rights law; public rights regarding water for navigation, recreation, and environmental protection; water-related institutions such as suppliers of municipal water and irrigation water; interbasin transport of water.

**00L:142 Watershed Hydrology and Surficial Processes**

4 s.h.

Effects of geomorphology, soils, and land use on transport of water and materials (nutrients, contaminants) in watersheds; fieldwork emphasizing investigations of the Iowa Great Lakes watershed. Requirements: four courses in physical or biological sciences or engineering.

**00L:144 Ecosystems of North America**

2-4 s.h.

Extended field trip for study of an ecosystem type (e.g., prairie, coastal wetland, forest, alpine, coral reef) or the ecosystems of a specific region (e.g., Rocky Mountains, Gulf Coast, Appalachian Mountains, deserts of the Southwest, Central America); pre-trip orientation, post-trip review and synthesis. Field trip fee. Requirements: an ecology course.

**00L:151 Analysis of Environmental Data**

2 s.h.

Theory and application of statistical techniques for analysis of ecological and paleoecological data.

**00L:156 Advanced Field Ornithology**

2 s.h.

Field study of birds of the upper Midwest; extended field trip to Minnesota, Wisconsin; individual or group project. Field trip fee. Corequisites: 00L:126.

**00L:160 Restoration Ecology**

4 s.h.

Ecological principles for restoration of native ecosystems; establishment (site preparation, selection of seed mixes, planting techniques) and management (fire, mowing, weed control) of native vegetation; evaluation of restorations; emphasis on prairie restoration, wetland vegetation. Requirements: an ecology course.

**00L:161 Introduction to GIS**

4 s.h.

Descriptive and predictive geographic information system (GIS) modeling techniques, spatial statistics, map algebra; application of GIS modeling techniques to environmental planning and resource management.

**00L:163 Conservation Biology**

4 s.h.

Population- and community-level examination of factors influencing viability of plant and animal populations from demographic and genetic perspectives; assessment of biodiversity; design, management of preserves. Offered summer sessions of odd years. Prerequisites: 00L:031.

**00L:165 Behavioral Ecology**

4 s.h.

Ecological and evolutionary theories of animal behavior examined through field studies of animal coloniality, courtship, territoriality, predator defense, habitat selection, foraging, mating systems, parental care. Requirements: two biology courses.

**00L:166 Amphibians and Reptiles**

4 s.h.

Ecology, behavior, and conservation biology of amphibians and reptiles, with focus on their anatomy, morphology; temperature and water regulation, locomotion, life history, reproduction, population and community ecology, conservation. Requirements: two biology courses.

**00L:175 Soil Genesis and Landscape Relationships**

4 s.h.

Relationships between soil formation, geomorphology, environment; soil description, classification, geography, mapping, interpretation for land use. Prerequisites: 00L:142.

**00L:199 Undergraduate Research**

1-4 s.h.

Requirements: junior or senior standing.

**00L:210 Global Climate Change: Causes, Connections, and Cures**

2 s.h.

Underlying causes of global climate change, both natural and human; web of interrelated links affecting the physical and living world, including human society; cause-and-effect relationships and interventions that may reduce negative consequences; for teachers of grades 7-12 and students enrolled in teacher education programs for those grades. Requirements: bachelor's degree.

**00L:213 Graduate Independent Study**

1-4 s.h.

**00L:217 Ecology and Systematics of Diatoms**

4 s.h.

**00L:225 Physical Limnology**

2-4 s.h.

Mechanisms of physical transport of heat and contaminants in lakes; temperature cycle and stratification; disturbances to seasonal temperature structure, including the diurnal mixed layer, waves, upwelling, differential heating; turbulence, mixing, transport; field measurements of physical processes, computer models of transport.

**00L:240 Natural History Workshop**

1-3 s.h.

An aspect of the upper Midwest's natural history, or techniques for studying natural history.

**00L:250 Graduate Internship**

1-5 s.h.

Experience as interpreters, rangers, technicians, and teachers through placement with county conservation boards, camps, parks, schools, other agencies.

**00L:299 Research**

1-4 s.h.

## Iowa Young Writers' Studio

**Director:** Stephen Lovely

**Web site:** <http://www.uiowa.edu/youngwriters>

The Iowa Young Writers' Studio is a two-week summer residential program for high school students who love to write. Students build a community of peers while working with experienced writing teachers, primarily students and graduates of the University's M.F.A. program in creative writing.

The studio offers three courses of study: poetry, fiction, and creative writing (a mix of poetry, fiction, and creative nonfiction). Each course consists of a seminar and a workshop. In seminars, students read literature by established writers. In workshops they share their own writing, get feedback from their classmates and teacher, and discuss issues of narrative and form.

The studio offers two two-week sessions: one in June and one in July.

Young writers who have completed grade 10, 11, or 12 are eligible to attend the studio. Application materials include an application form, a creative writing sample, a statement of purpose, a high school transcript, and a letter of recommendation from an English teacher or another instructor familiar with the applicant's writing. For complete application information, contact the Iowa Young Writers' Studio or visit its web site.

## Iowa Young Writers' Studio Courses

**406:001 Iowa Young Writers' Studio**

0 s.h.

# Leadership Studies

**Director:** David Baumgartner

**Undergraduate nondegree program:** Certificate in Leadership Studies

**Web site:** <http://www.careers.uiowa.edu/leadershipstudies>

Leadership studies is a multidisciplinary academic field that draws upon theories and applications from a wide variety of related disciplines, such as the social sciences (e.g., psychology, sociology, political science, and anthropology) and the humanities (e.g., philosophy and history), as well as professional fields, including management and education. The University of Iowa's Leadership Studies Program examines ethical issues, principles, theories, and styles of leadership; the dynamics of interactions between leaders, followers, and group members; leaders' impact on organizations and communities; and leadership skills such as goal setting, communicating effectively, creating a vision, and empowering others.

The Leadership Studies Program offers the undergraduate Certificate in Leadership Studies, an interdisciplinary program coordinated by the Pomerantz Career Center and supported by the Tippie College of Business, the College of Education, the College of Liberal Arts and Sciences, and the Office of Student Life. The program also offers Career Leadership Academy, a four-course sequence designed to help undergraduate students develop leadership and employment skills, and the online course Global Leadership Initiative. See "Other Programs" later in this section.

## Certificate

The Certificate in Leadership Studies requires 21 s.h., including an interdisciplinary core course (3 s.h.), area electives (15 s.h.), an experiential learning course (3 s.h.), and a final personal and program evaluation. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate program provides a structure for involvement and commitment to leadership. It introduces students to leadership concepts and offers them hands-on leadership experiences they will need in order to begin the life-long development of these skills.

The certificate requires the following course work.

### INTERDISCIPLINARY CORE COURSE

All certificate students are required to complete the interdisciplinary core course (3 s.h.). In order to enroll in the course, they must have earned a minimum of 30 s.h. of credit and must be in good academic standing as defined by the College of Liberal Arts and Sciences (cumulative g.p.a. of at least 2.00).

421:072 Perspectives on Leadership: Principles and Practices 3 s.h.

The core course provides students with a broad foundation of leadership knowledge. It introduces diverse approaches to studying and practicing leadership and gives students a structure for organizing knowledge and skills from other leadership courses and experiences. The course features presentations by guest instructors from across the University, offering students an interdisciplinary perspective on leadership.

Certificate students must complete 421:072 before they may enroll in the required experiential learning or service learning course.

### AREA ELECTIVES

Area electives are drawn from five developmental areas central to effective leadership: self-leadership, group leadership, communication, cultural competence, and ethics and integrity. Students must complete 3 s.h. from each of these areas (total of 15 s.h.).

#### Self-Leadership

At least 3 s.h. from these:

023:101 Leadership and Personal Development MSL101	1 s.h.
023:102 Introduction to Tactical Leadership MSL102	1 s.h.
056:056 Leadership in Engineering	1 s.h.
06J:162 Leadership and Personal Development	3 s.h.
410:045 Leadership in the Outdoors	3 s.h.
413:050 Introduction to Leadership	3 s.h.
413:100 President's Leadership Class (PLC)	3 s.h.

421:071 Global Leadership Initiative	1 s.h.
421:106 Career Leadership Academy - Phase 1	2 s.h.
421:107 Career Leadership Academy - Phase 2	1 s.h.
421:108 Career Leadership Academy - Phase 3	1 s.h.
421:109 Career Leadership Academy - Phase 4	1 s.h.

### **Group Leadership**

At least 3 s.h. from these:

023:103 Innovative Team Leadership MSL201	2 s.h.
023:104 Foundations of Tactical Leadership MSL202	2 s.h.
23A:130 Air Force Leadership Studies I	3 s.h.
23A:132 Air Force Leadership Studies II	3 s.h.
030:151 Political Leadership	3 s.h.
031:015 Introduction to Social Psychology	3 s.h.
034:020 Principles of Social Psychology	3 s.h.
034:164 Organizations and Modern Society	3 s.h.
036:019 Organizational Leadership	3 s.h.
042:157 Nonprofit Organizational Effectiveness I	3 s.h.
042:158 Nonprofit Organizational Effectiveness II	3 s.h.
06J:048 Introduction to Management	3 s.h.
06J:130 Individuals, Teams, and Organizations	3 s.h.
169:061 Recreation Leadership and Programming	3 s.h.
410:067 Team Building Challenge Course	1 s.h.

### **Communication**

At least 3 s.h. from these:

06B:100 Business Communication and Protocol	3 s.h.
033:115 What is Storytelling For?	3 s.h.
036:001 Core Concepts in Communication Studies	3 s.h.
036:012 Interpersonal Communication	3 s.h.
036:017 Theory and Practice of Argument	4 s.h.
036:018 Leadership and Organizational Procedures	2 s.h.
036:030 The Art of Persuading Others	3 s.h.
036:070 Communication Theory in Everyday Life	3 s.h.
036:091 Organizational Communication	3 s.h.
06J:156 Dynamics of Negotiations	3 s.h.

### **Cultural Competence**

At least 3 s.h. from these:

07B:150-07B:151 Leadership and Public Service I-II (both courses are required)	5 s.h.
208:120 Foundations of Critical Cultural Competence	3 s.h.
One elective approved for the Certificate in Critical Cultural Competence	3 s.h.

The elective must be chosen from the list Elective Courses for Selected Categories: Certificate in Critical Cultural Competence.

### **Ethics and Integrity**

At least 3 s.h. from these:

019:140 Media Law and Communication	3 s.h.
019:168 Journalism Ethics	3 s.h.
024:161 Art, Law, and Ethics	3 s.h.



026:001 Matters of Life and Death	3 s.h.
026:034 Philosophy and the Just Society	3 s.h.
026:036 Principles of Reasoning: Argument and Debate	3 s.h.
026:102 Introduction to Ethics	3 s.h.
026:132 Introduction to Political Philosophy	3 s.h.
026:135 Philosophy of Law	3 s.h.
06J:132 Law and Ethics in Management	3 s.h.
07C:195 Ethics in Human Relations and Counseling	3 s.h.
101:120 Professional Issues and Ethics	1 s.h.
174:223 Seminar in Health Care Ethics	2-3 s.h.

## EXPERIENTIAL LEARNING

Certificate students must earn 3 s.h. in a course focused on experiential, or hands-on, learning. They may select a service learning course or an experiential learning course to satisfy this requirement; an experiential learning course may take different forms, commonly an internship or an on-campus leadership practicum.

Before they may enroll in the hands-on course, students must have completed at least 9 s.h. of work toward the certificate, including the core course 421:072 Perspectives on Leadership: Principles and Practices, so that they have a solid foundation of knowledge to apply to the experience.

### Service Learning Course

Service learning courses incorporate community engagement with academic course work. They allow students to gain hands-on experience along with a deeper understanding of course content while responding to real community needs. Students may satisfy the certificate's 3 s.h. experiential learning requirement by completing one or more service learning courses approved by their leadership certificate advisor.

### Internship

Internships consist of preapproved, supervised on-the-job learning; they may be paid or unpaid.

Students register for 421:073 Leadership Certificate Internship in order to receive certificate credit for the internship; they must complete all course assignments and must earn 3 s.h. in order to fulfill the experiential learning requirement.

To meet the certificate's experiential learning requirement, an internship must consist of professional experience that relates to the student's major field of study or career interest area and allows the student to build on the academic course work he or she has completed in the certificate program. At least 80 percent of the student's internship duties must be professional-level work, and the student must receive continuous supervision by a professional (not a student) in the internship field. The internship must last an entire fall or spring semester (minimum of 10 weeks) or summer session (minimum of eight weeks) and must require at least 10 hours of work per week.

Internships that fulfill the certificate's experiential learning requirement must be approved in advance by one of the certificate program's internship advisors, and the internship site supervisor must agree to the terms of the internship and must complete the required form before the internship may be approved. Students may work with staff at the Pomerantz Career Center to find an approved internship opportunity, or they may develop their own internship.

For more information about internships, see Internships/Students on the Pomerantz Career Center web site.

### On-Campus Leadership Practicum

Students who wish to fulfill the experiential learning requirement with an on-campus leadership practicum must engage in a formal, approved experience that is meaningful, educational, and cocurricular. It must require the student to take initiative and pursue active leadership roles and responsibilities. Examples include positions as student organization leaders, student government leaders, University Housing resident assistants, student orientation advisors, peer educators, and fraternity and sorority leaders. Practicums may be paid or unpaid.

Students register for 413:125 Leadership Certificate Practicum Class in order to receive certificate credit for the practicum; they must earn 3 s.h. in order to fulfill the experiential learning requirement. Students meet weekly in the practicum course to discuss topics related to the academic course work as applied in practice, and they must successfully complete a goal-setting assignment and a reflection assignment.

To meet the certificate's experiential learning requirement, a practicum must last at least 10 weeks during the semester in which 413:125 is offered and must require 10 hours of work per week (413:125 is not offered every semester).

Practicums that fulfill the certificate's experiential learning requirement must be approved in advance by the leadership practicum instructor in the University's Office of Student Life. Students must submit a list of goals and assignments and/or duties they will complete during the practicum, to demonstrate that the practicum will provide substantive work assignments and opportunities to build on the academic course work they have completed in the certificate program.

Each student also must identify a practicum supervisor and demonstrate that the supervisor will be willing to guide and evaluate the student's work and development of leadership skills, and will participate in reviewing the student's goal-setting assignment and in the final review of the student's reflection assignment.

#### **PERSONAL AND PROGRAM EVALUATION**

In order to be awarded the Certificate in Leadership Studies, students must complete a final report detailing how they completed the certificate requirements. The report should include:

- a list of all courses taken for the certificate, indicating the requirement each course met, when each course was taken, and what grade the student earned for each course;

- a copy of the goal-setting and reflection exercises the student completed for the course focused on experiential learning;

- a document reflecting on additional progress toward these goals over the student's entire time at The University of Iowa; and

- a document reflecting on the most and least useful elements of the Certificate in Leadership Studies experience.

#### **ADMISSION TO THE CERTIFICATE PROGRAM** Admission to the certificate program

For additional information about the Leadership Studies Program and admission requirements, see Certificate in Leadership Studies on the Pomerantz Career Center web site.

### **Other Programs**

#### **CAREER LEADERSHIP ACADEMY**

The Career Leadership Academy is a four-semester sequence of courses designed to help undergraduate students develop vital skills for leadership and employment: communication, interpersonal, and presentation skills and the ability to work well with others. The program consists of weekly seminars, activities, and events. Participants also have access to exclusive programs such as career exploration opportunities, networking events, and leadership development experiences. Students earn 5 s.h. for the four-course sequence.

421:106 Career Leadership Academy - Phase 1	2 s.h.
421:107 Career Leadership Academy - Phase 2	1 s.h.
421:108 Career Leadership Academy - Phase 3	1 s.h.
421:109 Career Leadership Academy - Phase 4	1 s.h.

For more information, see Career Leadership Academy on the Pomerantz Career Center web site.

#### **GLOBAL LEADERSHIP INITIATIVE**

The Leadership Studies Program offers 421:071 Global Leadership Initiative (1 s.h.), an online course designed to help those engaged in international experiences develop their leadership knowledge, awareness, and skills. Individuals involved in study abroad, international internships, international exchange programs, or employment opportunities that involve international cooperation may enroll in the course concurrently with their international experiences. The course includes online discussion with other students, guided reflection, access to guest speakers who are successful in their leadership roles, pre- and postexperience assessment, and direction for continued development of global leadership competence after the course concludes.

## **Leadership Studies Courses**

<b>421:071 Global Leadership Initiative</b>	<b>1 s.h.</b>
---	---------------

Development of knowledge, attitudes, and skills to be effective global leaders regardless of the industry or field; working effectively in a global environment with empathy; ability to deal with ambiguity and unfamiliarity; critical thinking and comparative skills, including the ability to think creatively and integrate knowledge; pre- and post-travel assessment, guided reflection, guest speakers, online discussion; intercultural communication; online course for students engaged in a study abroad experience or international internship. Requirements: concurrent enrollment in a study abroad or international internship experience, or completing an international component of current employment.

**421:072 Perspectives on Leadership: Principles and Practices** 3 s.h.

Broad foundation of leadership knowledge representing diverse approaches to studying and practicing leadership; core course for students pursuing the leadership certificate. Requirements: sophomore standing.

**421:073 Leadership Certificate Internship** 0-3 s.h.

Registration of practical work experience (internship) with leadership components, for students pursuing the leadership certificate. Prerequisites: 421:072. Requirements: an additional 6 s.h. of approved leadership course work.

**421:106 Career Leadership Academy - Phase 1** 2 s.h.

Leadership history and concepts, goal setting, the Relational Leadership Model, personal values and ethics, meaningful involvement and engagement, time and stress management, career development information, and varied self-awareness assessments and interest inventories. First in a four-semester sequence.

**421:107 Career Leadership Academy - Phase 2** 1 s.h.

Group dynamics and teambuilding, understanding others, effective communication and listening, delivering presentations, problem solving, and dealing with difficult people; participation in a low ropes teambuilding workshop. Second in a four-semester sequence. Prerequisites: 421:106.

**421:108 Career Leadership Academy - Phase 3** 2 s.h.

Collaboration, conflict resolution, delegation and empowerment, interviewing, networking, understanding power, service project management, and motivation. Third in a four-semester sequence. Prerequisites: 421:106 and 421:107.

**421:109 Career Leadership Academy - Phase 4** 1 s.h.

Professionalism and office communication, marketing one's skills, transitioning from college to the workforce, negotiating salaries, understanding benefits, realistic expectations of an entry-level position, and building a career. Last in a four-semester sequence. Prerequisites: 421:106, 421:107, and 421:108.

# Lifetime Leisure Skills

**Director:** Robert DuBay  
**Web site:** <http://www.recserv.uiowa.edu/>

Lifetime Leisure Skills courses are open to University of Iowa undergraduate and graduate students. Undergraduates in the College of Liberal Arts and Sciences may count credit earned in Lifetime Leisure Skills toward the 120 s.h. required for a bachelor's degree. Students should consult with their academic advisors.

## Lifetime Leisure Skills Courses

<b>410:001 Independent Study</b>	arr.
Individual study in an area of interest to students; course work determined by faculty supervisor.	
<b>410:041 Scuba</b>	1 s.h.
Basics of scuba diving. Taught in Field House pool. Seven weeks.	
<b>410:042 Introduction to Rock Climbing</b>	1 s.h.
Basics of rock climbing. Taught at Pictured Rocks County Park. Two days.	
<b>410:043 Bicycle Touring</b>	1 s.h.
Basics of bicycle touring. Taught on Johnson County area roads.	
<b>410:044 Mountain Bicycling</b>	1 s.h.
Basics of mountain bicycling. Taught on Sugar Bottom recreation trail system.	
<b>410:045 Leadership in the Outdoors</b>	3 s.h.
Leadership theories, group dynamics, permits, outdoor leadership skills; experience as leader for a day during a weeklong wilderness field trip.	
<b>410:046 Tae Kwon Do</b>	1 s.h.
Basics of Tae Kwon Do. Eight weeks.	
<b>410:047 Kick Boxing</b>	1 s.h.
Basics of kick boxing. Eight weeks.	
<b>410:048 Canoeing</b>	1 s.h.
Basics of canoeing. Taught at Macbride Nature Recreation Area. Two days.	
<b>410:049 White-Water Kayaking</b>	1 s.h.
Basics of white-water kayaking. Taught in Field House pool, rivers in Wisconsin, Missouri.	
<b>410:050 White-Water Canoeing</b>	1 s.h.
Basics of white-water canoeing. Taught on rivers in Wisconsin, Missouri.	
<b>410:051 Marathon Training and Racing</b>	1 s.h.
Multiweek training program culminating in the Midwest; for students who run 30-40 miles per week.	
<b>410:052 Intermediate Cross-Country Skiing</b>	1 s.h.
Skate skiing in northern Wisconsin. Prerequisites: 410:075.	
<b>410:053 River Canoeing</b>	1 s.h.
<b>410:054 Dog Sledding</b>	1 s.h.
Basics of dog sledding and winter camping.	
<b>410:055 Intermediate Rock Climbing</b>	1 s.h.
Belaying, anchor placement. Prerequisites: 410:042.	
<b>410:056 Hiking</b>	1 s.h.

Basics of hiking. Taught at Governor Dodge or Devil's Lake State Parks in Wisconsin.

<b>410:057 Backcountry Skiing and Snowshoeing</b>	1 s.h.
Basics of backcountry winter travel and camping.	
<b>410:058 Basic Self-Defense</b>	1 s.h.
Basics of self-defense.	
<b>410:059 Intermediate Tae Kwon Do</b>	1 s.h.
Development of knowledge and skills learned in beginning Tae Kwon Do. Prerequisites: 410:046.	
<b>410:060 Ballroom Dancing</b>	1 s.h.
Basics of ballroom dancing.	
<b>410:062 Trail Running</b>	1 s.h.
Training, clothing, equipment, nutrition.	
<b>410:063 Introduction to Nature Photography</b>	1 s.h.
Basics of outdoor photography; no darkroom requirement. Taught at Macbride Nature Recreation Area.	
<b>410:064 Basic Orienteering</b>	1 s.h.
Basics of orienteering, including map and compass skills. Taught at Macbride Nature Recreation Area.	
<b>410:065 Low-Impact Camping</b>	1 s.h.
Basics of low-impact camping; one overnight camping experience. Taught at Macbride Nature Recreation Area.	
<b>410:066 Exploring the Natural Wonders of Iowa</b>	1 s.h.
History of the Loess Hills area of western Iowa or Yellow River Forest of northeastern Iowa; includes a weekend of hiking and camping.	
<b>410:067 Team Building Challenge Course</b>	1 s.h.
How to work in a group setting and be responsible group members.	
<b>410:068 Wilderness Appreciation</b>	1 s.h.
Basics of wilderness appreciation; one overnight camping experience. Taught at Macbride Nature Recreation Area.	
<b>410:069 Basic Snowshoeing</b>	1 s.h.
Basics of snowshoeing. Taught on trails in Wisconsin.	
<b>410:070 Intermediate Bicycle Touring</b>	1 s.h.
Bicycling on roads and trails in Wisconsin; focus on bike touring skills. Prerequisites: 410:043.	
<b>410:071 Advanced Open Water Scuba</b>	1 s.h.
Participation in five scuba diving specialty activities. Prerequisites: 410:041. Requirements: certification as open water scuba diver.	
<b>410:072 Basic Sea Kayaking</b>	1 s.h.
Basics of sea kayaking using solo and tandem boats. Taught at Lake Macbride.	
<b>410:073 Winter Camping</b>	1 s.h.
Basics of winter camping; snow shelters, hydration, meal preparation, clothing needs, snowshoe/ski travel with sleds.	
<b>410:074 Intermediate Mountain Bicycling</b>	1 s.h.
Mountain bicycling knowledge and skill developed on intermediate-level trails; on-trail maintenance. Prerequisites: 410:044.	
<b>410:075 Basic Cross-Country Skiing</b>	1 s.h.
Basics of cross-country skiing in northern Wisconsin.	
<b>410:076 Mountain Bicycling in Moab</b>	1 s.h.

Advanced mountain bicycling techniques. Taught near Moab, Utah. Prerequisites: 410:044.

- 410:077 Backpacking** 1 s.h.  
Remote backcountry experience in the Grand Canyon region; minimum-impact camping; may be strenuous.
- 410:078 Ballroom Dancing II--Nightclub Series** 1 s.h.  
Salsa, the Hustle, Nightclub Two-Step, Argentine tango, Lindy Hop.
- 410:079 Ballroom Dancing III--Rhythm and Smooth** 1 s.h.  
Bolero, mambo, samba, waltz, Viennese waltz.
- 410:080 Challenge Course Facilitation** 1 s.h.  
How to lead groups through a low- and high-elements challenge course; sequencing of events, processing and debriefing techniques, front-loading games and initiatives, introducing games and initiatives; risk management issues in conducting challenge course activities; history of challenge courses.
- 410:081 Hut-to-Hut Skiing** 1 s.h.  
Cross-country skiing in Colorado's 10th Mountain Hut System.
- 410:082 Introduction to Bouldering** 1 s.h.  
Basic skills and technique for bouldering with a partner. Taught at Horse Pens 40 in Alabama, and Rocktown in Georgia.
- 410:083 Tandem Biking** 1 s.h.  
How to ride a tandem bicycle with a partner; traffic principles for bike operation, safety for road operations, safe and comfortable tandem bike operations; equipment and accessories for tandem bikes.
- 410:084 Late Night Outdoor Recreation** 1 s.h.  
Nighttime outdoor activities such as moonlight kayaking and canoeing, night hiking, orienteering, bouldering.
- 410:085 Bicycle Racing Techniques** 1 s.h.  
Basic skills and techniques of bicycle racing.
- 410:086 Stretch Strength Relaxation (RelaXercise)** 1 s.h.  
Thorough exercise; strength, flexibility, full-body breathing techniques, relaxation methods for stress reduction and body-mind integration.
- 410:087 Modern Dance for Fitness** 1 s.h.  
Basic working knowledge of modern dance; introduction to modern dance styles, skills, physical art, and discipline; focus on movement, dance techniques and skill, performance, creative experience.
- 410:088 Salsa Dancing** 1 s.h.  
Fundamentals of Latin/Salsa dancing; musical rhythms, cultural history, postures, technique, basic movements; techniques for developing strength, stamina, balance, poise, and partner dancing skills; gender interaction and traditional social behaviors in salsa's cultural context.
- 410:089 Service Learning** 1 s.h.  
Service learning project in an urban or wilderness setting; learn about local community, environment; projects depend on location, season.
- 410:090 Rock Climbing Anchor Systems** 2 s.h.  
Development of basic skills for climbing anchors; understanding setting top-rope anchors; topics include the use of bolts, trees, and passive and mechanical chocks for anchor setting; equalization of anchors; basic knots for rope, webbing, and cordelettes; basic understanding of the structural integrity and frictional forces important to anchor setting.
- 410:091 Lifeguarding** 1 s.h.

American Red Cross lifeguard training through classroom learning, hands-on practice; surveillance skills for preventing and recognizing injuries; land and water rescue skills; first-aid training, professional rescuer CPR; professional lifeguard responsibilities (e.g., interacting with the public, addressing uncooperative persons); certification in lifeguarding, first aid, professional rescuer CPR, AED.

**410:092 Bicycling Southern States**

1 s.h.

Ride routes and trails between Memphis, TN and Vicksburg, MS; see everything from Graceland to cotton fields by bicycle; vehicle supported adventure, camp while exploring the Southern states.

**410:093 Intermediate Sea Kayaking**

1 s.h.

Experience paddling in the beautiful blue waters of Lake Powell, exploring remote hidden side canyons, enjoying the stunning landscape, camping on secluded beaches under the star filled sky; learn skills needed to be a safe and efficient sea kayak adventurer, including transportation of boats, entering and exiting the kayak in different conditions, paddle strokes, and rescue techniques; learn what equipment to bring on a sea kayak adventure and how to effectively pack boats while traveling and camping around Lake Powell.

**410:094 Land Navigation**

1 s.h.

Travel to the Southwest and learn navigation skills with map and compass; topics include declination, bearings, map reading and recognizing land features on topographical map; camping and backpacking to multiple campsites.

**410:095 Movement Analysis and Relaxation Techniques for Fitness**

1 s.h.

Intensive workshop about connections: body to mind, breathing to efficient strengthening and stretching, stability to mobility, exertion to recuperation, function to expression; objectively observe, record, analyze, and understand student's own movement and that of classmates to bring positive change to movement habits and behavior which block energy and create unneeded stress, inhibit full movement ability and not allow for optimal, desired performance; mindful, efficient, articulate movement.

**410:096 Brazilian Jiu-Jitsu**

1 s.h.

Introduction to the sport of Brazilian Jiu Jitsu; basic self defense, positional grappling, submissions, submission defense. Recommendations: martial arts experience not required.

**410:097 Introduction to Lead Climbing**

1 s.h.

Lead climb using the 52.5 foot tall climbing wall at CRWC; lead fall, lead belay, and clip bolts while climbing; eligible to lead climb at UI Climbing Wall after completion of course. Prerequisites: 410:042.

**410:098 Vinyasa Flow Yoga: The Art and Practice**

1 s.h.

The Vinyasa Flow Series of postures emphasizing mindfulness, breath awareness, and attention to alignment; correct performance of asanas with pranayama (the power of breath), generating a rhythm that keeps the natural heat of the body building while developing strength, balance, and stamina; origins of Yoga, the 10 body systems, and how to develop a personal practice; modification of asanas for any level.

**410:099 Golf**

1 s.h.

Basic principles and fundamentals of the golf swing (i.e., full swing, pitching, chipping, putting); opportunity to practice skills at various facilities; history, basic rules, proper golf etiquette, and the evolution of golf related to technology.

## Military Science (Army ROTC)

**Head:** LTC David Deyak

**Professor:** LTC David Deyak

**Assistant professors:** MAJ Mike Belin, LTC Dave Lewis, MAJ Gregory Murphy, CPT Benjamin Owen, LTC Tony Wolf

**Web site:** <http://armyrotc.com/edu/univia/index.htm>

The Military Science Program administers Iowa Army ROTC. It gives students who wish to serve on active or reserve status in the U.S. Army the opportunity to earn commissions as army officers. It also administers merit scholarships from the United States government to qualified students.

Although the Military Science Program does not offer degrees, its courses provide education in the military's role and instruction in leadership and management. The program's courses are an essential part of the Iowa ROTC program, which competes annually in national leadership assessments.

Military Science courses are open to all students. Course credit that counts toward graduation varies by college. Students in the College of Liberal Arts and Sciences may count up to 20 s.h. toward graduation.

## Programs

### Basic Course

The ROTC basic course is designed primarily for first- and second-year students. It provides the fundamentals of leadership and management and introduces the roles of the military as influenced by national and foreign policy. Students incur no obligation to the military for participation in the basic course.

The following courses satisfy the basic course requirement. Some of these courses are prerequisites to others, so students must be careful to take courses in the correct order. Courses 023:101 Leadership and Personal Development MSL101 and 023:102 Introduction to Tactical Leadership MSL102 are prerequisite to 023:103 Innovative Team Leadership MSL201; courses 023:101 Leadership and Personal Development MSL101, 023:102 Introduction to Tactical Leadership MSL102, and 023:103 Innovative Team Leadership MSL201 are prerequisite to 023:104 Foundations of Tactical Leadership MSL202.

023:101 Leadership and Personal Development MSL101	1 s.h.
023:102 Introduction to Tactical Leadership MSL102	1 s.h.
023:103 Innovative Team Leadership MSL201	2 s.h.
023:104 Foundations of Tactical Leadership MSL202	2 s.h.

The basic course requirements may be taken over a one- or two-year period or during a four-week paid summer camp, the Leader's Training Course (LTC), at Fort Knox, Kentucky. Students with prior military training normally are exempt from the basic course requirements.

### Advanced Course

The ROTC advanced course is open to any student who meets the prerequisites, but is designed primarily for cadets who wish to pursue a commission as a lieutenant in the U.S. Army upon graduation. It is open to both undergraduate and graduate students. Most cadets in the advanced course incur an obligation to the military that can be satisfied in the Active Army, Army Reserve, or Army National Guard.

To enter the advanced course, students must satisfy the basic course requirements, earn at least 54 s.h., and have a cumulative g.p.a. of at least 2.00. In order to become U.S. Army officers, cadets must complete the Leadership Development and Assessment course (LDAC), a five-week session held at Fort Lewis, Washington. Cadets normally attend LDAC during the summer between their third and fourth years. With the military science professor's permission, cadets may delay LDAC until the summer after their final ROTC class.

A tax-free monthly stipend is provided to cadets who enter a contractual agreement with ROTC to serve in the armed forces. Additional financial assistance may be provided through scholarships.

The following courses are the academic requirements for completion of the advanced course. Some of these courses have prerequisites and corequisites, so students must be careful to take courses in the correct order. Prerequisites and corequisites for each course are listed with course descriptions; see "Courses" at the end of this section.

023:090 Leadership Laboratory	0 s.h.
023:095 Advanced Military Fitness Training	1 s.h.
023:105 Adaptive Tactical Leadership MSL301	3 s.h.
023:106 Leadership in Changing Environments MSL302	3 s.h.
023:107 Developing Adaptive Leaders MSL401	3 s.h.



023:108 Leadership in a Complex World MSL402

3 s.h.

### Additional Course Work

Cadets whose aim is a commission must satisfy a Professional Military Education (PME) requirement. They must complete at least one course in military history from the following list. This course may be the same as one used to complete the College of Liberal Arts and Sciences General Education Program. Cadets may use other courses to meet the requirement, with the military science professor's approval.

016:011 Issues in Human History: The Vietnam War in Historical Perspective	3 s.h.
016:014 Issues in Human History: Europe's Expansion Overseas	3 s.h.
16A:153 U.S.A. in a World at War 1931-1945	3 s.h.
16A:162 American Revolutionary Period 1740-1789	3 s.h.
16A:166 The Progressive Era in America	3 s.h.
16A:168 The Contemporary U.S. 1940-Present	3 s.h.

### Financial Aid

Military Science offers two-, three-, and four-year ROTC scholarships for students who enter the ROTC program. These scholarships pay tuition at The University of Iowa, an allotment for books and supplies each semester, most mandatory educational fees, and a tax-free monthly stipend during the academic year. Scholarships also are available for nursing students who wish to become Army nurses.

### Military Science Courses

#### 023:090 Leadership Laboratory 0 s.h.

Hands-on training in basic soldier skills, such as customs and courtesies, drill and ceremony, first aid, weapons employment, troop movement techniques; leadership training for U.S. army officership. Offered fall and spring semesters.

#### 023:095 Advanced Military Fitness Training 1 s.h.

Aerobics and running, muscular strength and endurance, flexibility, and nutrition through exercise and classroom instruction; how to evaluate and measure fitness improvement; developed around Army physical fitness training program. Offered fall and spring semesters.

#### 023:101 Leadership and Personal Development MSL101 1 s.h.

Introduction to the personal challenges and competencies critical for effective leadership; how skills such as critical thinking, goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the army as a profession; dimensions of army leadership; understanding of the ROTC program, its purpose in the army, its advantages for students. Offered fall semesters.

#### 023:102 Introduction to Tactical Leadership MSL102 1 s.h.

Leadership fundamentals such as setting direction, problem solving, listening, presenting briefs, providing feedback, using effective writing skills; leadership values, attributes, skills, and actions explored through hands-on, interactive exercises; cadre role models, development of strong relationships among students through common experience, practical interaction. Offered spring semesters.

#### 023:103 Innovative Team Leadership MSL201 2 s.h.

Dimensions of creative, innovative tactical leadership strategies and styles explored through team dynamics and historical leadership theories (trait and behavior) central to the Army leadership framework; personal motivation and team building through planning, executing, and assessing team exercises and participating in leadership labs; continued development of leadership values and attributes through understanding army rank, structure, duties, basic aspects of land navigation and squad tactics; case studies on soldier's creed and warrior ethos in the contemporary operating environment. Offered fall semesters. Prerequisites: 023:101 and 023:102.

#### 023:104 Foundations of Tactical Leadership MSL202 2 s.h.

Challenges of leading tactical teams in the complex contemporary operating environment; dimensions of terrain analysis, patrolling, operation orders; theoretical basis of the army leadership framework, dynamics of adaptive leadership in the context of military operations; self-assessment of cadet leadership styles, practice in communication and team building skills; case studies on importance and practice of teamwork and tactics in real-world scenarios. Offered spring semesters. Prerequisites: 023:101, 023:102, and 023:103.

**023:105 Adaptive Tactical Leadership MSL301**

3 s.h.

Study, practice, and evaluation of adaptive leadership skills in challenging scenarios related to squad tactical operations; feedback on cadets' leadership attributes and actions, continued development of leadership and critical thinking abilities; development of tactical leadership abilities in preparation for Leadership Development and Assessment Course (LDAC). Offered fall semesters. Corequisites: 023:090 and 023:095. Requirements: 023:101, 023:102, 023:103, and 023:104; or completion of army basic training or Leader's Training Course.

**023:106 Leadership in Changing Environments MSL302**

3 s.h.

Development of cadet awareness and tactical leadership to platoon level, through increasingly intense situational leadership challenges; experience reviewing combat, stability, and support operations, conducting military briefings, developing proficiency in garrison operation orders; focus on exploring, evaluating, and developing skills in decision making, persuasion, and motivation of team members in a contemporary operating environment; preparation for summer Leader Development Assessment Course. Offered spring semesters. Prerequisites: 023:105. Corequisites: 023:090 and 023:095. Requirements: 023:101, 023:102, 023:103, and 023:104; or completion of army basic training or Leader's Training Course.

**023:107 Developing Adaptive Leaders MSL401**

3 s.h.

Development of proficiency in planning, executing, and assessing complex operations, functioning as member of a staff, providing performance feedback to subordinates; experience assessing risk, making ethical decisions, leading fellow cadets; military justice and personnel processes in preparation for officership; identification of key staff responsibilities, coordination of staff roles, use of situational opportunities to teach, train, and develop subordinates. Offered fall semesters. Prerequisites: 023:105 and 023:106. Corequisites: 023:090 and 023:095.

**023:108 Leadership in a Complex World MSL402**

3 s.h.

Leadership dynamics in complex military operations of the contemporary operating environment; differences in customs and courtesies, military law, principles of war, rules of engagement in the face of international terrorism; interaction with nongovernmental organizations, civilians on the battlefield, host nation support; ethical and practical demands on army commissioned officers; preparation for first unit assignment through case studies, scenarios, exercises. Offered spring semesters. Prerequisites: 023:105, 023:106, and 023:107. Corequisites: 023:090 and 023:095.

**023:121 Readings in Contemporary Military Issues**

1-3 s.h.

Preparation of book reviews from a reading list provided by the instructor, with topics ranging from historical battles and campaigns to global impact of U.S. political policies; or writing of an operations order relating to an ROTC event or similar project of historical significance (work in conjunction with instructor). Requirements: 023:101, 023:102, 023:103, and 023:104; or completion of army basic training or Leader's Training Course.

# Nonprofit Management

**Coordinator:** Dian M. Gottlob

**Undergraduate nondegree program:** Certificate in Nonprofit Management

**Web site:** <http://www.continuetolearn.uiowa.edu/ccp/de/NonprofitCertificate.htm>

Nonprofit organizations play vital roles in our communities and contribute to our quality of life. Nonprofit organizations have unique management, funding, and finance issues that require specialized training. The Certificate in Nonprofit Management is designed to help staff members, board members, and volunteers develop the business and leadership skills necessary for building a successful nonprofit organization. The program provides a balance of academic principles and real-world experience as well as a fundamental understanding of how nonprofit organizations participate in building communities.

Certificate courses cover a wide range of topics and issues, such as community and government partnerships, organizational leadership, planning, human resources, financial accountability, grant writing, and web site creation and maintenance.

Courses are offered primarily on the World Wide Web.

The certificate is available to undergraduate students. Bachelor of Applied Studies and Bachelor of Liberal Studies students may incorporate certificate courses into their degree programs.

The program is presented by the Division of Continuing Education and the Larned A. Waterman Iowa Nonprofit Resource Center, in collaboration with University College.

## Certificate

The Certificate in Nonprofit Management requires 18 s.h. Students must complete the following course work. It is recommended that they take 06J:147 Nonprofit Organizational Effectiveness I, 06J:148 Nonprofit Organizational Effectiveness II, and 06T:120 Entrepreneurship and Innovation before enrolling in the remaining four courses.

06J:147 Nonprofit Organizational Effectiveness I	3 s.h.
06J:148 Nonprofit Organizational Effectiveness II	3 s.h.
06T:120 Entrepreneurship and Innovation	3 s.h.
01P:185/024:170 Grant Writing in the Arts	3 s.h.
07E:181 ePortfolio Production	1-2 s.h.
042:204 Human Services Administration	2 s.h.
036:019 Organizational Leadership	2-3 s.h.
or	
188:109 Introduction to Arts Management	3 s.h.

## Orientation Training

**Interim director:** Jon Sexton

**Web site:** <http://www.uiowa.edu/admissions/undergrad/orientation/>

The University of Iowa holds orientation programs, presented by staff members of Orientation Services (Office of Admissions), for all incoming undergraduates. Parents and guardians are invited to attend separate but concurrent programs.

The Orientation Training Program offers the following courses for student employees who assist the Orientation Services professional staff in presenting orientation programs. Student advisors are required to take 412:077 Orientation Services Student Advisor Training. Parent program assistants are required to take 412:078 Orientation Services Parent Training.

## Orientation Training Courses

### **412:077 Orientation Services Student Advisor Training**

2 s.h.

Preparation for the role of student advisor in the Office of Orientation Services; knowledge of academic requirements, policies, and procedures at The University of Iowa; development of leadership, group facilitation, presentation, and academic advising skills.

### **412:078 Orientation Services Parent Training**

2 s.h.

Preparation for the role of parent program assistant in the Office of Orientation Services; understanding the needs of parents who attend orientation programs; enhancement of communication, problem solving, and conflict management skills; knowledge of resource units on campus.

## Patient Care Practicum

**Director:** Beth F. Ingram (Economics)

The Patient Care Practicum prepares students for work and/or internships at University of Iowa Hospitals and Clinics (UIHC). Students complete required online training modules through the University's course management system. Once the training modules are completed, students are certified to work at UIHC.

## Patient Care Practicum Courses

**414:198 UIHC Compliance Training**

0 s.h.

## Research Experiences for Undergraduates in Microbiology

**Web site:** <http://www.uiowa.edu/microbiology/summer.shtml>

The Department of Microbiology offers 403:030 Undergraduate Research Fellowship Program, a 10-week summer program for qualified undergraduate students who are studying microbiology or other biological sciences and are interested in pursuing careers in science. Participants conduct research on a project they select, under the direct supervision of a faculty member.

Each participant receives a stipend and an allowance for food. The program reimburses participants for travel expenses and provides housing.

Applicants must be U.S. citizens or permanent residents who have completed their sophomore or junior year in a bachelor's degree program in the biological sciences. Applications should include a completed application form and two letters of recommendation. Deadline to apply is mid-February for the following summer.

Visit the program's web site or contact the Department of Microbiology, Carver College of Medicine, for more information.

## Research Experiences for Undergraduates in Microbiology Courses

**403:030 Undergraduate Research Fellowship Program**

0 s.h.

## Secondary Student Training Program

**Director:** William Swain

**Web site:** <http://www.continuetolearn.uiowa.edu/sstp/>

The Secondary Student Training Program (SSTP) provides opportunities for high school students to conduct research in a University of Iowa laboratory under the guidance of a faculty mentor. Students attend faculty seminars, science communication workshops, and many social and recreational activities during the six-week program. During the final week, they present their research results in a formal symposium attended by other SSTP students and the program's faculty and research staff. All SSTP students write a formal abstract summarizing their six weeks of research.

SSTP students live on the University campus during the program.

The University of Iowa's Carver College of Medicine, the Graduate College, and the Colleges of Dentistry, Engineering, Liberal Arts and Sciences, Pharmacy, and Public Health all participate in the Secondary Student Training Program.

Students may enroll in 418:001 Secondary Student Training Program for 0 s.h., or instead, they may choose to take 002:002 Secondary Student Training Program for 3 s.h. and a grade.

## Secondary Student Training Program Courses

### **418:001 Secondary Student Training Program**

0 s.h.

Experience conducting research under the guidance of a faculty member; presentation of research findings at concluding seminar. Six weeks.

## Student Information Technology Skills

**Director:** Mary Grabe (Information Technology Services)

**Web site:** <http://cio.uiowa.edu/events/sits>

Student Information Technology Skills offers courses for students who are interested in on-campus employment providing IT support or creating and maintaining web sites.

Students are graded on participation in online and class discussions and projects. Students must obtain the instructor's consent before registering for these courses.

### Student Information Technology Skills Courses

#### **416:100 Creating Web Sites**

2 s.h.

HTML, CSS fundamentals, use of Dreamweaver software for page and site development, web graphics; examination and critique of UI and non-UI web pages; design standards and practices for meeting federal accessibility guidelines; guidance in understanding how to work effectively with campus web customers.

#### **416:102 Core IT Support Skills**

2 s.h.

Knowledge and hands-on skills necessary for supporting computers in an institutional setting; basic hardware, operating systems, application, and networking support topics.



## Student Services

**Director:** William Nelson  
**Web site:** <http://www.imu.uiowa.edu/osl>

Student Services focuses on leadership development opportunities for University of Iowa students, offering four courses through the Office of Student Life. Three focus on leadership: 413:050 Introduction to Leadership, 413:100 President's Leadership Class (PLC), and 413:125 Leadership Certificate Practicum Class. The fourth, 413:075 Advanced Introduction to Fraternity and Sorority Life, examines the experience of belonging to these organizations and looks at how their cocurricular activities and programs enhance students' college experiences.

## Student Services Courses

### **413:050 Introduction to Leadership** 3 s.h.

Overview of leadership theory and skills for effective leadership; historical perspective, development of a personal philosophy of leadership, self-assessments, leadership models; study of groups, culture, and communities, and apply what learned in experiential learning settings; geared toward emerging student leaders. Requirements: first- or second-year standing, or transfer student.

### **413:075 Advanced Introduction to Fraternity and Sorority Life** 3 s.h.

Current issues facing leaders (alcohol and hazing education, conflict management, lasting impact of organizations on members); lifetime membership and values-based decision making; for leaders of fraternity and sorority community.

### **413:100 President's Leadership Class (PLC)** 3 s.h.

Meetings on current UI issues and the UI Presidents' philosophy on leadership; leaders from inside and outside the University, including Board of Regents, political leaders, influential alumni, student leaders, professors, coaches, other administrators; activities linked to the development of personal leadership style. Requirements: first-year standing and application.

### **413:125 Leadership Certificate Practicum Class** 3 s.h.

Meaningful and educational cocurricular experiences in on-campus leadership positions (i.e., student organization leader, student government leader, residence assistant, student orientation advisor, peer educator, fraternity/sorority leader); active leadership roles and responsibilities (i.e., executive leadership position, initiating and organizing a major event); application of leadership models and theories to practical experiences; for students completing the leadership certificate. Requirements: leadership certificate program enrollment, completion of introductory course requirements (general leadership pillar), and completion of 9 s.h. in certificate program.

# Study Abroad

**Director:** Janis Perkins

**Web site:** <http://international.uiowa.edu/study-abroad/>

The University of Iowa sponsors or cosponsors a wide variety of study abroad programs in more than 40 countries. Students may choose from summer, semester, academic year, and winter session programs that complement and extend the University's academic programs across the curriculum.

Students also may participate in study abroad programs sponsored by other accredited U.S. and foreign institutions. They should obtain advance approval of all transfer credit by completing a Study Abroad Credit Approval Form.

Information on University of Iowa and other study abroad programs is available at the Office for Study Abroad.

## Study Abroad Courses

### **165:105 International Student Exchange Program**

arr.

Study on reciprocal exchange at foreign universities worldwide; some instruction in English. Year-long, one semester, and summer options. Requirements: 40 s.h. of credit, g.p.a. of at least 3.00, and in some cases, command of a foreign language.

### **165:106 UK Exchange Program**

arr.

Regular degree course work at the Universities of Birmingham, Hull, and Lancaster (England) and the University of Strathclyde (Scotland); humanities, social sciences, physical sciences, business, engineering. Requirements: 40 s.h. of credit and g.p.a. of at least 3.00.

### **165:108 Japan Exchange Program**

arr.

Seven levels of Japanese language and area studies at Nanzan University's Center for Japanese Studies, Nagoya; language and culture classes at Kanda University of International Studies, Tokyo; language study or degree course work at Meiji University, Tokyo; language and area studies at Nagoya University of Foreign Studies, year or spring; area studies and international relations, taught in English, at Tokyo Denki University, School of Information Environment, fall. Requirements vary by university.

### **165:112 The Iowa Exchanges**

arr.

Exchange programs offer courses in a wide variety of academic disciplines at several foreign universities. Many exchange partners offer courses taught in English. Universities are located in Canada, China, the Czech Republic, Denmark, France, Germany, Hungary, Iceland, Japan, Korea, Mexico, and the Netherlands.

### **165:117 Frankfurt Exchange Program**

arr.

Regular degree course work in business and economics at Johann Wolfgang Goethe Universität; courses taught in German. Semester or academic year. Arranged through Tippie College of Business. Requirements: two years of college German and relevant academic background.

### **165:119 Vienna Exchange Program**

arr.

Regular degree course work in business administration and economics at Wirtschatsuniversität in Vienna, Austria; taught in English and German. Semester or academic year. Arranged through Tippie College of Business. Requirements: one year of college German, g.p.a. of at least 2.75, and relevant academic background.

### **165:126 International Perspectives: Xicotepec**

arr.

Introduction to providing service to communities in underdeveloped countries through disciplinespecific projects to improve community life in Xicotepec, Mexico; cultural and professional preparation for team work in an international environment; servicelearning course in collaboration with Rotary International. Spring break in Xicotepec, Mexico.

### **165:197 International Development: India**

arr.

Exploration of student interests in social entrepreneurship, global health, microfinance, cultural production, environmental sustainability, or other development issues in India; varied disciplinary perspectives (i.e., public health, business, social work, geography, art); student work with Indian NGOs employing a diverse variety of techniques to address social problems such as child labor, health care for the poor, illiteracy, and disability services; led by UI faculty. Winter session.

<b>165:500 Study Abroad</b>	0 s.h.
Students participating in study abroad programs at other U.S. or foreign universities maintain their status at The University of Iowa by registering for this course.	
<b>165:501 Study Abroad</b>	arr.
<b>165:510 Field Research Abroad</b>	arr.
Research projects abroad.	
<b>165:600 Study Abroad Independent Enrollment</b>	arr.
<b>165:805 Iowa Regents Semester in Wales</b>	arr.
University of Swansea, Wales; three-week interdisciplinary course on British life and culture, followed by regular degree course work in the humanities, social sciences, physical sciences, business, engineering. Fall and spring semesters. Requirements: g.p.a. of at least 2.80.	
<b>165:806 Iowa Regents Semester in Scotland</b>	arr.
Advanced undergraduate study at the University of Edinburgh; humanities, social sciences, science, engineering. Fall and/or spring. Requirements: g.p.a. of at least 3.00.	
<b>165:810 CIEE Spain Program</b>	arr.
Several programs in Alcala, Alicante, Barcelona, Madrid, Palma de Mallorca, and Seville addressing specific language proficiency levels and academic interests. Requirements vary.	
<b>165:811 USAC Studies in Spain</b>	arr.
Intensive Spanish language at beginning through advanced levels; culture and literature at third-year level; Basque language; some courses taught in English; program sites include Alicante, Bilbao, Madrid, San Sebastian. Requirements: g.p.a. of at least 2.50.	
<b>165:812 CIEE France Program</b>	arr.
Contemporary French studies program: language skills for students taking courses on French culture and contemporary civilization; two semesters of French required. Critical studies program: critical approach to contemporary French thought in literature, film, philosophy, art, aesthetics; proficiency in French required. Requirements: g.p.a. of at least 3.00.	
<b>165:813 CIEE China Program</b>	arr.
Four programs in the People's Republic of China, one program in Taiwan. Mandarin Chinese, Chinese civilization, area and ethnic studies, and international relations. Summer, semester, or academic year. Requirements and sessions vary.	
<b>165:814 Iowa in Tianjin</b>	arr.
Chinese language, area studies, and folk art; based at Tianjin University of Technology. Summer or semester. Requirements: one to three years of college-level Chinese.	
<b>165:816 CIC Latin American Health and Nutrition Program</b>	arr.
Interdisciplinary and field-based study with course work in Spanish language, public health, social sciences, humanities; independent research project. Summer and/or fall. Requirements: one year of Spanish (summer), or two years of Spanish (summer and fall), or three years of Spanish (fall); and g.p.a. of at least 2.50.	
<b>165:817 CIC Program in Mexico</b>	arr.
University of Guanajuato; advanced Spanish language, Latin American literature, art, history, anthropology, film, political science; homestays with Mexican families. Summer. Requirements: five semesters of Spanish and g.p.a. of at least 3.00.	
<b>165:818 CIC Program in Quebec</b>	arr.
Laval University; French language, Quebec literature and culture; home-stays with Francophone families or dormitory accommodations. Summer. Requirements: one year of college-level French and g.p.a. of at least 3.00.	

- 165:820 Semester at The Queen's University of Belfast** arr.  
Courses at The Queen's University of Belfast, Northern Ireland; nearly 100 subjects, including social sciences and humanities from Irish and Northern Irish perspectives. Requirements: g.p.a. of at least 3.00.
- 165:828 ACTR Program Russia** arr.  
Russian language programs at institutions in Leningrad, Moscow, or Vladimir; or business language and internship program; or Eurasian language program. Semester, academic year, or summer. Requirements: three years of college-level Russian.
- 165:829 London Performance Study** arr.  
Selected theater productions, lectures, performances, discussions, written exercises, workshops, cultural activities. Credit may be applied toward a University of Iowa major in English or theatre arts. Summer.
- 165:831 Elementary Student Teaching Abroad** arr.  
Supervised student teaching in an overseas school.
- 165:832 Secondary Student Teaching Abroad** arr.  
Supervised student teaching in an overseas school.
- 165:833 Academic Year in Freiburg** arr.  
Combination of special program classes, German for foreigners, and regular degree course work in most liberal arts subjects at Albert-Ludwigs University, Freiburg, Germany. Academic year. Requirements: at least four semesters college German with g.p.a. of at least 3.00.
- 165:836 Semester in South India** arr.  
Indian civilization and culture; science, technology, and sustainable development; women's studies; environment and health, Hindi, Kannada, or Sanskrit; internship or independent research project. Based in Mysore. Fall semester.
- 165:837 Iowa Regents Semester in Australia** arr.  
Regular course work in humanities, social sciences, business, engineering, and physical sciences at the University of Newcastle and the University of Tasmania. Fall and spring semesters. Requirements: sophomore standing and g.p.a. of at least 2.50.
- 165:838 Irish Writing Program** arr.  
Dublin, Ireland; writing workshops directed by Irish writers, literature courses taught by faculty. Summer.
- 165:839 International Student Exchange Program Direct** arr.  
Study at some ISEP member institutions in Brazil, Chile, Costa Rica, Estonia, Ghana, Italy, Malta, The Netherlands, New Zealand, South Africa, Thailand, the United Kingdom; fields and terms vary.
- 165:840 Archaeological Field Work Abroad** arr.  
Major salvage archaeology projects in the Netherlands excavating sites from 1000 B.C. to 1950 C.E. Summer.
- 165:841 International Perspectives: Engineering** arr.  
Exploration of historical, cultural, social, economic, ethical, environmental, and/or political conditions that may affect engineering projects in a specific country or world region; location and topics vary.
- 165:847 Japan Summer Language Institute** arr.  
Development of strong communication skills and cultural awareness through integrated language study and homestay, cultural immersion; Hokkaido, eight weeks. Requirements: one semester college-level Japanese.
- 165:848 University of KwaZulu-Natal Exchange** arr.  
Introduction to South African culture from varied academic perspectives, summer session. Enrollment in regular University courses; fall and spring semesters.
- 165:849 Social Work International Travel/Study Seminar** arr.  
Impact of socio/political economy on family and community systems in the country visited; seminars, guest speakers, field visits. Summer. Prerequisites: 042:143.
- 165:850 USAC Studies in Costa Rica** arr.

Intensive beginning-level Spanish language; advanced language, literature, civilization at third-year level; tropical ecology. Three program sites--Heredia, Puntarenas, San Ramon. Some courses taught in English. Requirements: g.p.a. of at least 2.50 and college biology (depending on site).

**165:851 USAC Studies in Chile**

arr.

Intensive beginning-level Spanish language; advanced language, literature, civilization at third-year level; area studies. Some courses taught in English. Requirements: g.p.a. of at least 2.50.

**165:853 Creativity Workshop**

arr.

Exercises in creative writing, memoir, drawing, collage, and storytelling to help participants learn how to catch moments of inspiration and develop them, combat writer's block, and trust their individual voices. Summer.

**165:854 Undergraduate International Business Abroad**

arr.

Study of the international business environment in one of the world's financial capitals; may count toward undergraduate business major or Certificate in International Business. Winter. Requirements: vary depending on classes being offered and junior standing.

**165:855 Business Internships Abroad**

arr.

Orientation, academic course work, internship; London, Madrid, and Paris. Requirements: g.p.a. of at least 2.75, 45 s.h. earned, at least one semester at The University of Iowa; and Spanish proficiency for Madrid program or French proficiency for Paris program.

**165:856 Regents Hispanic Institute**

arr.

Study of Spanish language and culture in Valladolid, Spain. Six weeks in summer. Requirements: four semesters of college-level Spanish.

**165:858 Summer Geography Program: Oaxaca, Mexico**

arr.

Classroom-based instruction with field-based research opportunities; enrollment in Field Research Seminar and two other courses chosen from Culture, People and the Environment, Regional and Economic Development, and Spanish Communication Skills. Summer.

**165:861 Iowa Summer Program in Brazil**

arr.

Intensive Portuguese language at all levels; supplemented with cultural excursions and activities; program in Salvador, Brazil. Summer.

**165:865 Iowa Regents Summer Program in France**

arr.

Study of French language and culture in Lyon, France. Six weeks in summer. Requirements: four semesters of college-level French and g.p.a. of at least 2.75.

**165:866 Iowa Regents Semester in Ireland**

arr.

Regular course work in all disciplines at University College Cork in Ireland. Fall and spring semesters. Requirements: sophomore standing and g.p.a. of at least 3.00.

**165:867 American College of Thessaloniki Semester**

arr.

Undergraduate studies in varied academic disciplines (business, history, international relations, psychology, fine arts, literature, philosophy, modern Greek language) at the American College of Thessaloniki. Taught in English.

**165:868 CIEE Latin America Programs**

arr.

Choice of several institutions. Argentina: course work in social sciences at the Facultad Latinoamericana de Ciencias Sociales (FLACSO), course work in humanities at the Universidad de Buenos Aires or Universidad Catolica de Argentina. Chile: course work in social sciences at FLACSO Chile, course work in humanities at the Universidad Catolica de Chile, Universidad de Chile, or Universidad de Santiago. Dominican Republic: course work in liberal arts, including Teaching English as a Second Language at the Universidad Madre y Maestra. Mexico: course work in liberal arts at the Universidad de Guanajuato. Peru: course work in business at the Universidad del Pacifico, course work in liberal arts at the Universidad del Pacifico. Requirements: g.p.a. of at least 2.75 and fourth semester of college Spanish.

**165:869 USAC Studies in France**

arr.

Beginning through advanced French language study at the University of Pau; additional courses in French culture, literature, politics, history, and other disciplines. Taught in English and French. No previous study of French required. Requirements: g.p.a. of at least 2.50.

- 165:870 Exploring Health Care in Iceland** arr.  
Exploration of the health care system and practices in Iceland. Two weeks in summer.
- 165:871 Study Abroad in Montpellier** arr.  
Special courses for foreign students or regular courses with French students at University of Montpellier; taught in French. Semester or academic year. Requirements: four semesters of French.
- 165:872 USAC Studies in Italy** arr.  
Intensive beginning-level Italian; intermediate and advanced language; international business, art, architecture and Italian studies options in Turin; intensive language, humanities, and area studies in Viterbo.
- 165:873 USAC Direct Programs** arr.  
Direct enrollment in foreign universities in 15 countries. Semester or academic year.
- 165:874 Victorian Literary London** arr.  
How Victorian poets, novelists, and artists used London in their works; exploration of London's complex geography, art galleries and exhibitions, homes of 19th-century writers and artists. Requirements: demonstrated interest in the subject and good academic standing.
- 165:875 Overseas Writers Workshop** arr.  
Opportunity for students to meet with and have their creative nonfiction read and critiqued by prominent host country writers; location, dates, and duration vary.
- 165:876 Nagoya University of Foreign Studies Exchange** arr.  
Language instruction at all levels and Japanese studies taught in English at Nagoya University of Foreign Studies. Semester or year.
- 165:877 USAC Studies in Mexico** arr.  
Universidad Iberoamericana in Puebla: intensive beginning and intermediate Spanish language; advanced language and literature; Mexican studies and Spanish for health care professionals. Summer or semester. Requirements: g.p.a. of at least 2.50.
- 165:879 Health Promotion in Great Britain** arr.  
Health care as offered by Great Britain's National Health Service and private providers, compared to health care delivery systems in the United States. Offered every other year during spring break.
- 165:880 Spanish Language and Service Learning in Peru** arr.  
Spanish language and Peruvian civilization course work (6 s.h.) and 100 hours of community service learning in Cusco, Peru. Two months in summer. Requirements: two years of college-level Spanish.
- 165:881 CIEE Monteverde Tropical Ecology and Conservation** arr.  
Rain forest conservation in Monteverde, Costa Rica; intensive tropical fieldwork and science course work, excursions, independent project; homestays with local families. Courses taught in English. Requirements: environmental science or biology major.
- 165:882 Community-Based Health Care in St. Lucia** arr.  
Interdisciplinary program offered in collaboration with the St. Lucian Ministry of Health; health care issues and practice in St. Lucia.
- 165:883 Russian Politics and Foreign Affairs** arr.  
Courses in Moscow (Russian politics and institutions, Russian foreign policy) taught in English by Russian professors; additional basic Russian language course (1 s.h.). Summer.
- 165:885 USAC Studies in the Czech Republic** arr.  
Introductory Czech language and culture courses taught in English at Charles University. Summer, semester, or academic year.
- 165:887 Opera in Milano** arr.

Intensive study of a Mozart/da Ponte opera in Milan, Italy; scene work, recitativi, musical style; opportunity to stage characters in a contemporary interpretation of Mozart, tutor in Italian, and attend rehearsals; museum tour and performances at Teatro alla Scala; participants chosen by audition. Requirements: vocal performance major.

**165:888 Virtual International Project Team (VIPT) Abroad**

arr.

Experience for undergraduate engineering students working on a real-world engineering project with engineering students at Marseille Polytech in Marseille, France; communication by Internet, email, video conference, shared Web sites, and so forth; French students to travel to Iowa in February, Iowa students travel to France in May (includes visits to industries such as Airbus, Eurocopter, and John Deere European headquarters); team-based project experience; understanding engineering standards, practices, and cultures in other countries; teamwork skills related to international work; issues and skills relevant to electronic communication.

**165:890 Philippines Summer Program**

arr.

Two-week seminar on Filipino culture, course on Sports and Globalization or a Global Nursing and Health Practicum; hosted by the University of San Carlos, Cebu. Requirements: good academic standing, demonstrated interest in sports studies or in any health field; completion of first nursing practicum for nursing students.

**165:893 CIMBA Italy Program**

arr.

Course work in business and related disciplines in the Veneto region of Italy, taught in English. Four weeks in summer or 13-week semesters.

**165:894 Brazilian Carnival: Music and Dance**

3 s.h.

**165:895 Iowa Regents Arabic Program in Morocco**

arr.

Moroccan colloquial Arabic, modern standard Arabic, and Moroccan culture; development of communication skills and cultural awareness through language study, homestays, cultural immersion. Based in Fez, Morocco. Seven weeks in summer. Requirements: completion of General Education Program foreign language requirement and 3.00 minimum g.p.a.

**165:896 Literature and Culture of the Middle Ages: Study Abroad in England**

3 s.h.

Great medieval literature and the culture in which it was produced; reading, analysis; taught in English at sites connected to the age. Requirements: good academic standing and demonstrated interest in the area.

**165:897 Global Health in Rural and Resource-Limited India**

arr.

Experience in a comprehensive care system where institutional and community health care complement each other in a resource-limited setting; attendance at seminars, participation in clinical discussions, contribution to case reports in the hospital's specialty areas; participation in community outreach and mobile clinics that serve remote tribal populations; individual projects; for clinical or advanced health science students. Requirements: good academic standing and enrollment/participation in a medical or health-related field.

**165:898 Pharmacy Rotations Abroad**

arr.

Practicum experience; focus on best practices for pharmaceutical management, ways to enhance access to medicine; promotion in underserved and resource-limited environments abroad. Recommendations: successful completion of all requirements listed as prerequisites for rotations in the advanced practice experience syllabus.

**165:900 City of Athens**

arr.

Athens from the Bronze Age to the present; archeological, literary, and other evidence to reconstruct the narratives that gave this city and its inhabitants their identity over time; opportunity for students to walk through the city and gain first-hand knowledge of the relationship of its ancient and modern layout; broad understanding of the history of this city that was so important in the development of western ideas and institutions.

**165:901 Introduction to Africa: Tanzania**

arr.

Introduction to history, conservation, development initiatives, and Kiswahili language in Tanzania; focus on modern Tanzanian history, Kiswahili (Tanzania's national language), and the history and environment of Iringa Region; based in Dar es Salaam, Tanzania's vibrant commercial capital and East Africa's most populous city; extended visit to the rural, highland region of Iringa in Tanzania's southwest; led by University of Iowa professors with extensive experience in Tanzania. Three-week winter session or four weeks in May and June.

**165:902 Pearl Harbor to Hiroshima**

arr.

Competing narratives of the Pacific War theater during World War II, starting at Pearl Harbor in Honolulu and stretching across the Pacific Ocean to Japan; students visit peace and war memorials and museums in Tokyo, Kyoto, Ise, Hiroshima, and Nagasaki; with the passage of time and the healing of the cultural and physical scars of war, how conflicts are remembered and written into a nation's history through collective memory becomes the most important legacy of war; the contrasting conceptions of World War II seen from U.S. and Japanese perspectives.

**165:903 Art in Argentina**

3 s.h.

Introduction to Latin American arts and culture with focus on Buenos Aires, Argentina; study of visual arts, music, art history, architecture, literature, and cinema; opportunity to combine formal course work with unsurpassed opportunity to experience Buenos Aires' rich cultural life. Summer session. Requirements: good academic standing.

**165:904 Projects in Global Health**

1 s.h.

Observation and participation in disaster relief efforts in Jacmel, Haiti. Prerequisites: 152:125.

**165:925 Iowa International Summer Institute**

arr.

Several three-week courses, all satisfying various General Education Program requirements, offered in succession each summer; taught by UI professors; course offerings and locations vary; students may take one, two, or three courses. Requirements: good academic standing.



## Summer Undergraduate MSTP Research Program

**Web site:** <http://www.healthcare.uiowa.edu/mstp/>

The Summer Undergraduate MSTP Research Program is an intensive eight-week experience for undergraduates interested in pursuing combined M.D./Ph.D. training. Participants gain experience in research laboratories and exposure to clinical medicine and medically relevant research in preparation for careers as physician-scientists.

Students conduct research in the laboratory of a biomedical sciences faculty member, shadow physician-scientists in clinical settings, participate in career development seminars, and attend a weekly seminar series focusing on the intersection of science and medicine.

Participants receive a stipend for the program and live on campus in University housing.

Applicants must be U.S. citizens or permanent residents who have completed their junior year in a bachelor's degree program in the biological or physical sciences. Applicants should submit an application form (available on the program's web site); an official college transcript; and two letters of recommendation. Application deadline is early February for the following summer.

Contact the Medical Scientist Training Program, Carver College of Medicine, for more information.

## Summer Undergraduate MSTP Research Courses

**405:041 Summer Undergraduate MSTP Research**

0 s.h.

# Sustainability

**Coordinator:** Franklin L. Yoder

**Undergraduate nondegree program:** Certificate in Sustainability

**Web site:** <http://sustainability.uiowa.edu>

For decades, world leaders have defined sustainability as the implementation of policies, processes, and practices that meet the needs of the present without compromising the ability of future generations to meet their own needs.

Achievement of sustainability requires an understanding of human and environmental systems and the complex interactions between them.

The Certificate in Sustainability provides students with the knowledge and skills they will need in order to contribute to sustainable systems and their interactions, especially those related to energy, society, culture, economics, the built environment, health, and public policy. The program helps students become effective leaders and agents of change for sustainability in a wide range of vocations, such as academic researcher, teacher, corporate officer, technology specialist, farmer, grassroots advocate, or government official.

The certificate program is open to undergraduate students across the University. It is offered by University College.

## Certificate

The Certificate in Sustainability requires 24 s.h. of course work. Because sustainability embraces many disciplines, methodologies, and institutional practices, certificate students must have knowledge of the multidisciplinary breadth of the field, which is represented by the program's four areas of breadth electives: changing environments and human health; energy, climate, and built environments; the power of culture and society; and ethics, economics, and public policy. They also must have experience with analyzing real-life problems in and outside of the classroom and with working collaboratively to solve such problems.

Students complete three introductory course courses; four breadth electives—one from each of the program's four elective areas; and one project course. They may be able to count some courses taken for the certificate toward requirements for their major or for a minor. No more than three certificate courses may be taken from a single department or program. Students must maintain a g.p.a. of at least 2.00 in all certificate course work. A maximum of 6 s.h. of approved transfer credit may be counted toward the certificate.

The certificate requires the following course work.

### introductory core

Students complete the following three introductory core courses.

012:008/159:008 Introduction to Environmental Science	3-4 s.h.
044:019 Contemporary Environmental Issues	3 s.h.
057:013 Introduction to Sustainability	arr.

### breadth electives

Students complete one course (at least 3 s.h.) from each of the following four breadth areas.

#### Changing Environments and Human Health

One of these:

002:103/044:103 Biogeography	3 s.h.
002:108 Vertebrate Zoology	4 s.h.
002:134/159:134 Ecology	3-4 s.h.
004:173 Atmospheric and Environmental Chemistry	3 s.h.
012:004 Evolution and the History of Life	3-4 s.h.
012:107 Marine Ecosystems and Conservation	3 s.h.
012:108 & 159:100 Introduction to Oceanography - Environmental Sciences Seminar	3 s.h.
012:139 Integrated Watershed Analysis	3 s.h.
012:140 Natural Hazards	3 s.h.
012:166 Hydrogeology	3 s.h.
012:170 Evolution of Ecosystems	3 s.h.
16W:137 History of Public Health	3 s.h.

16W:138 History of Global Health	3 s.h.
16W:140 Disease, Politics, and Health in South Asia	3 s.h.
044:003 Introduction to Earth Systems Science	4 s.h.
044:123 Landscape Ecology	3 s.h.
044:126/012:126 Wetlands: Function, Geography, and Management	3 s.h.
044:137 Health and Environment: GIS Applications	3 s.h.
053:050 Natural Environmental Systems	3-4 s.h.
175:101/044:174 Health, Work, and the Environment	3 s.h.
175:111/152:111/173:111 International Health	3 s.h.
175:195 Global Environmental Health	2 s.h.
175:197 Environmental Health	3 s.h.
00L:131 Ecology	4 s.h.
00L:163 Conservation Biology	4 s.h.

### Energy, Climate, and Built Environments

One of these:

01H:187 Sustainable Architecture: Past, Present, and Future	3 s.h.
012:114 Energy and the Environment	3 s.h.
012:136/044:186 Soil Genesis and Geomorphology	3 s.h.
012:172 Glacial and Pleistocene Geology	3 s.h.
012:179 Engineering Geology	3 s.h.
012:189 Global Change Seminar	1-2 s.h.
044:101/012:104 Climatology	3 s.h.
044:125/102:125 Environmental Impact Analysis	4 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:135 Urban Geography	3 s.h.
052:030 Energy and Society	3 s.h.
053:018 Geology for Engineers	3 s.h.
053:055/152:162 Principles of Environmental Engineering	4 s.h.
053:102 Groundwater	3 s.h.
053:103 Water Quality	3 s.h.
053:126/046:126 International Perspectives: Xicotepec	2 s.h.
053:157 Environmental Engineering Design	3 s.h.
053:158/175:198 Solid and Hazardous Wastes	3 s.h.
053:159/052:235 Air Pollution Control Technology	3 s.h.
053:192 Environmental Engineering Seminar	0 s.h.
053:195 Contemporary Topics in Civil and Environmental Engineering (when topic is public transit operations and planning)	3 s.h.
055:195 Contemporary Topics in Electrical and Computer Engineering (when topic is energy harvesting: solar, wind and ocean energy conversion systems)	3 s.h.
056:155 Wind Power Management	3 s.h.
058:048 Energy Systems Design	4 s.h.
102:055/033:056 The Splendor of Cities	3 s.h.
102:101 Planning Livable Cities	3 s.h.
102:243 Healthy Cities and the Environment	3 s.h.
165:841 International Perspectives: Engineering (when topic is international perspectives in water science and management)	3 s.h.
175:197 Environmental Health	3 s.h.

### The Power of Culture and Society

One of these:

01D:022 Problems in Design II: Form and Function	4 s.h.
01D:137/049:158 Environmental Design I	4 s.h.
01H:187 Sustainable Architecture: Past, Present, and Future	3 s.h.
002:095 Plants and Human Affairs	2-3 s.h.

004:005 Technology and Society	3 s.h.
008:052/131:052 Literature, Culture, and Women (when topic is women's nature)	3 s.h.
008:136 Topics in Popular Culture (when topic is food studies and popular culture)	3 s.h.
008:175 Topics in Film and Literature (when topic is U.S. environmental literature)	3 s.h.
008:179 Literature and Society (when topic is capturing animals)	3 s.h.
08C:110/145:110 Creative Writing for the Ecologically Aware: Stories in the Land	3 s.h.
009:007 Nature/Ecology French Philosophy and Fiction	3 s.h.
010:170 Rhetoric of Sustainability	3 s.h.
032:076/149:076 American Indian Environmentalism	3 s.h.
044:001 Introduction to Human Geography	4 s.h.
044:010 The Contemporary Global System	4 s.h.
044:011 Population Geography	3 s.h.
044:104 Environment and Development	3 s.h.
045:050 Food in America	3 s.h.
045:090 Seminar in American Cultural Studies (when topic is eco-criticism: the culture of nature in the U.S.)	3 s.h.
045:147 American Disasters	3 s.h.
045:150 Topics in American Cultural Studies (when topic is nature and the American mind: environment and sustainability in U.S. history)	3 s.h.
045:163 American Ruins	3 s.h.
052:030 Energy and Society	3 s.h.
102:055/033:056 The Splendor of Cities	3 s.h.
102:244 Global Perspectives on Environmental Planning	3 s.h.
113:010 Anthropology and Contemporary World Problems	3 s.h.
113:113 Human Impacts on the Environment	3 s.h.
113:114 Environmentalisms	3 s.h.
113:126 Animals, Culture, and Food	3 s.h.
113:139/032:130/033:139 Religion and Environmental Ethics	3 s.h.
113:143 Environment and Culture	3 s.h.
113:179 Pleistocene Peopling of the Americas	3 s.h.
169:040/033:040 The Good Society	3 s.h.
169:080/033:080 Introduction to Place Studies	3 s.h.
213:152 Primate Conservation Biology	3 s.h.
410:068 Wilderness Appreciation	1 s.h.

#### **Ethics, Economics, and Public Policy**

One of these:

06E:133 Environmental and Natural Resource Economics	3 s.h.
06E:183 Natural Resource Economics	3 s.h.
008:179/048:179 Literature and Society (when topic is locally grown)	3 s.h.
030:045 Introduction to Comparative Politics	3 s.h.
030:060 Introduction to International Relations	3 s.h.
036:043 Rhetoric, Science, and Technology	3 s.h.
044:030 The Global Economy	3 s.h.
044:112 Mapping American Cities and Regions	3 s.h.
044:125/102:125 Environmental Impact Analysis	4 s.h.
044:127 Environmental Quality: Science, Technology, and Policy	3 s.h.
044:177 Environmental Justice	3 s.h.
044:194 Geographic Perspectives on Development	3 s.h.
044:197 Special Topics (when topic is international environmental policy or globalization in the developing world)	3 s.h.
091:291 International Environmental Law	3 s.h.
102:247 Environmental Management	3 s.h.
113:139/032:130/033:139 Religion and Environmental Ethics	3 s.h.
129:029 First-Year Seminar (when topic is Black New Orleans before and after Hurricane Katrina)	1 s.h.
175:252/053:204/152:252 Environmental Health Policy	3 s.h.

**project courses**

Students complete one of the following project courses.

01D:249 Advanced Problems in Design (when topic is special issues and topics in design)	4 s.h.
01J:108 Art and Ecology	4 s.h.
08N:145 Multimedia Writing (when topic is the green economy: environmental writing and filmmaking)	3 s.h.
012:193 Sustainability Project	arr.
044:197 Special Topics (when topic is international development)	3 s.h.
045:150 Topics in American Cultural Studies (when topic is environmental history; food studies; nature in collections and museums)	3 s.h.
052:237 Green Chemical and Energy Technologies	3 s.h.
053:107/052:107 Sustainable Systems	3 s.h.
053:141 Design for the Developing World	3 s.h.

# University Housing

**Director:** Von Stange  
**Assistant director:** Kathleen A. Fitzgerald  
**Course facilitator:** Gregory R. Thompson  
**Web site:** <http://housing.uiowa.edu/>

University Housing courses are designed to help students involved in the resident assistant (RA) program become effective RAs. Students learn how to establish healthy student communities in the residence halls, how to confront crises and emergencies, and how to develop leadership skills. Enrollment is open only to students who have been selected to serve as resident assistants.

## University Housing Courses

**415:001 Issues in College Residence Halls I** 1 s.h.

Development of knowledge and skills required for work as a resident assistant; creating community, handling crises and emergencies; leadership.

**415:002 Issues in College Residence Halls II** 1 s.h.

Continuation of 415:001.

**415:003 Issues in College Residence Halls** 2 s.h.

Content of 415:001 and 415:002 in one semester--development of knowledge and skills required for work as a resident assistant, creating community, handling crises and emergencies, leadership.

## University Libraries

**Coordinator:** Kathy Magarrell

**Web site:** <http://www.lib.uiowa.edu/instruction/lrc.html>

University Libraries offers two courses intended for undergraduates: 417:001 Library Research in Context and 417:096 Focused Academic Research for International Studies Majors.

Library Research in Context is an activity-based course that helps students integrate information skills and concepts into their academic tool kit, enabling them to develop habits of critical inquiry and accomplish course goals. Designed primarily for sophomores and juniors, the course introduces students to the basic research process and helps them formulate research questions and evaluate information. It also touches on the social and ethical contexts of information. Subject-specialist librarians present the course, using in-class activities and assignments and class discussion.

For information about Focused Academic Research for International Studies Majors, contact University Libraries or the International Studies Program.

## University Libraries Courses

### **417:001 Library Research in Context**

1 s.h.

Academic research, effective use of the library and its resources, basic research methods, process of scholarly communication; content may be keyed to a discipline-specific course; students apply concepts and processes to their research projects; transferable skills.

### **417:096 Focused Academic Research for International Studies Majors**

1 s.h.

Same as 187:096.

# University of Iowa Honors Program

**Director:** John S. Nelson

**Professors:** Susan Assouline (Psychological and Quantitative Foundations), Stephen G. Bloom (Journalism and Mass Communication), Nicholas Colangelo (Belin-Blank Center/Rehabilitation and Counselor Education), Jeffrey L. Cox (History), Marcella David (Law), Helena R. Dettmer (Classics), Barbara J. Eckstein (English), John F. Finamore (Classics), Michael E. Flatté (Physics and Astronomy), Lowell E. Folsom (English), Alice B. Fulton (Biochemistry), Vicki H. Grassian (Chemistry/Chemical and Biochemical Engineering), Paul R. Greenough (History), C. Allan Guymon (Chemical and Biochemical Engineering), Nancy R. Hauserman (Law/Management and Organizations), Karen Heimer (Sociology), Keri C. Hornbuckle (Civil and Environmental Engineering), Beth Ingram (Economics), Robert Ketterer (Classics), Paul D. Kleiber (Physics and Astronomy), David E. Klemm (Religious Studies), Grazyna Kochanska (Psychology), Philip C. Kutzko (Mathematics), Richard B. Landon (English), Sarah C. Larsen (Chemistry), Irwin P. Levin (Psychology/Marketing), Michael Lovaglia (Sociology), Waltraud Maierhofer (German), Kimberley M. Marra (Theatre Arts/American Studies), Steve McGuire (Teaching and Learning/Art and Art History), Christopher Merrill (International Writing Program), Jeffrey C. Murray (Neonatology), John S. Nelson (Honors/Political Science), John D. Peters (Communication Studies), Judy Polumbaum (Journalism and Mass Communication), Daniel Quinn (Chemistry), Lauren Rabinovitz (American Studies), Rangaswamy Rajagopal (Geography), Tom W. Rice (Political Science), Jon Ringen (Interdisciplinary Studies), Thomas R. Rocklin (Psychological and Quantitative Foundations), Alec B. Scranton (Chemical and Biochemical Engineering), Frederick N. Skiff (Physics and Astronomy), John L. Solow (Economics), Steven R. Spangler (Physics and Astronomy), Bonnie S. Sunstein (English/Teaching and Learning), Shaun P. Vecera (Psychology), David Wilder (Biomedical Engineering)

**Associate professors:** Joann Eland (Nursing), Kelly M. Kadera (Political Science), Carol Severino (Rhetoric)

**Adjunct associate professors:** Laurie Croft (Belin-Blank Center/Rehabilitation and Counselor Education), Robert F. Kirby (Honors/Psychology)

**Lecturers:** Donna Parsons (Honors/Music), Andrew Willard (Honors)

**Adjunct assistant-in-instruction:** LaShelle Christensen (Honors)

**Web site:** <http://honors.uiowa.edu>

The University of Iowa Honors Program provides talented-and-gifted education for college students. Honors enriches the intellectual and personal lives of outstanding undergraduates across the University. It provides academic opportunities, extracurricular programs, special recognitions, and social events, many held in the award-winning Blank Honors Center. It sponsors two living-learning communities: Honors House in Daum Hall and Honors Nexus in Mayflower Hall. It also includes all members of Iowa Writers, a living-learning community for students with talent and interest in writing.

The Honors Program welcomes students into a community of opportunity that features learning by doing. Its many course sections and seminars connect small classes with some of the top teachers on campus. Honors designations let students turn any other course into an honors course through extra projects. The staff helps students create their own honors majors and arrange internships, service learning, study abroad, teaching, and other experiences in order to explore their interests within and beyond the classroom.

Within the Honors Program, the Iowa Center for Research by Undergraduates matches students with mentors and money for research. Honors Writing Fellows and Honors Editing Fellows refine writing skills. Participants in the Iowa Policy Research Organization analyze policies for Iowa's legislature. Members of the Aces Program for Analysis, Advocacy, and Action prepare for public argument and scholarship competitions. Guests at Honors Dinners practice intellectual conversation. A host of honors activities engage students in the arts, sciences, politics, international relations, mock trials, diverse cultures, varied cuisines, movie making and watching, and field trips. Honors also offers inventive programs for campus and community volunteering.

Honors admits students who show great academic promise for college learning and further achievement. Its members include National Merit Scholars, Presidential Scholars, Old Gold Scholars, National Hispanic Scholars, Tippie Scholars, China Scholars, National Achievement Scholars, and students in the National Academy of Arts, Sciences, and Engineering.

Based on grades and test scores, the Honors Program admits many students directly and automatically from high school. Entering students also may become members by submitting a high school transcript, a letter of recommendation from a teacher, and a personal letter saying how the student expects to gain from participation in the University of Iowa Honors Program.

Honors offers membership to students who earn high grades at the University. New transfer students who have a cumulative g.p.a. of at least 3.50 and have earned at least 24 s.h. of college credit may be admitted to honors. (Transfer students with fewer than 24 s.h. of college credit enter honors on the same basis as do students who enter the University directly from high school.)

To remain in the Honors Program, students must maintain a University of Iowa cumulative g.p.a. of 3.33 or higher. To graduate as a member of the University of Iowa Honors Program, students also must complete at least one Honors Commendation, awarded for 12 s.h. sets of courses or experiences provided by the Honors Program. For more information, see Admissions—University of Iowa Honors Program on the honors web site.

## Academic Opportunities

The University of Iowa Honors Program helps tailor opportunities to different educational needs and goals. Its curricula are broad, flexible, and challenging. Students can take honors courses in any and every semester at Iowa. Most connect small, highly interactive classes of honors students with especially distinguished professors. Many offer new topics each term.

Honors encourages early connections among honors students. In 143:020 Honors Primetime Workshop, entering students can earn an initial semester hour of honors credit for a short course a few days before fall classes begin; each section of 143:030 Honors First-Year Seminar awards 1 s.h. for fall semester work with a top professor on current



inquiries; and all honors sections of 010:003 Rhetoric (usually taken during the first or second semester at the University) meet the rhetoric requirement of the College of Liberal Arts and Sciences General Education Program. Early help for planning projects in art, research, or service is provided in 143:043 Honors Developing an Idea; and 143:044 Honors Writing Workshop helps students refine their talent for writing, focusing on a distinct kind of creative composition each time the course is offered. In addition, there are honors sections of courses approved for other areas of the General Education Program and for the Courses in Common program.

Honors designations can complement further honors opportunities: honors advanced seminars, honors major seminars, honors studies, even honors practicums (for research, teaching, or service). Many students crown their educations with an honors thesis or project in their major.

Students learn about such opportunities in weekly e-mails from the Honors Program. Honors peer advisors and the honors professional staff offer guidance in personal meetings and group presentations. Each major has an honors advisor to explain options and standards for graduating with honors in that major. Research ambassadors from the Iowa Center for Research by Undergraduates tell students how to get engaged in research. The honors staff can help students design individualized curricula for their special interests. See Academics on the Honors Program web site for more information.

### **Honors Commendations**

The Honors Program and the University president join in awarding Honors Commendations to students who complete at least 12 s.h. of honors course work with a grade of B-minus or higher in each honors course or a comparable level of accomplishment in honors experiences beyond the classroom. There are many ways to earn an Honors Commendation, and many students complete several. Students who entered the University in fall 2008 or later must earn at least one Honors Commendation in order to graduate as a member of the Honors Program. Beginning spring 2011, the University will record Honors Commendations on students' transcripts. See Academics—Commendations on the honors web site for more information.

### **Honors in the Major**

Most majors offer upper-level honors courses, honors seminars, independent research, or opportunities to pursue an original honors thesis or senior project under the guidance of a faculty member. Each college and department determines its own requirements for graduation with honors from that unit, and faculty members in each department serve as honors advisors.

After students declare a major in the College of Liberal Arts and Sciences or enter the Tippie College of Business or the Colleges of Education, Engineering, or Nursing, they should speak with their collegiate or departmental honors advisors about their academic programs. Students who graduate with honors in their majors receive special recognition during commencement, and their permanent academic records note their achievements. To graduate with honors in any major, students also must graduate as members of the University of Iowa Honors Program.

### **Extracurricular Programs**

The University of Iowa Honors Program offers honors students a rich variety of activities outside the classroom. Many honors students find extracurricular programming a good way to meet people, get involved, and learn more about the world around them.

**Honors Arts** sends groups of honors students to attend music, dance, and theater events at the University and in the community. Students have opportunities to interact with artists, faculty members, and other honors students through related discussions, lectures, and visits.

**Honors Discourses** stages small-group discussions with professors and other experts on hot topics of the day. Students tap the latest scholarship in developing their personal positions.

**Honors Diversity** offers a wide range of events to expand cultural horizons and enlarge personal perspectives. These include feasts, films, dances, documentaries, and more.

**Honors Gallery** takes advantage of the Blank Honors Center's design to display art. It exhibits student works throughout the year, and it complements these with receptions and other events.

**Honors Media** can record honors events of all kinds and help present them. Honors Media also holds movie nights, to screen and discuss feature-length films.

**Honors Volunteers** provides students with service opportunities at varied organizations in eastern Iowa. Honors students learn more about their communities and related needs, often continuing to volunteer on their own.

The **Iowa City Foreign Relations Council** hosts luncheon dialogues on relevant international issues. Past speakers include award-winning journalists, Nobel Peace Prize laureates, seasoned diplomats, prominent politicians, and policy

analysts. Honors students gain more textured understandings of world affairs by listening to and talking with these expert speakers.

The **Presidential Scholars Community** introduces recipients of Iowa's top merit scholarships to four years of adventures in service, team building, and more. Scholars participate in cookouts, arts events, canoeing adventures, legacy projects, pizza parties, dinners with faculty, mentoring programs, and volunteer projects.

**Honors** advises four major national and international honor societies: Phi Eta Sigma, National Society of Collegiate Scholars, Mortar Board, and Omicron Delta Kappa. It also works closely with Phi Beta Kappa in the College of Liberal Arts and Sciences. These societies provide select students with opportunities to lead, serve their communities, and cultivate academic excellence.

For more information, see Activities on the Honors Program web site.

## Financial Support

The Honors Program helps students apply for many scholarships, awards, and prizes. The program offers its own scholarships to selected continuing honors students across the University.

Iowa students win major national and international scholarships each year. Honors provides advising and nominations for Rhodes, Marshall, Gates Cambridge, Churchill, Truman, Udall, Goldwater, Fulbright, Humanity in Action, National Science Foundation, and other prominent scholarships. Its Aces Program for Analysis, Advocacy, and Action readies top students for national and international scholarship competitions by educating them for public participation. The Iowa Center for Research by Undergraduates provides research stipends for students and travel grants for those who present work at conferences. Announcements about scholarships and other awards appear on the Honors Program web site and electronic mailing list. Honors Program scholarships are not available to incoming first-year or transfer students.

See Scholarships on the Honors Program web site for more information.

## Facilities

### Blank Honors Center

The Honors Program makes its home in the Blank Honors Center, a new facility for fostering community among honors students. The Blank Honors Center offers extended hours, social areas, a kitchenette, quiet study areas, classrooms, a computer lab with 24 workstations, office space for honor societies, honors advising for students, and offices for Honors Program staff. The center also has rooms for meetings, events, presentations, and conversation. Honors staff members are always on hand to help students.

### Honors Living-Learning Communities

The Honors Program sponsors two University of Iowa living-learning communities. Living-learning communities are located in University residence halls. All members of Honors House and Honors Nexus are members of the Honors Program.

**Honors House** fills Daum Hall and links to the Blank Honors Center by a skywalk. Honors House provides a convenient place for residents to socialize and study with each other. It also sponsors cultural, academic, and social events for honors students living in Daum Hall. It organizes group outings to arts events, workshops on scholarship and research opportunities, volunteer activities, and dinners with faculty members. Honors House welcomes first-year, transfer, and returning honors students.

**Honors Nexus** occupies a wing of Mayflower Hall. This living-learning community helps its members launch individual and team projects in art, research, service, and leadership, providing a strong start for a university education. It holds a wide variety of social events, and its members participate in the full range of honors courses and activities. Honors Nexus welcomes first-year, transfer, and returning honors students.

Students must apply to join the University's living-learning communities; see Living-Learning Communities on the University Housing web site for application and other information about the communities. For additional information about the honors communities, see Places—Living-Learning Communities on the honors web site.

## University of Iowa Honors Program Courses

Honors courses are specifically for honors students.

### 143:020 Honors Primetime Workshop

Workshop to connect honors students, honors teachers, and staff members; preparation for honors opportunities, especially activities and courses; team work on projects that develop skills of invention and communication; presentation of products and performances.

**143:030 Honors First-Year Seminar** 1-2 s.h.  
Small discussion classes taught by faculty members on special topics; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**143:031 Honors Readings for Writers** 1 s.h.  
Introduction to the Iowa City writing community; attendance at readings by professional, faculty, and student writers; journals.

**143:040 Honors Studies** arr.  
Independent studies arranged with faculty members who certify satisfactory completion of study plans and performance for topics not covered by other UI courses.

**143:041 Honors Internship** 0-3 s.h.  
Independent service internship arranged with faculty members, who certify satisfactory performance and completion of project.

**143:042 Honors Service Learning** arr.  
Service learning projects arranged with faculty members who certify satisfactory completion of study plans and service.

**143:043 Honors Developing an Idea** 1-3 s.h.  
Explore interests and imaginations to generate ideas, turn ideas into projects for action; collaborate with teachers, mentors, and students in small groups to develop brief personal or team proposals for action; ideas could target the campus, local community, country, or world; focus on planning efforts rather than completion; exercises on how to spot possibilities for productive leadership, service, art, research, publication, or performance; learn to present ideas to diverse audiences.

**143:044 Honors Writing Workshop** 1-3 s.h.  
Learn writing through the Iowa workshop tradition of sharing new work with colleagues who provide detailed, constructive suggestions in response; emphasis on invention, structure, style; each edition targets a distinct kind of writing; an experienced writer leads the workshop with meeting formats; credit suited to exercises for the type of featured writing.

**143:050 Honors Seminar in Humanities** 3 s.h.  
Small-class learning with a faculty member on humanities topics. GE: Humanities.

**143:060 Honors Seminar in Social Sciences** 3 s.h.  
Small-class learning with a faculty member on social science topics. GE: Social Sciences.

**143:070 Honors Seminar in Natural Sciences** 3 s.h.  
Small-class learning with a faculty member on natural science topics. GE: Natural Sciences.

**143:080 Honors Seminar in Quantitative and Formal Reasoning** 3 s.h.  
Patterns of reasoning useful for understanding and evaluating scientific evidence, theory, controversy; historical and contemporary examples from the physical, biological, behavioral, biomedical sciences. GE: Quantitative or Formal Reasoning.

**143:090 Honors Research Colloquium** 1-3 s.h.  
Small-class research with faculty members; advanced readings.

**143:100 Honors Research Practicum** 1-3 s.h.  
Individual research performed in conjunction with a faculty member's research.

**143:101 Honors Teaching Practicum** 1-3 s.h.  
Teaching internship in first- and second-year courses; may include providing tutorial assistance, conducting review sessions, aiding course organization.

**143:102 Honors Writing Fellows: Writing Theory and Practice**

3 s.h.

Preparation of honors students selected as writing fellows to serve as peer tutors in writing-intensive courses; theories of writing, evaluation of drafts, peer tutoring with students. Requirements: sophomore or junior honors standing, admission to Writing Fellows Program, and availability to work as a writing fellow in subsequent semesters.

**143:130 Mock Trial**

2 s.h.

Legal analysis and argumentation, public performance, participation in the University of Iowa Mock Trial Club; mock trial role preparation, tournament competition, stage annual club tournament.

**143:140 Honors Policy Research Practicum**

1 s.h.

Theory and practice of public policy research; development of policy-research skills; production of policy-research papers. Requirements: sophomore or junior standing.

**143:150 Honors Special Topics**

1-3 s.h.

Small-class learning with faculty members on advanced topics. Requirements: junior or senior honors standing.

**143:160 Honors Seminar in Public Scholarship**

1-3 s.h.

Preparation for public affairs activities drawing on scholarly resources; introduction to writing personal essays and proposals for scholarship, grant, and research competitions that may require explanation of the proposal's public benefit; techniques and practice for oral presentations, including public interviews, conversations, debates, discussions.

**143:161 Honors Seminar in Public Service**

1-3 s.h.

Preparation for public affairs activities through experience practicing modes of public service; principles of service learning and practical action; introduction to writing service proposals and reports; experience planning public sessions to assess service results and identify potential improvements; preparation for scholarship competitions through opportunities to conceive, conduct, and analyze public action projects.

**143:162 Honors Seminar in Public Policy**

1-3 s.h.

Preparation for analyzing and making public policy; techniques for assessing policy designs and outcomes; opportunity to develop in-depth knowledge of specific policies that are of personal interest to students; experience writing policy proposals and reports for different audiences; practice in public interviews, debates, policy discussions.

**143:163 Honors Exercise in Public Inquiry**

1-3 s.h.

Research with a faculty mentor on a major public affairs issue; definition of a public question; development of a method to address it, with written public account of what to do, how, and why; discussion of argument with mentor and audience arranged with honors director.

**143:185 ICRU Research Ambassadors**

1-3 s.h.

ICRU Research Ambassadors share knowledge and experiences in research; attend weekly meeting and interact with students through presentations, online chat, or in other venues to answer questions, provide information, and inform students about undergraduate research opportunities; student perspective on how to navigate research opportunities at The University of Iowa.

**143:190 Honors Peer Advising**

1-3 s.h.

Experience sharing knowledge and experiences of the Honors Program with other students in meetings during office hours, online chats, other venues; peer advisors answer questions, provide information, help students find honors opportunities in and out of class.

**143:199 Honors Thesis or Project**

1-3 s.h.

Culminating project of research or artistic creation; preparation and completion of the final product associated with graduation with honors in the student's major. Requirements: member of the University of Iowa Honors Program and junior or senior standing.

## University of Iowa Upward Bound

**Interim director:** Nancy Humbles  
**Web site:** <http://upwardbound.uiowa.edu>

University of Iowa Upward Bound is an academic program for eligible high school students from four southeastern Iowa communities. Students participate during the academic year at their local high school and attend a six-week residential program on the University of Iowa campus from mid-June through July. Participants take mathematics, science, language arts, computer technology, and foreign language courses to prepare them for classes they will take at their local high school in the fall. They also participate in extracurricular activities, field trips, and college visits.

Bridge students (those who will graduate from high school the following spring) enroll in a University course during the eight-week summer session. Bridge students participate in an on-campus job shadow and take a transition to college seminar.

Participants receive all services at no cost.

To be admitted to University of Iowa Upward Bound, students must:

- reside in the target area and attend a target school;
- be in grade 9 or 10;
- have a family income that meets U.S. Department of Education low-income guidelines;
- be a potential first-generation college student; and
- show need for Upward Bound services.

Upward Bound provides services to students until they graduate from high school and enroll in postsecondary education.

The University of Iowa Upward Bound Project serves students attending high schools in Columbus Junction, Davenport, Muscatine, and West Liberty, Iowa. Other postsecondary institutions in Iowa also sponsor Upward Bound programs. High school students who do not attend schools served by The University of Iowa's program should ask their counselors whether an Upward Bound program serves their area.

For more information, contact University of Iowa Upward Bound, The University of Iowa.

## University of Iowa Upward Bound Courses

**401:018 Upward Bound Project**

0 s.h.

## VIGRE Heartland REU

**Director:** Jonathan Simon (Mathematics)

**Web site:** <http://www.uiowa.edu/~vigre>

The University of Iowa Department of Mathematics offers a summer program of research experience for undergraduates. VIGRE Heartland REU is designed for well-prepared students who have completed two years of college, but younger or more advanced students also may be admitted. Preference is given to students from Heartland Mathematics Partnership schools.

The eight-week program begins with three introductory workshops followed by work in a small research group with a faculty member. Students choose one of nine research projects that are connected to background developed in the introductory workshops.

Students participate in hands-on introduction to mathematical writing in LaTeX; experience using computer systems such as Maple, Mathematica, or MatLab; and talks and panels about subsequent research opportunities, graduate school, the Graduate Record Examination, and career opportunities. The program also offers cultural and social activities.

Instruction is provided by Department of Mathematics faculty members, Heartland Mathematics Partnership instructors, VIGRE trainees, and staff members of the National Alliance for Doctoral Studies in the Mathematical Sciences, which is supported by the National Science Foundation (NSF).

VIGRE Heartland REU is supported by Vertical Integration of Research and Education in the Mathematical Sciences, an NSF program. For more information visit the VIGRE Heartland REU web site.

## VIGRE Heartland REU Courses

### **419:098 NSF Alliance REU**

0 s.h.

Seminars about research and graduate school; prepares students to pursue graduate education in a math science; cultural activities and a research symposium; preference to students from alliance partnership schools. Requirements: completion of sophomore year in college, g.p.a. of at least 3.00, and in a math science degree program.

### **419:099 Research Experiences for Undergraduates Summer Course**

0 s.h.

Introduction to mathematical research in preparation for graduate education.

## Division of Continuing Education

**Dean:** Chet S. Rzonca

**Web site:** <http://www.continuetolearn.uiowa.edu>

The Division of Continuing Education increases access to the services and resources of The University of Iowa. In partnership with the University's colleges and departments, the division provides high-quality credit and noncredit courses, workshops, and programs to traditional and nontraditional learners. Using a variety of locations, schedules, and technologies, the division helps provide a University of Iowa learning environment beyond the physical borders of campus.

The division's organization and services include the following.

### Center for Credit Programs

**Associate dean:** Doug Lee

**Web site:** <http://www.continuetolearn.uiowa.edu/ccp>

The Center for Credit Programs works with University of Iowa colleges and academic departments to offer for-credit courses in a variety of formats and schedules. Courses are offered on and off campus. Courses may be open to University of Iowa students and to persons not formally admitted to a degree program. For more information, contact the Center for Credit Programs or visit its web site.

#### Saturday & Evening Classes

**Director:** Marlys Boote

**Web site:** <http://www.continuetolearn.uiowa.edu/ccp/sande>

The Center for Credit Programs sponsors University courses on campus at times convenient for part-time or nontraditional students. Undergraduate and graduate course work is available in a wide range of academic disciplines. For more information, contact the Center for Credit Programs.

#### Summer and Winter Sessions

**Associate dean:** Doug Lee

**Web site, summer session:** <http://www.continuetolearn.uiowa.edu/ccp/summer>

**Web site, winter session:** <http://www.continuetolearn.uiowa.edu/ccp/winter>

The University of Iowa conducts a summer session through the Center for Credit Programs with terms of three, six, and eight weeks. Classes also are offered outside these normal summer session terms. A three-week winter session is offered during the break between the fall and spring semesters.

During the summer and winter sessions, students can take undergraduate and graduate course work. Classes during these sessions are taught mainly by University of Iowa faculty members, so students receive the same first-rate instruction provided during the spring and fall semesters. Courses are offered in a variety of formats both on and off campus. They are open to University of Iowa students and to persons not formally admitted to a degree program.

#### Distance Education Programs and Courses

**Associate dean:** Anne Zalenski

**Web site:** <http://www.continuetolearn.uiowa.edu/ccp/de>

The University of Iowa offers Guided Independent Study and online courses in a wide range of disciplines. For information about course listings (including courses offered on the World Wide Web), procedures, and enrollment, visit the Distance Education web site.

University extension classes are scheduled where they best serve off-campus students, at the request of public school officials, and/or where professional, business, industrial, or other qualified groups express a need for instruction. The center also sponsors courses via the Iowa Communications Network, the Internet, and other technologies. For more information, contact Distance Education or visit its web site.

#### Bachelor of Applied Studies

**Web site:** [http://www.continuetolearn.uiowa.edu/ccp/blsbas/bas\\_introduction.htm](http://www.continuetolearn.uiowa.edu/ccp/blsbas/bas_introduction.htm)

The Bachelor of Applied Studies (B.A.S.) is a bachelor's degree that may be completed entirely by distance education. The degree requires a minimum of 120 s.h. and is offered without an academic major. Students may earn credit toward

the degree by taking courses offered in varied distance education formats; they also may use courses offered in on-campus formats. Applicants must hold an Associate of Applied Science (A.A.S.), an Associate of Arts (A.A.), or an Associate of Science (A.S.) degree. The B.A.S. is awarded by University College and is administered by the Division of Continuing Education. For a detailed program description, see Bachelor of Applied Studies (University College) in the Catalog or visit the Distance Education web site.

## **Bachelor of Liberal Studies**

**Web site:** [http://www.continuetolearn.uiowa.edu/ccp/blsbas/bls\\_introduction.htm](http://www.continuetolearn.uiowa.edu/ccp/blsbas/bls_introduction.htm)

The Bachelor of Liberal Studies (B.L.S.) is a bachelor's degree that may be completed entirely by distance education. The degree requires a minimum of 120 s.h. and is offered without an academic major. Students may earn credit toward the degree by taking courses offered in varied distance education formats; they also may use courses offered in on-campus formats. Applicants must have either an Associate of Arts (A.A.) degree or have earned at least 60 s.h. of credit. The B.L.S. is awarded by the College of Liberal Arts and Sciences and is administered by the Division of Continuing Education. For a detailed program description, see Bachelor of Liberal Studies (College of Liberal Arts and Sciences) in the Catalog or visit the Distance Education web site.

## **A. Craig Baird Debate Forum**

**Coordinator of forensics:** Paul Bellus

**Web site:** <http://www.continuetolearn.uiowa.edu/debate/>

The A. Craig Baird Debate Forum provides a forum for advancement in argumentation theory and practice. It provides nationally renowned advocacy training programs on issues of public concern and supports an atmosphere of civil discourse. The forum's local, regional, national, and international outreach programs enhance students' learning environment and reach beyond the physical borders of the University of Iowa campus.

The A. Craig Baird Debate Forum administers the following programs.

**Intercollegiate debate:** provides coaching and research to advance students' competitive success; includes attendance at 10-15 collegiate debate tournaments yearly; the program has won two national championships.

**International parliamentary debate:** participation in the world tournament.

**National Summer Institute in Forensics:** a summer program in which students live on the Iowa campus; features Lincoln-Douglas debate and a policy debate institute; the 77-year-old program draws top scholars to campus and has counted students and teachers from every state of the nation and from Japan, Korea, and Guam as participants.

**Iowa High School Forensics League:** a partnership between Iowa high schools and The University of Iowa that promotes scholarship, communication and expression, and leadership in forensics; founded in 1906, the league holds three tournaments and an academic conference each year that bring more than 1,000 participants to the Iowa campus.

**University public debate series:** founded in 1960, the series presents 12 radio broadcast debates each year, investigating local, regional, national, and international controversies; debate attendance is required for some University of Iowa courses.

**Community public debate series:** a forum in which local political, social, economic, and intellectual controversies are debated.

**International public debate series:** engages in cross-cultural exchanges and provides a forum for high school debaters to participate with The University of Iowa in international debates.

**The National Lincoln-Douglas Debate Round-Robin:** brings the nation's top 28 high school Lincoln-Douglas debaters to campus for the national competition.

**Urban debate initiative:** provides coaching, judging, and instructional support to underrepresented populations in the Chicago, Kansas City, and St. Louis areas.

**Online at the National Forensics League:** provides online instructional videos and commentary in support of high school debate.

## **Secondary Student Training Program**

**Director:** Will Swain

**Web site:** <http://www.continuetolearn.uiowa.edu/sstp>

The Secondary Student Training Program (SSTP) provides opportunities for high school students to conduct research in a University of Iowa laboratory under the guidance of a faculty mentor. Students attend faculty seminars, science



communication workshops, and many social and recreational activities during the six-week program. During the final week, they present their research results in a formal symposium attended by other SSTP students and the program's faculty and research staff. All SSTP students write a formal abstract summarizing their six weeks of research.

SSTP students live on the University campus during the program.

The University of Iowa's Carver College of Medicine, the Graduate College, and the Colleges of Dentistry, Engineering, Liberal Arts and Sciences, Pharmacy, and Public Health all participate in the Secondary Student Training Program.

Research projects typically are available in biochemistry, biology, biomedical engineering, chemistry, computer science, dentistry, environmental engineering, hydroscience, integrative physiology, internal medicine, microbiology, pediatrics, physics and astronomy, psychology, and speech pathology. Students may earn up to 3 s.h. of University of Iowa credit during the program. See Secondary Student Training Program (University College) in the Catalog.

## Center for Conferences

**Director:** Jo Dickens

**Web site:** <http://www.continuetolearn.uiowa.edu/conferences>

The University of Iowa Center for Conferences (UICC) is the University's principal agency for initiating, coordinating, conducting, and supporting noncredit continuing education programs. It also serves as the University of Iowa's Continuing Education Unit (CEU) database.

UICC coordinates national and international conferences for University faculty, departments, colleges, administrative units, student groups and related academic societies, professional associations, and other groups sponsored by the University. Its services include initial planning, site location, budget development, income and expense management, and online conference registration.

The Center for Conferences uses facilities on the University of Iowa campus as well as those located in Iowa City and Coralville, throughout Iowa, and nationwide. For more information, visit the Center for Conferences web site.

## Iowa Lakeside Laboratory

**Executive director:** Peter J. van der Linden

**Web site:** <http://www.continuetolearn.uiowa.edu/lakesidelab/>

Iowa Lakeside Laboratory is a field station run cooperatively by The University of Iowa, Iowa State University, and the University of Northern Iowa and administered by The University of Iowa. The laboratory offers summer courses and research opportunities for undergraduate and graduate students. Courses focus on the ecology, taxonomy, and conservation of northern plains animals, plants, microorganisms, and ecosystems. Students take one course at a time, 40 hours per week, for one to four weeks. Class sizes are small, and most students spend at least part of every day outdoors.

The Board of Regents, State of Iowa, has designated Lakeside Laboratory a Regents Resource Center, dedicated to providing lifelong learning opportunities for Iowans.

For information about academic programs and courses at the laboratory, see Iowa Lakeside Laboratory (University College) in the Catalog or visit the Iowa Lakeside Laboratory web site.

## Iowa Summer Writing Festival

**Director:** Amy Margolis

**Website:** <http://www.continuetolearn.uiowa.edu/iswfest/>

The Iowa Summer Writing Festival is a short-term, noncredit creative writing program for adults. It brings some 1,400 writers to the University of Iowa campus each summer to participate in weeklong and weekend workshops. The program is open to individuals age 21 and older; the sole requirement is the desire to write.

Participants choose from more than 130 workshops across the genres, including the novel, short fiction, poetry, memoir, essay, screenwriting, playwriting, travel writing, humor, writing for children, mystery, science fiction, and more. There are sessions for all skill levels and objectives. In the workshop format, participants read and discuss each other's own creative work.

Weeklong sessions meet for three hours each day, Monday through Friday, with individual student/instructor conferences as well. Weekend sessions meet for eight hours over two days.

Visit the Iowa Summer Writing Festival web site for information about workshops, schedule, and registration. Information about the coming summer festival workshops and dates usually is posted in February or March.

## Iowa Young Writers' Studio

**Director:** Stephen Lovely

**Web site:** <http://www.uiowa.edu/youngwriters>

The Iowa Young Writers' Studio is a two-week summer residential program for high school students who love to write. Students build a community of peers while working with experienced writing teachers, primarily students and graduates of the University's M.F.A. program in creative writing.

The studio offers three courses of study: poetry, fiction, and creative writing (a mix of poetry, fiction, and creative nonfiction). Each course consists of a seminar and a workshop. In seminars, students read literature by established writers. In workshops they share their own writing, get feedback from their classmates and teacher, and discuss issues of narrative and form.

The studio offers two two-week sessions: one in June and one in July. Young writers who have completed grade 10, 11, or 12 are eligible to attend the studio. Application materials include an application form, a creative writing sample, a statement of purpose, a high school transcript, and a letter of recommendation from an English teacher or another instructor familiar with the applicant's writing. For complete application information, contact the Iowa Young Writers' Studio or visit its web site.

## John and Mary Pappajohn Education Center

**Director:** Chet Rzonca

**Manager:** Richard Gardner

**Web site:** <http://www.continuetolearn.uiowa.edu/jmpec>

The John and Mary Pappajohn Education Center (JMPEC) serves a wide range of adult learning needs. It also provides central Iowa students with access to a variety of University of Iowa undergraduate and graduate degree programs and courses. The center is located in downtown Des Moines, Iowa, close to many corporate businesses and government offices. With classrooms that can accommodate groups of up to 80 people, JMPEC is ideal for small conferences, educational workshops, and meetings. It is equipped to handle on-site instructional technology and to deliver distance education to students anywhere. JMPEC also makes noncredit learning opportunities for professional and workforce development available to corporations and individuals. Learn more at the John and Mary Pappajohn Education Center web site.

## Labor Center

**Director:** Jennifer Sherer

**Web site:** <http://www.continuetolearn.uiowa.edu/laborctr>

The University of Iowa Labor Center provides educational programs and research support to Iowa's working people and their organizations. The center offers a wide range of noncredit courses designed for labor union members and leaders; they cover steward education and contract administration, collective bargaining, labor and employment law, public policy issues, leadership development, organizing and mobilizing, economics, labor history, workplace health and safety, and other topics relevant to union members. Courses are offered both on and off campus at times and locations convenient to working adults. The Labor Center also provides research assistance and technical information.

## Noncredit Educational Opportunities

The Division of Continuing Education partners with vendors outside the University to provide noncredit educational opportunities for individuals seeking personal development and for organizations interested in workforce development skills. The division offers online programs with two vendors, Skillsoft and Ed2Go.

Skillsoft's Continue to Learn online courses are self-paced. Learners choose courses from catalogs, which they purchase through an annual subscription. For details, see Continue to Learn with Skillsoft on the division's web site.

Ed2Go provides structured online courses facilitated by an instructor. Each course lasts six weeks and has a preset start and end date. Courses cover personal and workforce development topics. Learn more at Ed2Go on the division's web site.

Certification preparation opportunities may be available through other partnerships. Contact Distance Education or

visit its web site.

## Administrative Officers

### Board of Regents, State of Iowa

The Board of Regents, State of Iowa, governs The University of Iowa, Iowa State University of Science and Technology, the University of Northern Iowa, the Iowa Braille and Sight-Saving School, and the Iowa School for the Deaf. The board has nine members and an executive director.

*President:* David W. Miles, West Des Moines

*President pro tem:* Jack B. Evans, Cedar Rapids

Bonnie J. Campbell, Des Moines

Robert N. Downer, Iowa City

Michael G. Gartner, Des Moines

Ruth R. Harkin, Cumming

Greta A. Johnson, LeMars

Craig A. Lang, West Des Moines

Rose A. Vasquez, Des Moines

*Executive director:* Robert Donley

### Central Administration

*President:* Sally Mason

*Executive vice president and provost:* Wallace D. Loh

*Senior vice president and university treasurer:* Douglas K. True

*Vice president for medical affairs:* Jean E. Robillard

*Interim vice president for research and economic development:* Jordan Cohen

*Interim vice president for student services:* Thomas R. Rocklin

*Vice president for human resources:* Susan C. Buckley

*Interim vice president for legal affairs and general counsel:* Carroll J. Reasoner

*Vice president for strategic communication:* Tysen Kendig

*Special assistant to the president for governmental relations and associate vice president for research:* Derek H. Willard

*Chief diversity officer and associate vice president:* Georginia Dodge

*Director, Office of Equal Opportunity and Diversity:* Jennifer Modestou

*University ombudspersons:* Susan Johnson, Cynthia Joyce

### Office of the Provost

*Provost and executive vice president:* Wallace D. Loh

*Associate vice president and director of administration and planning:* Don J. Szeszycki

*Interim associate provost for academic administration:* Barbara Eckstein

*Associate provost for undergraduate education and dean of University College:* M. Beth Ingram

*Associate provost for faculty:* Tom W. Rice

*Associate provost for graduate education and dean of the Graduate College:* John C. Keller

*Associate provost and dean of international programs:* Downing Thomas

*Associate provost and dean of continuing education:* Chet S. Rzonca

*Assistant provost for enrollment services and director of admissions:* Michael Barron

*Assistant provost for enrollment services and director of academic advising:* Pat J. Folsom

*Assistant provost for enrollment services and university registrar:* Lawrence J. Lockwood

*Assistant provost for enrollment services and director of student financial aid:* Mark S. Warner

Henry B. Tippie College of Business

*Dean:* William C. Hunter

College of Dentistry

*Dean:* David C. Johnsen

College of Education

*Dean:* Sandra B. Damico

College of Engineering

*Dean:* P. Barry Butler

Graduate College

*Dean:* John C. Keller

College of Law

*Dean:* Gail B. Agrawal

College of Liberal Arts and Sciences

*Dean:* Linda Maxson

Roy J. and Lucille A. Carver College of Medicine

*Dean:* Paul B. Rothman

College of Nursing

*Dean:* Rita A. Frantz

College of Pharmacy

*Dean:* Donald E. Letendre

College of Public Health

*Dean:* Susan J. Curry

University College

*Interim dean:* M. Beth Ingram

Division of Continuing Education

*Dean:* Chet S. Rzonca

Academic Advising Center

*Director:* Pat Folsom

Admissions

*Director:* Michael Barron

Center for Credit Programs

*Director:* Douglas J. Lee

Center for Teaching

*Director:* Jean C. Florman

Information Technology Services

*Chief information officer:* Steven R. Fleagle

International Programs

*Interim associate provost and dean:* Downing Thomas

International Writing Program

*Director:* Christopher Merrill

Libraries

*University librarian:* Nancy L. Baker

Museum of Art

*Interim director:* Willard L. Boyd

Office of the Registrar

*University registrar:* Lawrence J. Lockwood

Opportunity at Iowa

*Director:* Marcella David

Student Financial Aid

*Director:* Mark S. Warner

University Evaluation and Examination Service

*Director:* Joyce E. Moore

University of Iowa Press

*Director:* Holly Carver

Women in Science and Engineering

*Director:* Christine P. Brus

## **Research**

*Interim vice president for research and economic development:* Jordan Cohen

*Interim associate vice president, regulatory affairs:* James Walker

*Associate vice president and special assistant to the president for governmental relations:* Derek H. Willard

*Associate vice president, development for arts, humanities, and social sciences:* Jay M. Semel

*Associate vice president, development for biological, mathematical, and physical sciences and research integrity officer:* Richard Hichwa

*Associate vice president for research, economic development:* Thomas R. Sharpe

*Associate vice president for research:* Francois M. Abboud

*Assistant vice president and director, sponsored programs:* Twila Fisher Reighley

*Deputy general counsel:* Grainne P. Martin

Animal Resources

*Director and university veterinarian:* Paul S. Cooper

Clinical Trials Office

*Director:* Charlotte Talman

Corporate Partnerships

*Director:* Diane Gallagher

Health Protection Office

*Director:* James C. Walker

Human Subjects Office

*Director:* John A. Bertolatus

Obermann Center for Advanced Studies

*Director:* Teresa Mangum

Office of the State Archaeologist

*Director:* John Doershuk

Pentacrest Museums (Museum of Natural History, Old Capitol Museum)

*Director:* Pamela White

Public Policy Center

*Director:* Peter C. Damiano

Sponsored Programs

*Director:* Twila Fisher Reighley

Technology Innovation Center

*Executive director:* Thomas R. Sharpe

University Hygienic Laboratory

*Interim director:* Christopher G. Atchison

University of Iowa Research Foundation

*Executive director:* Pamela K. York

University of Iowa Research Park  
*Interim director:* Diane Gallagher

## **Student Services**

*Interim vice president for student services:* Thomas R. Rocklin

*Associate vice president for student services and dean of students:* David L. Grady

*Assistant vice president for student services and director of University housing and dining:* Von Stange

*Assistant vice president:* Belinda Lantz Marner

*Associate dean of students:* Thomas R. Baker

Recreational Services  
*Director:* Harry R. Ostrander

Student Disability Services  
*Interim director:* Mark M. Harris

Student Health Educational Services  
*Interim administrative director:* Lisa James  
*Interim medical director:* Ann Laros

University Counseling Service  
*Director:* Sam V. Cochran

University Life Centers/Iowa Memorial Union  
*Director:* David L. Grady

Women's Resource and Action Center  
*Interim director:* Linda Kroon

## **Finance and Operations**

*Senior vice president and university treasurer:* Douglas K. True

*Vice president for human resources:* Susan C. Buckley

*Associate vice president and director, facilities services:* Donald Guckert

*Associate vice president and university controller:* Terry L. Johnson

*Assistant vice president and director, business services:* Mary Jane Beach

*Assistant vice president and director, public safety:* Charles Green

*Tax manager:* Andrew Ives

*University business manager:* George Hollins

*Director, treasury operations:* Cynthia Bartels

*Director, financial management and budget, and university secretary:* Douglas M. Young

## **Health Care**

*Vice president for medical affairs:* Jean E. Robillard

*Associate vice president for medical affairs and chief executive officer, University of Iowa Hospitals and Clinics:*  
Kenneth P. Kates

*Dean, Carver College of Medicine:* Paul B. Rothman

Center for Disabilities and Development  
*Director:* Elayne O. Sexsmith

Child Health Specialty Clinics  
*Director:* Brian Wilkes

Student Health Service  
*Interim administrative director:* Lisa James

*Interim medical director:* Ann Laros

University of Iowa Hospitals and Clinics  
*Chief executive officer:* Kenneth P. Kates

## **Strategic Communication**

*Vice president for strategic communication:* Tysen Kendig

*University spokesperson:* Tom Moore

Alumni Association  
*President:* Vincent C. Nelson

Center for Media Production  
*Director:* Scott Ketelsen

Hancher Auditorium  
*Executive director:* Charles Swanson  
*Artistic director:* Jacob Yarrow

Office of University Relations  
*Director:*

UITV  
*Manager:* Michael McBride

## **University of Iowa Foundation**

*President:* Lynette L. Marshall



## Faculty

The following persons held University of Iowa faculty appointments with the rank of instructor, assistant professor, associate professor, or professor August 3, 2010. In this listing, the year of first appointment follows the departmental identification, and the year of present appointment is given in parentheses.

**A'HEARN, AMY K.**, Adjunct Lecturer, General University College, 2006 (2007); BA 2001 Iowa; MS 2004 Western Illinois

**ABBAS, HARUHI**, Adjunct Lecturer, College Transition, 2006 (2006); MA 1985 Indiana PA; MA 1988 Iowa; MA 2002 Iowa

**ABBAS, PAUL J.**, Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1974 (1984); BS 1969 Massachusetts Inst of Technolo; PHD 1974 Johns Hopkins

**ABBOTT, CHARLES WILSON**, Adjunct Lecturer, International Programs, 2009 (2009); BA 1989 SUNY at Buffalo; PHD 2006 Iowa

**ABBOTT, LINDA I.**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1980 Iowa; MSN 1996 Iowa

**ABBOTT, MARY JO**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1971 Iowa

**ABBOUD, FRANCOIS**, Professor, Physiology/Internal Medicine, 1961 (1968); BS 1948 Christian Brothers' Schl-Egypt; PNS 1949 Cairo; MBBCH 1955 Ain Chams-Egypt; MBCHB 1955 Ain Chams-Egypt

**ABDALLAH, MOUIN**, Clinical Adjunct Instructor, Internal Medicine, 2008 (2008); MD 1996 American Univ of Beirut

**ABDEL-MALEK, KARIM**, Professor, Biomedical Engineering/Mechanical Engineering, 1994 (2005); BS 1988 Jordan; MS 1990 Pennsylvania; PHD 1993 Pennsylvania

**ABIOSE, ADEMOLA K.**, Clinical Associate Professor, Internal Medicine, 2005 (2008); MBBS 1985 Lagos

**ABRAHAMSON, TIMOTHY GARTH**, Clinical Adjunct Assistant Professor, Dermatology, 2002 (2002); BA 1993 Wartburg; MD 1997 Iowa

**ABRAM, NANCY J.**, Adjunct Lecturer, Marketing, 2007 (2007); BA 1980 St. Ambrose

**ABRAMOFF, MICHAEL DAVID**, Associate Professor, Electrical-Computer Engineering/Biomedical Engineering/Ophthalmology & Visual Science, 2004 (2008); MS 1989 Amsterdam; MD 1994 Amsterdam; PHD 2001 Utecht

**ABRAMOWITZ, PAUL W.**, Professor, Pharmacy, 1998 (1998); BA 1972 Indiana; BSPH 1977 Toledo; PHARMD 1979 Michigan

**ABRAMS, MARY ANN**, Clinical Adjunct Assistant Professor, Pediatrics, 2007 (2007); MD 1982 Ohio State; MPH 1988 Ohio State

**ABREU, ALISON CORNELIA**, Clinical Assistant Professor, Family Medicine/Psychiatry, 2003 (2006); BS 1990 Massachusetts; MD 1998 Iowa

**ABU-ARJA, ROLLA F.**, Clinical Assistant Professor, Pediatrics, 2008 (2008); MBBCH 1998 Jordan

**ABU-YOUSEF, MONZER M.**, Professor, Radiology, 1976 (1991); MBCHB 1970 Cairo-Egypt

**ACARREGUI, MICHAEL JOHN**, Associate Professor, Pediatrics, 1991 (1999); BA 1981 Oregon; MD 1985 Oregon

**ACERBO, MARTIN**, Adjunct Assistant Professor, Psychology, 2007 (2007); PHD 2001 Konstanz, Germany

**ACHEPOHL, KEITH A.**, Emeritus Professor, Art & Art History, 1973 (1981); BA 1956 Knox; MFA 1960 Iowa

**ACHRAZOGLOU, GEORGE JOHN**, Adjunct Associate Professor, Teaching and Learning, 1987 (2008); BA 1981 Iowa; MA 1993 Iowa; PHD 2003 Iowa

**ACHUTAN, P CHANDRAN**, Adjunct Assistant Professor, Occupational & Environmental Health, 2002 (2002); BSC 1991 Sains Malaysia; MS 1996 Iowa; PHD 2001 Iowa

**ACKERMAN, KELLY ANN**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2010 Drake

**ACTON, PATRICIA JO NASSIF**, Clinical Professor, Law-Faculty, 1981 (1985); BA 1971 Iowa; JD 1974 Iowa

**ADAM, MATTHEW**, Adjunct Lecturer, Management & Organizations, 2006 (2006); MBA 2002 Iowa

**ADAMEK, MARY**, Clinical Professor, Music, 1996 (2007); BM 1977 Virginia Commonwealth; MM 1981 Miami; PHD

1993 Minnesota

**ADAMS, BRIAN D.**, Professor, Orthopaedics and Rehabilitation/Biomedical Engineering, 1992 (1996); BS 1978 Nebraska; MD 1982 Nebraska

**ADAMS, CHARLOTTE**, Associate Professor, Dance, 1998 (2003); BA 1976 Appalachian State; MA 1984 Arizona; MFA 1995 Arizona

**ADAMS, CHRISTOPHER MAXIN**, Assistant Professor, Physiology/Internal Medicine, 2006 (2006); BS 1992 Kansas, Lawrence; MD 1999 Iowa; PHD 1999 Iowa

**ADAMS, HAROLD P.**, Professor, Neurology, 1976 (1985); BA 1966 Drake; BS 1968 South Dakota-Vermillion; MD 1970 Northwestern

**ADAMS, LAFAYETTE BLUFORD**, Associate Professor, English/American Studies, 1994 (2001); BA 1985 Duke; MA 1987 Virginia; PHD 1993 Virginia

**ADAMS, LORI**, Adjunct Assistant Professor, Department of Biology, 2010 (2010); BS 1998 Illinois; PHD 2003 Texas A&M

**ADAMS, RUSSELL**, Clinical Adjunct Associate Professor, Internal Medicine, 2000 (2004); MD 1979 Iowa

**ADAMS, SUSAN L.**, Adjunct Assistant Professor, Nursing, 2008 (2008); BSN 2002 Iowa; MSN 2005 Iowa; PHD 2007 Iowa

**ADAMSON, TIMOTHY L.**, Adjunct Assistant Professor, Religion, 2005 (2004); BA 1988 Chicago; MA 1994 Wesley Theological Seminary; PHD 2002 Oregon

**ADCOCK, CRAIG**, Professor, Art & Art History, 1994 (1994); BFA 1971 Colorado; MA 1974 University of Colorado; PHD 1981 Cornell University

**ADDIS JR, LAIRD C.**, Emeritus Professor, Philosophy, 1963 (1974); BA 1959 Iowa; MA 1960 Brown; PHD 1964 Iowa

**ADOLPHS, RALPH**, Adjunct Professor, Neurology, 1997 (2005); BSC 1986 Stanford; MSC 1986 Stanford; PHD 1992 California Technology of Tech

**ADRAIN, JONATHAN M.**, Associate Professor, Geoscience, 1999 (2004); BS 1989 Alberta; PHD 1993 Alberta

**ADRAIN, TIFFANY SARA**, Adjunct Instructor, General University College/Geoscience, 2004 (2004); BA 1988 Exeter; BS 1995 London; MS 2003 Iowa

**AFIFI, ADEL K.**, Emeritus Professor, Neurology/Anatomy & Cell Biology/Pediatrics, 1973 (1980); BA 1951 American University of Beirut; MD 1957 American University of Beirut; MS 1965 Iowa

**AGGARWAL, RAJ**, Adjunct Professor, Electrical-Computer Engineering, 2010 (2010); BS 1968 IISc; MS 1970 IIT (Dehli); PHD 1974 Purdue

**AGRAWAL, GAIL B.**, Professor, Law-Faculty, 2010 (2010); BA 1978 New Orleans; JD 1983 Tulane; MPH 1983 Tulane

**AGRAWAL, NAURANG**, Clinical Professor, Internal Medicine, 2010 (2010); MBBS 1968 Grant Medical, India

**AGRAWAL, NEERJA**, Clinical Assistant Professor, Internal Medicine, 2007 (2007); MD 1993 Paraiba, Brazil

**AGRELL, JEFFREY**, Associate Professor, Music, 2000 (2008); BA 1970 St Olaf; MM 1974 Wisconsin

**AGUILAR JR, AGUSTIN**, Clinical Assistant Professor, Emergency Medicine, 1988 (1995); BS 1978 Emory; MD 1982 Univ Autonoma de Guadalajara

**AHARI, ABDI**, Clinical Adjunct Assistant Professor, Surgery, 2009 (2009); BA 1987 Rudbeckianska Skolan; MD 1995 Uppsala Univ of Med

**AHLERS, TIMOTHY JOHN**, Adjunct Lecturer, Health Management & Policy, 2008 (2008); BBA 2003 Iowa; MBA 2005 Iowa; MHA 2005 Iowa

**AHMED, AZEEMUDDIN**, Clinical Associate Professor, Emergency Medicine, 2005 (2008); BA 1996 Augustana; MD 2000 Iowa; MBA 2010 Iowa

**AHN, JOONG**, Clinical Associate Professor, Radiology, 2004 (2004); MD 1989 Seoul National; MS 1994 Seoul National; PHD 1999 Seoul National

**AHRENDSEN, JON SIDNEY**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); MD 1982 Iowa

**AHRENS, RICHARD C.**, Professor, Pediatrics, 1980 (2002); BS 1969 Wisconsin-Madison; MD 1973 Medical College of Wisconsin; MS 1980 Iowa

**AIKIN, JUDITH P.**, Emeritus Professor, German, 1975 (1988); BA 1968 Oregon; MA 1969 Oregon; PHD 1974 California-Berkeley

**AJLUNI, NADER**, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); DO 1985 Osteopathic Medicine

**AKBAR, RAJA M.**, Clinical Adjunct Assistant Professor, Psychiatry, 1999 (1999); MD 1971 King Edward Medical

**AKER, JOHN GREGORY**, Adjunct Instructor, Nursing, 1995 (1998); MS 1987 KANSAS; DNAP 2009 Virginia Commonwealth University

**AKGUN, UGUR**, Adjunct Assistant Professor, Physics & Astronomy, 2006 (2006); PHD 2003 Iowa

**AKIYAMA, YASUKO**, Lecturer, Teaching and Learning, 2007 (2007); BA 1985 Okayama Univ; MA 1994 Penn State Univ; PHD 2003 Iowa

**AKYEA, MODEI KWASI**, Adjunct Instructor, Dance, 2008 (2008); BA 1997 Iowa

**AL-SHAWWA, BAH'A'UDDIN A.**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); MD 1995 University of Jordan

**AL-ZEIN, NASER JUMA**, Clinical Adjunct Assistant Professor, Pediatrics, 2006 (2006); MD 1993 Jordan Univ

**ALABSI, SAMIR Y.**, Clinical Adjunct Assistant Professor, Pediatrics, 2007 (2007); MD 1985 Cairo, Egypt

**ALARCON-SCHRODER, CARLOS**, Clinical Adjunct Assistant Professor, Family Medicine, 2007 (2007); MD 1994 Universidad Nacional Federico

**ALBERS, GARY RONALD**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1975 Iowa

**ALBERT, JAMES LAURENCE**, Lecturer, Theatre Arts/Dance, 1996 (1999); MFA 1986 Iowa

**ALBONETTI, CELESTA A.**, Professor, Law-Faculty/Sociology, 1998 (2000); BA 1973 Missouri-St. Louis; MA 1975 Missouri-St. Louis; PHD 1984 Wisconsin-Madison

**ALBRECHT, WILLIAM P.**, Emeritus Professor, Economics, 1965 (1982); AB 1956 Princeton; MA 1962 South Carolina; MA 1963 Yale; PHD 1965 Yale

**ALBRIGHT, JOHN P.**, Professor, Integrative Physiology/Orthopaedics and Rehabilitation, 1972 (1981); BA 1963 Illinois; MD 1967 Loyola

**ALESSI, STEPHEN M.**, Associate Professor, Psych & Quant Foundations/International Programs, 1982 (1988); BA 1973 Rochester; MA 1976 Illinois; PHD 1979 Illinois

**ALEXANDER, BRUCE**, Emeritus Professor, Psychiatry/Pharmacy, 1976 (2000); BS 1974 Drake; PHARM 1976 Minnesota

**ALEXANDER, MEREDITH**, Lecturer, Theatre Arts, 1992 (1997); MFA 1981 California-San Diego

**ALEXANDER, PETER M.**, Adjunct Assistant Professor, Music, 2009 (2009); BME 1967 Indiana; MM 1977 Indiana; PHD 1986 Indiana

**ALI, SABA RASHEED**, Associate Professor, Psych & Quant Foundations, 2003 (2009); BA 1992 West Virginia; MA 1996 Loyola; PHD 2001 Oregon

**ALIPOUR, FARIBORZ**, Adjunct Professor, Communication Sciences and Disorders, 1985 (2004); BS 1971 Tehran; MS 1971 Tehran; PHD 1981 Iowa

**ALLAN, GAY DUDLEY**, Lecturer, Spanish & Portuguese, 2004 (2006); MA 1984 Iowa; MFA 1988 Iowa; PHD 1992 Iowa

**ALLAREDDY, VEERATRISHUL**, Clinical Assistant Professor, Oral Path,Radiology&Medicine, 2008 (2008); BDS 2002 Ragas Dental College

**ALLBAUGH, LAURIE**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1978 Iowa

**ALLEN, CHRISTINE M.**, Adjunct Lecturer, General University College, 2008 (2008); BS 1990 Iowa; MSW 1999 Iowa

**ALLEN, DANIEL P.**, Clinical Adjunct Assistant Professor, Pharmacy, 1987 (1989); MD 1983 Iowa

**ALLEN, JOHN S.**, Clinical Professor, Law-Faculty, 1991 (2000); BA 1977 St. Olaf; JD 1980 Illinois

**ALLEN, LARRY L.**, Adjunct Assistant Professor, Social Work, 1987 (1996); MSW 1977 Iowa

**ALLEN, LEE-ANN**, Professor, Internal Medicine/Microbiology, 1996 (2010); BS 1982 California-Riverside; MS 1983 California-Riverside; PHD 1990 Wisconsin-Madison

**ALLEN, MEGAN ERIN**, Adjunct Lecturer, College Transition, 2008 (2008); BA 1998 Iowa; MA 2008 Keller School Mgmt, DeVry Univ

**ALLEN, RICHARD C.**, Associate Professor, Ophthalmology & Visual Science, 2009 (2009); BS 1987 Duke; PHD 1993 Baylor; MD 1995 Baylor

**ALLENDORF, LYNN MICHELLE**, Adjunct Lecturer, Management & Organizations, 2001 (2001); BS 1986 Iowa; MBA 1997 Iowa

**ALMEN-WHITTAKER, SUSAN C.**, Adjunct Instructor, Linguistics, 2000 (2000); BA 1993 Gustavus Adolphus; MA 1998 Wisconsin

**ALMOMANI, THAKIR DAMIN JUDI**, Adjunct Instructor, Biomedical Engineering, 2007 (2007); BSC 1998 Jordon Univ; MS 2001 Jordon Univ; PHD 2007 Iowa

**ALTER, MEGAN EARLY**, Adjunct Assistant Professor, Women's Studies/English, 2004 (2004); BA 1993 New York; MA 1995 New York; PHD 2004 Iowa

**ALTMAIER, ELIZABETH M.**, Professor, Community & Behavioral Health/Psych & Quant Foundations, 1980 (1989); BA 1973 Wheaton; MA 1975 Ohio State; PHD 1977 Ohio State

**ALTMAN, CHARLES**, Professor, Cinema & Comparative Literature, 1974 (1986); AB 1966 Duke; MA 1966 Duke; PHD 1971 Yale

**ALTON, DONALD A.**, Emeritus Professor, Computer Science, 1970 (1981); BA 1965 Rice; PHD 1970 Cornell

**ALWARD, WALLACE L.**, Professor, Ophthalmology & Visual Science, 1987 (1996); BA 1973 Kenyon; MD 1976 Ohio State

**AMAD, PAULA T.**, Associate Professor, Cinema & Comparative Literature, 2004 (2009); BA 1990 Melbourne; MA 1990 Melbourne; PHD 2002 Chicago

**AMADA, KENNETH**, Emeritus Professor, Music, 1967 (1976);

**AMAN, JERRAD D.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); BSPH 2003 South Dakota State; PHARMD 2005 South Dakota State

**AMBLER, ALICIA ROSE**, Lecturer, English as Second Language, 2010 (2010); BA 2006 Iowa; MA 2007 Iowa

**AMENDOLA, ANNUNZIATO**, Professor, Integrative Physiology/Physical Therapy/Orthopaedics and Rehabilitation, 2001 (2004); BS 1980 Western Ontario; MD 1984 Western Ontario

**AMOS, JAMES JOHN**, Clinical Associate Professor, Psychiatry, 1996 (2001); BS 1985 Iowa State; MD 1992 Iowa

**AMPUERO, ROBERTO**, Assistant Professor, Spanish & Portuguese, 2006 (2008); MA 2002 Iowa; PHD 2005 Iowa

**AN, AMY**, Lecturer, Accounting, 1983 (1983); BA 1973 British Columbia; MA 1982 Iowa

**AN, BRIAN PYONG**, Assistant Professor, Educ Policy & Leadership Studies, 2010 (2010); BA 2000 Washington; MS 2004 Wisconsin; PHD 2009 Wisconsin

**AN, HYONGGIN**, Adjunct Assistant Professor, Biostatistics, 2004 (2004); BS 1996 Korea; MS 1998 Chicago; PHD 2004 Michigan

**ANDERSEN, ARNOLD E.**, Emeritus Professor, Psychiatry, 1991 (1991); BA 1964 Cornell-New York; MD 1968 Cornell-New York

**ANDERSEN, DAVID R.**, Professor, Electrical-Computer Engineering/Physics & Astronomy, 1986 (1999); BSEE 1981 Iowa State; MSEE 1982 Purdue; PHD 1986 Purdue

**ANDERSEN, ERIC G.**, Professor, Law-Faculty, 1984 (1988); BA 1974 Brigham Young; JD 1977 Brigham Young

**ANDERSEN, KATHLEEN HELEN**, Lecturer, Anatomy & Cell Biology/Nursing, 1992 (2005); MS 1991 Iowa

**ANDERSLAND, MARK S.**, Associate Professor, Electrical-Computer Engineering, 1989 (1995); BSE 1983 Michigan; MSE 1984 Michigan; PHD 1989 Michigan

**ANDERSON, BARBARA S.**, Adjunct Instructor, Communication Sciences and Disorders, 1996 (1996); MA 1976 Northern Iowa

**ANDERSON, BARRIE**, Emeritus Professor, Obstetrics & Gynecology, 1982 (1993); BS 1963 Wisconsin; MD 1967 State U of NY-Upstate Med Col

**ANDERSON, BRENDA J.**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); BS 1977 Iowa

**ANDERSON, BRUCE THOR**, Clinical Adjunct Instructor, Nursing, 1991 (1991); MSN 1990 Eau Claire Wis

**ANDERSON, BRUCE A.**, Adjunct Assistant Professor, Preventive & Community Dentistry, 1990 (1992); DDS 1988 Iowa

**ANDERSON, CARRYN M.**, Assistant Professor, Radiation Oncology, 2008 (2008); MD 2003 Texas Medical Branch

**ANDERSON, CHARLES V.**, Emeritus Associate Professor, Communication Sciences and Disorders, 1966 (1968);

**ANDERSON, DANIEL D.**, Professor, Mathematics, 1974 (1983); BA 1971 Iowa; MS 1971 Chicago; PHD 1974 Chicago

**ANDERSON, DONALD DEAN**, Associate Professor, Biomedical Engineering/Orthopaedics and Rehabilitation, 2004 (2009); BSE 1985 IOWA; MS 1986 IOWA; PHD 1989 IOWA

**ANDERSON, ERLING A.**, Associate Professor, Anesthesia/Psychology, 1989 (1993); BA 1972 Wisconsin; MA 1981 Iowa; PHD 1984 Iowa

**ANDERSON, KENNETH W.**, Clinical Adjunct Assistant Professor, Pediatrics, 1975 (1975); MD 1972 Northwestern

**ANDERSON, MARK EDWARD**, Professor, Physiology/Internal Medicine, 2005 (2005); BA 1981 Macalester; PHD 1987 Minnesota; MD 1989 Minnesota

**ANDERSON, MICHAEL GARY**, Associate Professor, Physiology/Ophthalmology & Visual Science, 2004 (2010); PHD 1997 Iowa

**ANDERSON, PAUL G.**, Emeritus Professor, Music, 1949 (1968); BM 1948 Iowa; MA 1949 Iowa

**ANDERSON, RACHEL L.**, Associate Professor, Health Management & Policy/Nursing, 1999 (2005); BA 1987 Beloit; PHD 1997 Northwestern

**ANDERSON, RAYMOND RONALD**, Adjunct Assistant Professor, Geoscience, 1993 (1993); PHD 1992 Iowa

**ANDERSON, RHONDA KAY YOCKEY**, Adjunct Instructor, Pharmacy, 2006 (2006); BSPH 1989 Iowa

**ANDERSON, ROCKFORD CHARLES**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARMD 2006 Drake

**ANDERSON, STEVEN WAYNE**, Associate Professor, Neurology, 1994 (2003); BA 1982 South Florida; MA 1985 Iowa; PHD 1987 Iowa

**ANDERSON, STEVEN PAUL**, Adjunct Assistant Professor, Family Dentistry, 2005 (2005); DDS 1980 Iowa

**ANDERSON, TERESA M.**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1995 South Dakota State

**ANDERSON-BRUNER, JUDITH KAY**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1975 Iowa; MA 1993 Iowa

**ANDERSON-SUDDARTH, JULIE LINN**, Clinical Adjunct Assistant Professor, Pediatrics, 2006 (2006); BS 1995 Northeast Missouri State; MD 1999 Iowa

**ANDREASEN, NANCY COOVER**, Professor, Psychiatry/Education, 1973 (1981); BA 1958 Nebraska; MA 1959 Radcliffe; PHD 1963 Nebraska; MD 1970 Iowa

**ANDREJEVIC, MARK**, Associate Professor, Communication Studies, 2003 (2007); BA 1986 Williams College; MA 1992 Michigan; DPHIL 2001 Colorado

**ANDRESEN, ANDREW AUGUST**, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2002); MD 1989 Iowa

**ANDREW, JEANA RENEE**, Clinical Adjunct Instructor, Nursing, 2009 (2009); BSN 2000 Iowa; MSN 2004 Phoenix

**ANDREWS, EMILY MARIE**, Adjunct Instructor, Communication Sciences and Disorders, 2005 (2005); MA 1999 Iowa

**ANDREWS, JAMES G.**, Emeritus Professor, Mechanical Engineering, 1964 (1983); BSME 1957 Iowa; MS 1959 Iowa

**ANDSAGER, JULIE**, Professor, Journalism & Mass Communication/Community & Behavioral Health/General University College, 2003 (2008); BS 1986 Kansas State; MS 1990 Kansas State; PHD 1993 Tennessee

**ANGELO, GLORIA**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2001 New Mexico

**ANGUELOV, ZLATKO**, Adjunct Lecturer, Interdisciplinary Programs, 2008 (2008); MD 1972 Varna, Bulgaria; MA 1995 McGill

**ANKENMANN, ROBERT D.**, Associate Professor, Psych & Quant Foundations, 1994 (2000); BED 1984 Western Ontario; SCB 1984 University of Waterloo; MED 1990 New Brunswick; PHD 1994 Pittsburgh

**ANKENY, JOHN W.**, Clinical Adjunct Assistant Professor, Family Medicine, 1982 (2002); BA 1974 Simpson; DO 1977 Coll of Osteopathic Med

**ANSLEY, TIMOTHY N.**, Associate Professor, Psych & Quant Foundations, 1983 (1989); BA 1974 Eastern Illinois; MS 1977 Northern Illinois; PHD 1984 Iowa

**ANSTEY, B ELEANOR**, Emeritus Assistant Professor, Social Work, 1974 (1978); BA 1953 Marycrest; MA 1959 Creighton; MA 1968 Manhattanville; PHD 1983 Iowa

**ANSTREICHER, KURT M.**, Professor, Management Sciences/Computer Science/Industrial Engineering, 1991 (1991); BA 1978 Dartmouth; PHD 1982 Stanford

**ANTES, LISA MARIA**, Clinical Associate Professor, Internal Medicine, 2000 (2005); BS 1986 Montclair State; BA 1986 Montclair State; MD 1990 Robert Wood Johnson Medical

**ANTEZANO, EDUARDO SEBASTIAN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); MD 1996 Peruvian, Cayetano

**ANTHONY, JERRY**, Associate Professor, Public Policy Center/Urban & Regional Planning, 2000 (2006); BA 1989 Kerala-India; MS 1991 Delhi-India; PHD 2000 Florida State

**ANTHONY, REBECCA J.**, Adjunct Instructor, Teaching and Learning, 2005 (2005); BA 1972 Luther College; MA 1975 Iowa

**ANTHONY, THERESA RENEE**, Assistant Professor, Occupational & Environmental Health, 2009 (2009); MSE 1992 North Carolina - Chapel; PHD 2005 North Carolina - Chapel

**ANZELC, BENJAMIN PAUL**, Adjunct Assistant Professor, Art & Art History, 2006 (2006); BS 1997 Northern Illinois; MA 2000 Northern Illinois

**APICELLA, MICHAEL A.**, Professor, Internal Medicine/Microbiology, 1993 (1993); AB 1959 College of the Holy Cross; MD 1963 SUNY-Downstate Brooklyn

**APRILE, THOMAS R.**, Associate Professor, Art & Art History, 1980 (1995); MFA 1978 Syracuse

**AQUILINO, MARY LOBER**, Clinical Associate Professor, Community & Behavioral Health, 1982 (2004); BSN 1977 NY State- Binghamton; MSN 1982 North Carolina; PHD 1993 Iowa

**AQUILINO, STEVEN A.**, Professor, Prosthodontics, 1982 (1993); BS 1975 State Univ of NY-Binghamton; DDS 1979 North Carolina; MS 1982 North Carolina

**ARAB, SIDDIQ M.**, Clinical Adjunct Assistant Professor, Pediatrics, 1977 (1977); MBBS 1965 King Edward Medical

**ARAVAMUDHAN, RAMAN**, Adjunct Instructor, Computer Science, 2003 (2004); ME 1986 Bharathiar Univ, India

**ARCHER, BRAD JAMES**, Clinical Adjunct Associate Professor, Internal Medicine, 2005 (2010); BA 1989 Northern Iowa; MD 1999 South Dakota

**ARENS, LYNETTE RAE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2003 Iowa

**ARGO, TAMI RENEE**, Clinical Adjunct Assistant Professor, Psychiatry, 2009 (2009); PHAR 2002 Iowa; MS 2005 Iowa

**ARIENS, JULIE ANN**, Adjunct Lecturer, Management & Organizations, 2008 (2008); MBA 2006 Kansas

**ARIKAT, SUNNY OUSEPH**, Clinical Assistant Professor, Pediatrics, 2008 (2008); MD 1987 St. Johns Medical College

**ARKUSH, R DAVID**, Emeritus Professor, International Programs/History, 1972 (1988); BA 1962 Yale; MA 1964 Harvard; PHD 1976 Harvard

**ARMENS, SVEN M.**, Emeritus Professor, English, 1950 (1966); BA 1943 Tufts; MA 1947 Harvard; PHD 1951 Harvard

**ARMSTRONG, CRAIG EVAN**, Adjunct Assistant Professor, Management & Organizations, 2009 (2009); BS 1985 Kent State; MPH 1989 Tulane; MS 1992 Colorado School of Mines; MBA 2000 Maryland; PHD 2006 Texas

**ARMSTRONG, MARC P.**, Professor, Geography, 1984 (1998); BA 1974 New York-Plattsburgh; MA 1977 North Carolina-Charlotte; PHD 1988 Illinois

**ARMSTRONG, STEVEN RAY**, Associate Professor, Operative Dentistry, 1999 (2005); BS 1983 Iowa; DDS 1987 Iowa; PHD 1998 Iowa

**ARMSTRONG, VIRGINIA**, Adjunct Assistant Professor, Music, 2008 (2008); DMA 2007 Iowa

**ARNDT, STEPHAN**, Professor, Biostatistics/IA Consortium Substance Abuse/Psychiatry, 1991 (1998); BS 1974 Loyola; MA 1976 Claremont; PHD 1980 Claremont

**ARNESON, SCOTT KABRICK**, Adjunct Lecturer, Management & Organizations/Marketing/Office of Management & Business Development/Family Dentistry, 2000 (2000); BBA 1984 Iowa; MBA 1999 Iowa

**ARNOLD, GERALD M.**, Clinical Adjunct Assistant Professor, Emergency Medicine, 2005 (2005); MD 1995 New York Medical College

**ARNOLD, MARK A.**, Professor, Chemistry, 1982 (1994); BS 1978 Indiana-Purdue; PHD 1982 Delaware

**ARNONE, ANTHONY**, Associate Professor, Music, 2001 (2008); BM 1989 New England Conservatory; MM 1994 Wichita State; MM 1995 Wichita State

**ARNONE, ARTHUR**, Emeritus Professor, Biochemistry, 1973 (1983); BS 1964 New York; MS 1966 New York; PHD 1970 Massachusetts Inst of Tech

**ARORA, JASBIR S.**, Professor, Civil-Environmental Engineering/Mechanical Engineering, 1972 (1981); BS 1964 Punjab-India; MS 1967 Kansas State; PHD 1971 Iowa

**ARSHAVA, EVGENY**, Clinical Assistant Professor, Surgery, 2008 (2009); MD 2000 Peoples Friendship Univ

**ARTEMYEV, NIKOLAI O.**, Professor, Physiology, 1995 (2004); BS 1984 St. Petersburg Inst of Technol; PHD 1988 St. Petersburg Inst of Technol

**ARTHERHOLT, WILLIAM G.**, Clinical Adjunct Assistant Professor, Family Medicine, 1976 (2002); DO 1972 Coll of Osteopathic Med

**ARTHUR, LOYCE L.**, Associate Professor, Theatre Arts, 1998 (1998); BA 1981 Pennsylvania; MFA 1985 New York University

**ARTINIAN, FRANK**, Clinical Adjunct Assistant Professor, Pediatrics, 2009 (2009); BS 1997 Michigan State; MD 2001 Michigan State

**ARTMAN, MICHAEL**, Professor, Physiology/Pediatrics, 2005 (2004); MD 1978 Tulane University Med School

**ASCOLI, MARIO**, Professor, Pharmacology/Obstetrics & Gynecology, 1990 (1990); BS 1971 San Carlos; PHD 1975 Vanderbilt

**ASCROFT, JOSEPH R.**, Emeritus Professor, Journalism & Mass Communication, 1970 (1982); BA 1956 Cape Town-South Africa; MA 1966 Michigan State; PHD 1969 Michigan State

**ASHMAN, ROBERT F.**, Emeritus Professor, Internal Medicine/Microbiology, 1980 (1980); BA 1960 Wabash; BA 1962 Oxford-England; MA 1966 Oxford-England; MD 1966 Columbia

**ASHTON, NED C.**, Adjunct Instructor, General University College, 1994 (1994); BS 1985 Iowa

**ASHWORTH, SHALLA WILSON**, Adjunct Instructor, General University College, 2008 (2008); BA 1995 Iowa; AB 1996 Iowa

**ASKELAND, RYAN**, Clinical Assistant Professor, Pathology, 2009 (2009); BA 1999 Northern Iowa; MD 2004 Iowa

**ASPENGREN, KATHRYN DIANE**, Adjunct Assistant Professor, Theatre Arts/General University College, 1995 (1995); BA 1974 Iowa; MFA 1994 Iowa

**ASPREY, DAVID PERRY**, Professor, Physical Therapy/Physician Assistant, 1994 (2008); PHD 1999 Iowa

**ASSELIN, MARIE-EVE**, Adjunct Assistant Professor, Pediatric Dentistry, 2007 (2007); DMD 2002 De Montreal; FRCDC 2005 Royal Col of Dent of Canada; MS 2005 De Montreal

**ASSEM, MAHFOUD**, Assistant Professor, Pharmacy, 2007 (2007); PHARM D 1995 Dijon, France; PHD 2000 Dijon, France

**ASSOULINE, SUSAN LYNN GOODSELL**, Professor, Psych & Quant Foundations, 1990 (2009); BS 1975 Iowa; EDS 1984 Iowa; PHD 1988 Iowa

**ATCHISON, CHRISTOPHER**, Clinical Professor, Health Management & Policy/Nursing, 1998 (2004); AB 1971 Loyola; MPA 1990 Illinois-Springfield

**ATIENZA, SALVADOR DIMAPASOK**, Adjunct Assistant Professor, Family Dentistry, 1999 (2000); BS 1990 Iowa; DDS 1994 Iowa

**ATKINS, DIANNE LEE**, Professor, Pediatrics, 1983 (2002); BA 1974 Johns Hopkins; MD 1977 Johns Hopkins

**ATKINSON, ALICE M.**, Emeritus Associate Professor, Teaching and Learning, 1973 (1995); BS 1961 Iowa State; MS 1963 Wisconsin; PHD 1982 Iowa

**ATKINSON, KENDALL E.**, Emeritus Professor, Mathematics/Computer Science, 1972 (1975); BS 1961 Iowa State; MS 1963 Wisconsin; PHD 1966 Wisconsin

**AUBREY, ELIZABETH**, Emeritus Professor, Music, 1982 (1998); BA 1973 Grinnell; MM 1975 Maryland; PHD 1982

## Maryland

**AUL, EDWARD**, Clinical Assistant Professor, Neurology, 1998 (2000); BS 1988 Pittsburgh; MD 1992 Pittsburgh

**AUNAN, CAROL DIANE**, Adjunct Assistant Professor, Nursing, 1997 (2004); BSN 1993 Iowa; MSN 2001 Iowa

**AURAND, GARY A.**, Adjunct Associate Professor, Chemical & Biomedical Engineering, 1997 (2004); BS 1986 Nebraska @ Lincoln; PHD 1996 North Carolina State

**AVELINO, ROSARIO RUTH**, Adjunct Associate Professor, Pharmacy, 2008 (2008); PHARM D 1993 Chicago

**AXELSON, RICK DON**, Assistant Professor, Family Medicine, 2007 (2007); PHD 2003 Arizona

**AYATI, BRUCE**, Assistant Professor, Mathematics, 2007 (2007); BA 1993 California, San Diego; SMM 1994 Chicago; PHD 1998 Chicago

**AYKIN-BURNS, NUKHET**, Adjunct Assistant Professor, Radiation Oncology, 2008 (2008); BS 1995 Middle East Technical Univ; PHD 2002 Missouri-Rolla,

**AYRES, LIONESS**, Assistant Professor, Nursing, 2005 (2005); MSN 1992 Illinois @ Chicago; PHD 1998 Illinois @ Chicago

**AZAR, ANTOINE E.**, Clinical Assistant Professor, Internal Medicine, 2007 (2007); BS 1995 American Univ/Beirut, Lebanon; MD 1999 American Univ/Beirut, Lebanon

**BABCOCK, BRUCE A.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1987 Drake

**BACCEI, AMY OSWALD**, Adjunct Lecturer, General University College, 2006 (2007); BS 2001 UW-Stevens Point; MED 2006 Loras College

**BACCEI, MARK ANDREW**, Adjunct Lecturer, College Transition, 2008 (2008); BED 2004 Cornell; MA 2006 Iowa

**BACON, ROBERT A.**, Adjunct Lecturer, Public Policy Center/Teaching and Learning, 1997 (1997); BA 1969 Stanford University; MA 1978 Iowa

**BADOVINAC, VLADIMIR**, Assistant Professor, Pathology, 2007 (2007); BS 1994 Belgrade; MS 1997 Belgrade; PHD 1999 Belgrade

**BAENZIGER, NORMAN C.**, Emeritus Professor, Chemistry, 1949 (1957); BS 1943 Hamline; PHD 1948 Iowa State

**BAER, WILLIAM THOMAS**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BS 1976 Iowa

**BAGFORD, JACK**, Emeritus Professor, Teaching and Learning, 1962 (1970); MED 1956 Miami-Ohio; EDD 1960 Indiana

**BAHENSKY, JAMES**, Adjunct Associate Professor, Health Management & Policy, 2003 (2003); BS 1971 Nebraska; MS 1976 Nebraska

**BAHLS, FREDRICK HOWARD**, Clinical Adjunct Assistant Professor, Neurology, 2007 (2007); BA 1973 Iowa; MD 1980 Iowa; PHD 1980 Iowa

**BAHRICK, AUDREY S.**, Adjunct Assistant Professor, Psych & Quant Foundations, 1995 (1995); BA 1980 Ohio Wesleyan; MA 1981 Ohio State; MA 1986 Ohio State; PHD 1989 Ohio State

**BAI, ER-WEI**, Professor, Radiology/Electrical-Computer Engineering, 1987 (2000); BS 1977 Fudan-China; ME 1982 Shanghai Jiaotong; PHD 1987 Calif-Berkeley

**BAILEY, BARBARA**, Adjunct Assistant Professor, Theatre Arts, 2009 (2009); MA 1995 Arkansas, Fayetteville

**BAILEY, JENNIE**, Adjunct Instructor, General University College, 2006 (2006); MA 1994 Eastern Illinois

**BAILEY, JONATHON**, Lecturer, Civil-Environmental Engineering, 2006 (2007); BA 1985 Iowa State; BS 1985 Iowa State

**BAILEY, OLIVIA ERIN**, Clinical Assistant Professor, Emergency Medicine, 2007 (2007); BA 2000 Iowa; BS 2000 Iowa; MD 2004 Chicago

**BAILEY, SHAWN**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2003 (2003); BS 1987 Eastern Illinois; DDS 1991 Iowa; MD 1995 New York

**BAILEY, WILLIAM J.**, Clinical Adjunct Assistant Professor, Family Medicine, 2000 (2000); MD 1975 Creighton

**BAILLIE, KYRKE BRANDON**, Adjunct Assistant Professor, Periodontics, 2009 (2009); DDS 2001 CO U School of Dentistry

**BAINBRIDGE, CRAIG WAYNE**, Clinical Adjunct Associate Professor, Occupational & Environmental Health/Internal



Medicine, 1977 (2002); MD 1974 Iowa

**BAIR, HEATHER LUCY**, Clinical Adjunct Instructor, Nursing, 2000 (2008); BSN 1997 Iowa; MSN 2005 Iowa

**BAIR, THOMAS BRIAN**, Adjunct Instructor, Biomedical Engineering, 2007 (2007); BS 1991 Western Illinois; MS 1993 Western Illinois; PHD 2001 Iowa

**BAIRD, ROBERT D.**, Emeritus Professor, Religion, 1966 (1974); BA 1954 Houghton; BD 1957 Fuller Theological Seminary; MA 1958 SMU; PHD 1964 Iowa

**BAKER, FOSTER G.**, Adjunct Instructor, Mathematics, 1995 (1995); BS 1949 Northwest Missouri State Univ; MS 1960 Kansas; BS 1963 Northwest Missouri St.

**BAKER, JAMES E.**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1982 Yale; JD 1990 Yale Law School

**BAKER, KAREN ANN KENALEY**, Associate Professor, Oral Path,Radiology&Medicine/Pharmacy, 1981 (1991); BS 1979 Pharmacy - Iowa; MS 1981 Iowa

**BAKER, KIMBERLY MICHELLE**, Clinical Assistant Professor, Internal Medicine, 2008 (2008); BA 1996 Iowa; MD 2000 Iowa

**BAKER, LARRY**, Adjunct Assistant Professor, English, 1992 (1992); PHD 1986 Iowa

**BAKER, LAURENCE J.**, Clinical Adjunct Assistant Professor, Family Medicine, 1982 (2002); BS 1974 Iowa; DO 1977 Coll of Osteopathic Med

**BAKER, MAX T.**, Associate Professor, Anesthesia, 1989 (1994); BS 1975 Georgia; MS 1978 Georgia; PHD 1980 Georgia

**BAKER, MELISSA LYNN**, Adjunct Lecturer, College Transition, 2008 (2008); BA 2000 Iowa; MA 2002 Bowling Green State

**BAKER, NANCY L.**, Adjunct Professor, Library & Information Science, 2002 (2002); BA 1972 Connecticut; AMLS 1973 Michigan; MA 1978 SUNY-Binghamton

**BAKER, RICHARD G.**, Emeritus Professor, Geoscience/Department of Biology, 1970 (1982); BA 1960 Wisconsin; MA 1964 Minnesota; PHD 1969 Colorado

**BAKER, RICHARD LANCE**, Associate Professor, Mathematics, 1989 (1995); BA 1972 Drake; MS 1979 Iowa; PHD 1987 California-Berkeley

**BAKER, SHEILA ANNETTA**, Assistant Professor, Biochemistry, 2010 (2010); PHD 2003 Medical College of Wisconsin

**BAKER, THOMAS ROBERT**, Adjunct Lecturer, General University College, 1999 (1999); BA 1982 Iowa; JD 1985 Iowa; MA 1986 Iowa

**BALAKRISHNAN, R**, Professor, Accounting, 1986 (2000); BS 1977 Madras-India; MBA 1979 Indian Institute of Management; PHD 1986 Columbia

**BALAKRISHNAN, USHA R.**, Adjunct Lecturer, International Programs, 2009 (2009); MBA 1988 Iowa

**BALASUBRAHMANIAN, RAVIKUMAR**, Professor, Economics, 1995 (2002); PHD 1989 Iowa

**BALDUS, CLARA MARIE**, Adjunct Assistant Professor, Psych & Quant Foundations, 2001 (2001); BA 1976 Mt. Mercy; MA 1988 Marycrest; PHD 2001 Iowa

**BALDUS, DAVID C.**, Professor, Law-Faculty, 1969 (1972); BA 1957 Dartmouth; MA 1962 Pittsburgh; LLB 1964 Yale; LLM 1969 Yale

**BALLANTYNE, BRYON TODD**, Adjunct Associate Professor, Physical Therapy, 2007 (2007); MA 1991 Iowa; PHD 2005 Iowa

**BALLARD, PAMELA S.**, Emeritus Assistant Professor, Nursing, 1993 (2002); BA 1958 Iowa; BSN 1978 Iowa; MSN 1985 Iowa

**BALLAS, ZUHAIR K.**, Professor, Internal Medicine, 1980 (1993); BS 1970 Amer Univ of Beirut-Lebanon; MD 1974 Amer Univ of Beirut-Lebanon

**BALLER, ROBERT D.**, Associate Professor, Sociology, 2000 (2006); BA 1993 Indiana-Purdue-Fort Wayne; MA 1995 Oregon

**BALLER, RYAN**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); DDS 2009 UNMC

**BALSTER, ERIK THOMAS**, Adjunct Assistant Professor, Pediatric Dentistry, 2006 (2006); DDS 2004 Iowa

**BANAS, JEFFREY A.**, Professor, Pediatric Dentistry, 2006 (2006); BS 1981 Notre Dame; PHD 1987 Michigan

**BANDSTRA, MIKE J.**, Adjunct Assistant Professor, Law-Faculty/Social Work, 1999 (2002); BS 1987 Iowa State; JD 1993 Iowa State

**BANFI, BOTOND B.**, Associate Professor, Anatomy & Cell Biology/Internal Medicine, 2004 (2010); MD 2000 Semmelweis; PHD 2002 Semmelweis

**BANKER, GILBERT S.**, Emeritus Professor, Pharmacy, 1992 (1992); BS 1953 Union New York; MS 1955 Purdue; PHD 1957 Purdue

**BANKS, KATHLEEN**, Assistant Professor, Psych & Quant Foundations, 2006 (2006); BS 1994 Wisconsin @ Whitewater; MS 1997 Wisconsin @ Milwaukee; PHD 2004 Wisconsin @ Milwaukee

**BAR, ROBERT S.**, Emeritus Professor, Internal Medicine, 1977 (1986); BS 1964 Tufts; MS 1970 Ohio State; MD 1970 Ohio State

**BARBOSA, MARIA JOSE**, Associate Professor, Spanish & Portuguese/International Programs, 1997 (2001); BA 1983 Federal de Minas Gerais-Brazil; MA 1984 North Carolina-Chapel Hill; PHD 1990 North Carolina-Chapel Hill

**BARBUZZA, ISABEL**, Associate Professor, International Programs/Art & Art History, 1997 (2003); BA 1988 California-Santa Barbara; MFA 1990 California-Santa Barbara

**BARFKNECHT, CHARLES F.**, Emeritus Professor, Pharmacy, 1967 (1974); BS 1960 Wisconsin; PHD 1964 Kansas

**BARKAN, JOEL D.**, Emeritus Professor, International Programs, 1972 (1981); BA 1963 Cornell; MA 1965 California-Los Angeles; PHD 1970 California-Los Angeles

**BARKAN, SANDRA HACKMAN**, Emeritus Assistant Professor, Cinema & Comparative Literature, 1995 (1985); AB 1963 Cornell; MA 1964 California-Los Angeles; PHD 1984 Iowa

**BARKER, ANNA**, Adjunct Assistant Professor, English/Cinema & Comparative Literature/Asian & Slavic Languages & Literature, 2003 (2005); BA 1991 Iowa; MA 1994 Iowa; PHD 2002 Iowa

**BARKER, BRETT H.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARM D 2008 Iowa

**BARKER, DAVID ROBERT**, Adjunct Professor, Finance, 2004 (2008); BA 1984 CALIFORNIA-BERKELEY; MA 1986 CHICAGO; PHD 1991 CHICAGO

**BARKER, JASON H.**, Assistant Professor, Internal Medicine, 2005 (2007); MD 1999 Baylor

**BARKER, TIMOTHY ALLEN**, Adjunct Lecturer, College Transition, 2009 (2009); BA 1995 Western Washington; MA 2005 Phoenix

**BARKER ANDERSON, DAWN**, Lecturer, Law-Faculty, 2001 (2001); BA 1992 N - Iowa; JD 1995 Iowa

**BARLOON, THOMAS J.**, Associate Professor, Radiology, 1981 (1992); BS 1971 Loras; MD 1975 Wisconsin

**BARLOW, ERIC**, Clinical Adjunct Assistant Professor, Psychiatry, 2007 (2007); BA 1991 Augustana; BA 1995 Augustana College, SD; MD 1999 South Dakota

**BARNES, DANIEL W.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BS 1976 SW Oklahoma State

**BARNES, ED C.**, Adjunct Instructor, Social Work, 2000 (2000); MSW 1999 Iowa

**BARNES, ERIN FRANCES**, Lecturer, Counseling, Rehab & Stu Dev, 2007 (2007); BA 2001 Iowa; MA 2005 Iowa

**BARNES, GEOFFREY J.**, Adjunct Lecturer, Management Sciences, 2000 (2000); MBA 2000 Iowa

**BARNES, PATRICK L.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1982 Drake

**BARNES, THOMAS MINOR**, Adjunct Assistant Professor, Family Dentistry, 2002 (2004); BA 1992 Iowa; DDS 1999 Iowa; CER 2003 Iowa

**BARON, JEFFREY**, Emeritus Professor, Pharmacology, 1972 (1980); BS 1965 Connecticut; PHD 1969 Michigan

**BARON, ROBERT S.**, Emeritus Professor, Psychology, 1970 (1982); BS 1965 Cornell; PHD 1970 Minnesota

**BARON, ROBERT JACOB**, Emeritus Professor, Computer Science, 1970 (1993); AB 1963 San Diego State; MS 1965 Cornell; PHD 1968 Cornell

**BARQUIST, STEPHANIE KAY RUDISH**, Adjunct Assistant Professor, Operative Dentistry, 2000 (2000); BA 1995 Iowa; DDS 1998 Iowa

**BARRAGAN, ELOY**, Assistant Professor, Dance, 2005 (2005);

**BARRASH, JOSEPH**, Clinical Associate Professor, Neurology, 1998 (2006); PHD 1988 Iowa

**BARRETT, CATHERINE B.**, Adjunct Lecturer, General University College, 2003 (2004); BA 1990 Decorah, IA; MA 1995 Iowa

**BARRETT, TIMOTHY D.**, Adjunct Professor, Interdisciplinary Programs, 1993 (2005); BA 1973 Antioch

**BARRON, PATRICK INGLES**, Adjunct Lecturer, Economics, 2008 (2008); BA 1969 Bradley; MA 1974 Arkansas; UNKNOWN 1981 Grad Sch of Banking, Univ. Wis

**BARRON, SCOTT**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); BS 1987 South Florida; MD 1991 South Florida

**BARRON, SHEILA**, Adjunct Assistant Professor, Psych & Quant Foundations, 2001 (2001); BA 1989 Iowa; MA 1991 Iowa; PHD 1993 Iowa

**BARTACHEK, AMY LYNN**, Adjunct Lecturer, General University College/College Transition, 2005 (2005); MA 2001 Iowa

**BARTH LEICK, MARCIA ANN**, Adjunct Instructor, Communication Sciences and Disorders, 1999 (1999); MA 1996 Northern Iowa

**BARTLETT, HEATHER L.**, Assistant Professor, Pediatrics/Biochemistry, 2004 (2004); BS 1991 Arizona College of Med; MD 1995 Arizona College of Med

**BARTLETT, LARRY D.**, Emeritus Professor, Educ Policy & Leadership Studies, 1985 (1994); BA 1964 Northern Iowa; JD 1974 Nebraska; PHD 1983 Iowa State

**BARTLETT, LUKE JOSEPH**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 2000 Iowa

**BARTON, LORI A.**, Adjunct Instructor, Pharmacy, 2005 (2005); BS 1995 Iowa

**BASEL, DAVID**, Clinical Adjunct Associate Professor, Internal Medicine/Pediatrics, 2004 (2010); MD 1999 Kansas; MS 1999 Kansas State

**BASS-RINGDAHL, SANDIE MICHELLE**, Assistant Professor, Communication Sciences and Disorders, 2003 (2003); BA 1993 Florida; MA 1995 Louisiana State; PHD 2002 Iowa

**BASSINGTHWAITE, BRENDA JEAN**, Adjunct Assistant Professor, Psych & Quant Foundations, 2010 (2010); BA 1995 North Dakota State; MS 1998 Iowa State; PHD 2007 Iowa

**BASSUK, ALEXANDER G.**, Assistant Professor, Pediatrics, 2007 (2007); MD 1999 Chicago

**BASU, HRIDEN NARAYAN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1964 Calcutta Medical

**BASU, NANDITA**, Assistant Professor, Civil-Environmental Engineering, 2009 (2009); BE 1997 Jadavpur; BENG 1997 Jadavpur University; MCE 2001 Indian Institute of Tech; PHD 2006 Purdue

**BATE, WALTER W.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1984 (1984); MD 1977 Illinois

**BATES, DAVID SCOTT**, Professor, Finance, 1996 (2006); BS 1978 Massachusetts Inst of Technolo; MPA 1981 Princeton; MA 1985 Princeton; PHD 1988 Princeton

**BATES, JAMES N.**, Associate Professor, Anesthesia, 1984 (1990); BA 1972 Calif-Santa Barbara; MA 1975 Calif-Santa Barbara; PHD 1977 Calif-Santa Barbara; MD 1981 Miami

**BAUER, PATRICK B.**, Professor, Law-Faculty, 1979 (1985); BA 1972 Wesleyan; JD 1975 Chicago

**BAUM, KRISTIN ALANA**, Adjunct Instructor, Library & Information Science/Interdisciplinary Programs, 2007 (2007); BA 1991 Lawrence; MA 1995 Iowa

**BAUMBACH, GARY LYNN**, Professor, Pathology, 1980 (1996); BA 1971 Wartburg; MD 1976 Iowa

**BAXTER, LESLIE**, Professor, Communication Studies/Community & Behavioral Health, 1994 (1994); BS 1971 Lewis and Clark; MS 1972 Oregon; PHD 1975 Oregon

**BAYLESS, JOHN D.**, Clinical Professor, Psychiatry, 1999 (2008); BS 1974 Wisconsin-Oshkosh; MS 1977 Wisconsin-Oshkosh; PHD 1986 Iowa

**BAYNTON, DOUGLAS CAMERON**, Associate Professor, Communication Sciences and Disorders/History, 1993 (2002); BS 1986 Western Oregon State; MA 1988 Iowa; PHD 1993 Iowa

**BAYON, RODRIGO**, Clinical Assistant Professor, Otolaryngology-Head & Neck Surgery, 2010 (2010); MD 2004 South Florida Med

**BAYOUTH, JOHN E.**, Associate Professor, Radiation Oncology/Biomedical Engineering, 2004 (2004); BS 1988 Kansas State; MS 1991 Kansas State; PHD 1993 Texas

**BEANE, ABBY ELISABETH**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2007 Iowa

**BEAR, PHILLIP A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1990 (2007); DO 1981 Osteopathic Med & Hlth

**BEARD, JO ANN**, Adjunct Associate Professor, English, 2008 (2008); MA 1994 Iowa

**BEARDSLEY, DOUGLAS E.**, Adjunct Associate Professor, Health Management & Policy, 2010 (2010); BA 1985 Utah; MPH 1986 Alabama

**BEASLEY, BYRON T.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1977 (1984); MD 1974 Iowa

**BEASLEY, OSCAR C.**, Emeritus Associate Professor, Internal Medicine, 1974 (1974); BS 1948 Kentucky; MD 1952 Vanderbilt

**BEATTIE, ELIZABETH RUBY**, Adjunct Associate Professor, Nursing, 2006 (2006); BA 1985 Macquarie, Australia; MA 1989 New South Wales, Austr; PHD 1997 James Cook, Australia

**BEATTIE, MATTHEW C.**, Adjunct Assistant Professor, Family Dentistry, 2002 (2002); BA 1996 Augustana; DDS 2000 Iowa

**BEBOUT, KEVIN L.**, Adjunct Instructor, Pharmacy, 2003 (2003); BSPH 1984 Iowa

**BECHARA, ANTOINE**, Adjunct Associate Professor, Neurology, 1995 (2004); BSC 1983 Toronto; PHD 1991 Toronto

**BECK, MARGARET E.**, Assistant Professor, Anthropology, 2007 (2007); BA 1992 Kansas; MA 1995 Kansas; PHD 2003 Arizona

**BECK, MARY GWEN**, Clinical Professor, Internal Medicine, 1997 (2010); MD 1994 Iowa

**BECKER, AMY JEAN**, Clinical Assistant Professor, Pharmacy, 1994 (2000); BSPH 1974 Iowa; PHARMD 1985 Iowa

**BECKER, SAMUEL L.**, Emeritus Professor, Communication Studies, 1950 (1961); BA 1947 Iowa; MA 1949 Iowa; PHD 1953 Iowa

**BECKER, THOMAS EDWARD**, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); MD 1987 Iowa

**BECKER, TIMOTHY DALE**, Adjunct Instructor, Pharmacy, 1998 (1998); PHARMD 1997 Iowa

**BECKERMANN, CHRISTOPH**, Professor, Mechanical Engineering, 1987 (1996); MS 1984 Purdue; PHD 1987 Purdue

**BECKMAN, JILL N.**, Associate Professor, Linguistics, 1996 (2004); BA 1989 Michigan State; MA 1991 Ohio State; PHD 1998 Massachusetts

**BECKWITH, PAULA SUE**, Clinical Adjunct Assistant Professor, Surgery, 1993 (2003); MD 1984 Iowa

**BEDDOW, JOHN K.**, Emeritus Professor, Chemical & Biomedical Engineering, 1968 (1979); BSC 1954 A.M.C.T.Manchester,England; PHD 1959 Cambridge-England

**BEDELL, DAVID A.**, Clinical Associate Professor, Family Medicine, 1995 (2004); BA 1975 Colorado College; MD 1982 Washington

**BEDNAR, THOMAS MICHAEL**, Lecturer, Management Sciences, 2009 (2009); BBA 1973 Iowa

**BEEBOUT, SUSAN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2008); BS 1997 Iowa State; MD 2001 Iowa

**BEEGHLY, JAMES H.**, Clinical Associate Professor, Psychiatry, 1985 (2000); BS 1972 West Virginia; MD 1978 West Virginia

**BEGLEY, WAYNE E.**, Emeritus Professor, Art & Art History, 1966 (1980);

**B EGLINGER, LEIGH J.**, Associate Professor, Psychiatry, 2003 (2009); BS 1992 Idaho; MS 1995 Idaho; PHD 2000 Washington State

**BEHRENDT, DOUGLAS M.**, Emeritus Professor, Cardiothoracic Surgery, 1986 (1986); AB 1959 Amherst; MD 1963 Harvard

**BEHRENDTSEN, OLE**, Clinical Assistant Professor, Psychiatry/Internal Medicine, 2007 (2007); BA 1979 San Francisco State; MD 2002 Iowa

**BEHRENS, ANNA MARIE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2008 Iowa

- BEHRENS, ROBERT J.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BS 1992 Iowa State; MD 1997 Iowa
- BEICHEL, REINHARD R.**, Assistant Professor, Electrical-Computer Engineering/Internal Medicine, 2007 (2007); MS 1999 Graz Univ. of Technology; PHD 2005 Graz Univ. of Technology
- BEITZEL, JANE M.**, Adjunct Instructor, Pharmacy, 2002 (2002); AS 1987 Loras; BS 1990 Iowa
- BELIN, MICHAEL WILLIAM**, Instructor, Military Science, 2008 (2008); BS 1991 Fitchburg State
- BELL, COLIN E.**, Emeritus Professor, Management Sciences, 1980 (1980); BA 1964 California-Berkeley; MA 1966 California-Berkeley; PHD 1969 Yale
- BELL, EDWARD F.**, Professor, Pediatrics, 1979 (1988); BA 1969 Washington and Jefferson; MD 1973 Columbia
- BELL, GREGORY RUSSELL**, Clinical Assistant Professor, Emergency Medicine, 2007 (2007); MD 1988 Ohio State
- BELL, MARVIN H.**, Emeritus Professor, Creative Writing, 1965 (1975); BA 1958 Alfred; MA 1961 Chicago; MFA 1963 University of Iowa
- BELL, WILLIAM E.**, Emeritus Professor, Neurology/Pediatrics, 1962 (1972); MS 1951 West Virginia; BA 1951 West Virginia; MS 1953 West Virginia; MD 1955 Virginia
- BELLI, MERIAM**, Assistant Professor, History, 2008 (2008); BA 1994 Inalco, Paris, France; MA 1995 Inalco, Paris, France; PHD 2005 Georgetown
- BELLINGER, ANKE**, Clinical Assistant Professor, Anesthesia, 2006 (2007); BS 1990 Essen, Germany; MD 1997 Witten-Herdecke Germany
- BELLO, GERMAINE D.**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); DDS 2005 Iowa
- BELLUS, PAUL**, Adjunct Instructor, Communication Studies, 2001 (2001); BS 1993 Nebraska; MA 1995 Nebraska
- BELTRAMO, LOUISE**, Emeritus Professor, Teaching and Learning, 1954 (1966); BA 1941 Louisiana State; MA 1949 Iowa; PHD 1954 Iowa
- BELTZ, ELIZABETH A.**, Clinical Assistant Professor, Pharmacy, 1991 (1991); BSPH 1983 Purdue; PHARM D 1984 Purdue
- BELZ, MARK**, Clinical Adjunct Associate Professor, Internal Medicine, 2003 (2006); BS 1991 Pittsburgh; BSEE 1991 Pittsburgh; MD 1995 Wash St. Louis
- BENDA, JO ANN**, Professor, Obstetrics & Gynecology/Pathology, 1979 (1996); BS 1971 Iowa State; MD 1975 Iowa
- BENDER, DAVID PAUL**, Clinical Assistant Professor, Obstetrics & Gynecology, 2004 (2004); BA 1991 Maine; MD 1995 Illinois
- BENDER, ROBERT L.**, Clinical Adjunct Assistant Professor, Family Medicine, 2001 (2001); MD 1978 St Louis
- BENEDETTI DE MARRERO, ESTHER MARIANNE**, Clinical Assistant Professor, Anesthesia, 2007 (2007); MD 1993 Universidad Central de Venezuela
- BENJAMIN, DANIEL KELLY**, Adjunct Professor, Economics, 2009 (2009); MA 1971 UCLA; PHD 1975 UCLA
- BENNETT, DARUS LEE**, Clinical Associate Professor, Radiology, 2001 (2006); BS 1984 Arkansas; MA 1986 Washington; MD 1990 Arkansas
- BENNETT, DAVID**, Professor, Geography, 2000 (2010); BA 1980 Northern Iowa; MA 1982 Michigan; PHD 1994 Iowa
- BENNETT, JEFFREY A.**, Assistant Professor, Communication Studies, 2009 (2009); BA 1996 Wayne State; MA 1998 Northern Illinois; PHD 2004 Indiana
- BENNETT, JOHN P.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1991 (1991); MD 1985 George Washington
- BENNETT, TRACEY L.**, Adjunct Instructor, Pharmacy, 2007 (2007); BSPH 1992 Drake
- BENOIT, GENA LOU ROSE**, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BS 1995 St. Ambrose; MD 1999 Iowa
- BENSON, CHRISTOPHER J.**, Associate Professor, Internal Medicine, 1999 (2006); BS 1986 St. John's; MD 1991 Minnesota
- BENTLER, RUTH ANN WINNIKE**, Professor, Communication Sciences and Disorders, 1977 (2002); BS 1971 Iowa; MA 1973 Iowa; PHD 1987 Iowa

**BENTZ, DALE M.**, Emeritus Professor, Library & Information Science, 1953 (1964);

**BENZON, AMANDA RENEE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 2001 Iowa

**BERAN, MAUREEN RUTH**, Adjunct Lecturer, Management & Organizations, 2009 (2009); BA 2004 Iowa

**BERBAUM, KEVIN S.**, Professor, Radiology, 1977 (1993); BA 1971 Millikin; PHD 1978 State University of New York

**BERG, DANIEL J.**, Associate Professor, Internal Medicine, 1995 (2003); BS 1981 Illinois; MD 1986 Illinois

**BERG, JOYCE E.**, Professor, Accounting, 1992 (2010); BS 1979 Minnesota; MBA 1985 Minnesota; PHD 1988 Minnesota

**BERG, MARY SUSAN**, Clinical Assistant Professor, Nursing, 1992 (2002); BSN 1988 Iowa; MSN 1997 Iowa; DNP 2009 University of Iowa

**BERGER, HERBERT**, Clinical Professor, Internal Medicine, 1992 (2005); BS 1981 Loyola; MD 1985 Loyola Stritch Schl of Medicin

**BERGER, KARMEN R.**, Adjunct Lecturer, International Programs, 2009 (2009); MA 1987 California

**BERGERON, CATHIA**, Clinical Associate Professor, Operative Dentistry, 2007 (2007); DMD 1993 Laval, Canada; MS 1999 Iowa

**BERGMAN, RONALD A.**, Emeritus Professor, Anatomy & Cell Biology, 1980 (1980); BS 1950 Illinois; PHD 1955 Illinois; MS Illinois

**BERGUS, GEORGE RAVDIN**, Professor, Family Medicine/Psychiatry, 1990 (2005); BA 1976 Pennsylvania; MD 1982 Pennsylvania; MA 2002 Iowa

**BERGUS, NICHOLAS BALDWIN**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); BA 2002 Iowa; MA 2008 Iowa

**BERKOWITZ, DANIEL A.**, Professor, International Programs/Journalism & Mass Communication, 1988 (2006); BS 1975 Humboldt State; MS 1985 Oregon; PHD 1988 Indiana

**BERMAN, CONSTANCE A.**, Professor, History, 1988 (1994); BA 1970 Carleton; MA 1972 Wisconsin-Madison; PHD 1978 Wisconsin-Madison

**BERMAN, DAVID H.**, Adjunct Associate Professor, Physics & Astronomy, 1996 (2008); BA 1967 Carleton College; PHD 1976 Wisconsin

**BERN-KLUG, MERCEDES EVA**, Associate Professor, Social Work, 2004 (2010); BA 1982 Iowa; MSW 1984 Iowa; MA 1991 Georgetown; DR 2003 Kansas

**BERNHARDT, MELISSA**, Adjunct Instructor, Preventive & Community Dentistry, 1999 (1999); MS 1998 Iowa

**BERNSTEIN, NEIL P.**, Adjunct Professor, General University College, 2010 (2010); BS 1975 Colorado State; MS 1977 John Carroll; PHD 1982 Minnesota

**BERRY, SEAN R.**, Adjunct Lecturer, Law-Faculty, 2001 (2003); BBA 1982 Notre Dame; JD 1987 Northwestern

**BERRY, STEPHEN JOSEPH**, Associate Professor, Journalism & Mass Communication, 2003 (2006); BS 1970 Montevallo; MA 1984 North Carolina-Greensboro

**BERRY, VENISE TORRIANA**, Associate Professor, African-American Studies/Journalism & Mass Communication, 1991 (1998); BA 1977 Iowa; MA 1979 Iowa; PHD 1989 Texas-Austin

**BERTOCCI, ANGELO P.**, Emeritus Professor, English, 1966 (1966);

**BERTOLATUS, JOHN ANDREW**, Associate Professor, Internal Medicine, 1982 (1992); BA 1972 Johns Hopkins; MD 1976 Johns Hopkins

**BESSMAN-QUINTERO, MARGARET ANN**, Adjunct Instructor, Social Work, 2005 (2005); MSW 2005 Iowa

**BETTIS, ELMER ARTHUR III**, Associate Professor, Geoscience, 1995 (1995); BS 1975 Iowa State; MS 1979 Iowa State; PHD 1995 Iowa

**BETTS, CARL E.**, Emeritus Associate Professor, Communication Sciences and Disorders/Pediatrics, 1970 (1979); BA 1951 Iowa; MA 1957 Iowa; PHD 1963 Iowa

**BEYER, NANCY ELLEN**, Clinical Assistant Professor, Pediatrics/Psychiatry, 2008 (2008); BA 1982 Iowa; MA 1985 Iowa; MD 2003 Iowa

**BEZANSON, RANDALL P.**, Professor, Law-Faculty, 1973 (1979); BS 1968 Northwestern; JD 1971 Iowa

**BHALLA, RAMESH C.**, Professor, Anatomy & Cell Biology, 1973 (1982); BVSC 1957 Panjab-India; FRVCS 1962 Stockholm; PHD 1970 Wisconsin

**BHARGAVA, ANUJ**, Clinical Adjunct Associate Professor, Internal Medicine, 2005 (2010); MBBS 1996 Manlana Azad Medical

**BHATIA, SUDERSHAN K.**, Assistant Professor, Radiation Oncology, 2005 (2005); MD 1977 Allahabad; MPH 1986 John Hopkins; PHD 1992 John Hopkins

**BHATNAGAR, RANBIR K.**, Emeritus Professor, Pharmacology, 1971 (1981); BS 1954 Lucknow-India; DVM 1958 Agra-India; MS 1963 Michigan State; PHD 1971 Michigan State; MFA 1999 Iowa

**BHATT, RAJANKUMAR**, Adjunct Assistant Professor, Mechanical Engineering, 2007 (2007); BE 2001 MS University; ME 2004 SUNY at Buffalo; DPHIL 2007 SUNY at Buffalo

**BHATTI, M ASGHAR**, Professor, Civil-Environmental Engineering, 1980 (2006); BE 1972 Karachi-Pakistan; MS 1975 Calif-Berkeley; PHD 1980 Calif-Berkeley

**BIANCHI, ALISON J.**, Associate Professor, Sociology, 2007 (2010); MA 1998 Stanford; MA 2000 San Jose State; PHD 2001 Stanford

**BICKENBACH, JACKIE R.**, Professor, Pathology/Dermatology/Anatomy & Cell Biology, 1999 (2009); BS 1973 Iowa; MS 1979 Iowa; PHD 1982 Iowa; MA 1988 Iowa

**BICKETT-WEDDLE, DANELLE**, Adjunct Assistant Professor, Occupational & Environmental Health, 2005 (2005); MPH 2003 Iowa

**BIDLENCIK, AMANDA J.**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 2002 Midwestern

**BIEBER, DALE**, Clinical Associate Professor, Pediatrics/Internal Medicine, 2007 (2007); BS 1969 Elizabethtown; MS 1972 Penn State; MD 1976 Penn State

**BIERI, LINDA OLSON**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); DDS 1978 Iowa

**BIGOLIN, SIMON**, Adjunct Lecturer, Management Sciences, 2009 (2009); MS 2003 Kansas; MBA 2003 University of Kansas

**BILEK, GUY OTTO**, Adjunct Assistant Professor, Periodontics, 1973 (2000); BS 1968 Iowa; DDS 1972 Loyola; MS 1974 Iowa

**BILLETT, MATTHEW**, Professor, Finance, 1998 (2009); BA 1989 Colgate; PHD 1993 Florida

**BILLIET, GABRIEL MCQUADE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2003 Iowa

**BILLS, DAVID B.**, Professor, Educ Policy & Leadership Studies/Sociology, 1985 (2005); BA 1975 Edinboro State; MS 1977 Wisconsin-Madison; PHD 1981 Wisconsin-Madison

**BINDER, PERRY**, Adjunct Assistant Professor, Journalism & Mass Communication, 2010 (2010); BA 1981 NY @ Binghamton; JD 1984 SUNY Buffalo

**BINEGAR, LISA MARIE**, Adjunct Lecturer, Nursing, 2010 (2010); BSN 2005 Iowa; MSN 2009 Iowa

**BINGHAM, HEATHER LYNNE**, Clinical Assistant Professor, Orthopaedics and Rehabilitation, 2008 (2008); BS 1997 Brigham Young University; MD 2004 Texas Southwestern, Dall

**BIRCH, ELEANOR M.**, Emeritus Associate Professor, Management Sciences, 1966 (1975);

**BIRDER, JAMES P.**, Lecturer, Theatre Arts, 2000 (2000); MFA 1984 Carnegie-Mellon

**BIRDSELL, MICHELE M.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1993 Iowa

**BIRRELL, SUSAN J.**, Professor, Health, & Sport Studies/American Studies/Women's Studies, 1980 (1992); BA 1968 St Lawrence; MS 1976 Massachusetts; PHD 1978 Massachusetts

**BISHARA, SAMIR E.**, Professor, Orthodontics, 1970 (1976); BDS 1957 Alexandria-Egypt; MS 1970 University of Iowa; DDS 1972 University of Iowa

**BISHOP, GAIL A.**, Professor, Microbiology/Internal Medicine, 1989 (1998); BA 1977 St. Olaf; MS 1979 Wisconsin-Madison; PHD 1983 Michigan-Ann Arbor

**BISHOP, WARREN P.**, Professor, Pediatrics, 1989 (2007); BA 1975 St. Olaf; MD 1979 Wisconsin-Madison

**BIXENMAN, SUSAN LYNN**, Adjunct Instructor, Social Work, 2006 (2006); MSW 2002 Iowa

**BJORNDAL, ARNE MAGNE**, Emeritus Professor, Endodontics, 1955 (1964); BS 1947 Norges

Tannleghogskle-Norway; DDS 1954 Iowa; MS 1956 Iowa

**BLACK, BENJAMIN KEITH**, Adjunct Lecturer, College Transition, 2009 (2009); BS 2005 Central Arkansas; MS 2007 Central Arkansas

**BLACK, DONALD W.**, Professor, Psychiatry/IA Consortium Substance Abuse, 1986 (1996); BA 1978 Stanford; MD 1982 Utah

**BLACK, HAROLD J.**, Emeritus Assistant Professor, Pharmacy, 1955 (1965); BS 1953 Iowa; MS 1955 Iowa

**BLACKBURN, KELLEY LYNN**, Lecturer, Nursing, 2008 (2008); BSN 2004 Iowa; MSN 2006 Iowa; MSN 2008 Iowa

**BLAHA, DAVID B.**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARM 1998 Iowa

**BLAIR, ROBERT ALVIN**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); BS 1967 Iowa; DDS 1970 Iowa

**BLAIR, TIMOTHY JAMES**, Clinical Adjunct Assistant Professor, Family Medicine, 1996 (2002); MD 1989 Iowa

**BLAISE, CLARK L.**, Emeritus Professor, English, 1981 (1990); BA 1961 Denison; MFA 1964 Iowa

**BLAKESLEY, WILLIAM ROBERT**, Adjunct Instructor, Pharmacy, 2010 (2010); BSPH 1974 Drake

**BLANCHARD, PETER FLOODSTRAND**, Lecturer, Mathematics, 2001 (2006); BA 1986 Wisconsin @ Madison; MS 1989 Virginia @ Charlottesville; PHD 1995 Virginia, Charlottesville

**BLANDO, CATHERINE ANN**, Adjunct Lecturer, Educ Policy & Leadership Studies, 2003 (2003); MS 1978 W-Illinois; EDS 1981 W-Illinois

**BLAU, LINSEY ANN**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARM 2003 Iowa

**BLEHER, FRAUKE M.**, Professor, Mathematics, 2000 (2009); BS 1989 Stuttgart-Germany; MS 1993 Stuttgart-Germany; PHD 1995 Stuttgart-Germany

**BLEW, ROBERT E.**, Adjunct Associate Professor, Family Dentistry, 1986 (2000); DDS 1974 Loyola

**BLOCK, ROBERT I.**, Associate Professor, Anesthesia, 1988 (1994); BA 1969 Shimer; MS 1972 Harvard; MS 1977 Rutgers; PHD 1981 Rutgers

**BLODI, CHRISTOPHER F.**, Clinical Adjunct Assistant Professor, Ophthalmology & Visual Science, 2003 (2003); BS 1975 Iowa; MD 1979 Washington

**BLOESCH, RICHARD J.**, Emeritus Associate Professor, Music, 1967 (1974); BA 1952 Elmhurst; MDIV 1955 Union Theological Seminary; SMM 1959 Union Theological Seminary; DMA 1971 Illinois

**BLONDIN, MARTHA MCKAY**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MSN 1999 Iowa

**BLOOM, STEPHEN G.**, Professor, Journalism & Mass Communication, 1993 (2004); BA 1973 California-Berkeley

**BLOSSER, CHRISTOPHER**, Clinical Assistant Professor, Internal Medicine, 2010 (2010); MD 2002 Kansas SOM

**BLUM, CINZIA**, Professor, Cinema & Comparative Literature/French & Italian/International Programs, 1989 (2009); MA 1985 Iowa; PHD 1989 Cornell

**BLUM, NANCEE SUE ROSE**, Adjunct Instructor, Psychiatry/Nursing, 1994 (1994); BA 1958 Iowa; MSW 1989 Iowa

**BLUMBERG, MARK S.**, Professor, Psychology, 1992 (2001); BA 1983 Brandeis; MA 1987 Chicago; PHD 1988 Chicago

**BOBINA, MARIYA ALEKSANDROVNA**, Adjunct Assistant Professor, Management & Organizations, 2008 (2008); MA 1993 Moscow inst Electronics & Math; MA 1996 Russian Academy of Economics; PHD 2001 Russian Academy of Sciences

**BOCK, MOLLY JO**, Adjunct Assistant Professor, Nursing, 2004 (2004); BSN 1992 Mount Mercy; MS 1998 Saint Mary's Minnesota

**BOCKHOLT, ABIGAIL L.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARM 2005 Drake; MBA 2005 Drake

**BODDICKER, MARC E.**, Clinical Adjunct Professor, Dermatology, 2000 (2004); MD 1980 Iowa

**BODE, NICOLE MARY**, Adjunct Instructor, Department of Biology, 2004 (2004); BA 1997 Coe College; MS 2004 Iowa

**BODIN, ERIC**, Lecturer, English as Second Language, 2010 (2010); BA 1998 Iowa State; MA 2002 Iowa State

**BODNAR, RICHARD LEE**, Adjunct Assistant Professor, Mechanical Engineering, 2010 (2010); MS 1977 Pennsylvania



**BOE, WARREN J.**, Professor, Management Sciences, 1970 (1991); BA 1960 Luther; MS 1964 Iowa State; PHD 1970 Purdue

**BOEHMKE, FREDERICK J.**, Associate Professor, Political Science, 2000 (2006); BA 1995 Washington; MA 1998 Calif Inst of Technology; PHD 2000 Calif Inst of Technology

**BOER, ERWIN R.**, Adjunct Assistant Professor, Industrial Engineering, 2003 (2003); ME 1990 Twente, The Netherlands; DPHIL 1995 Illinois

**BOGGESE JR, THOMAS F.**, Professor, Electrical-Computer Engineering/Physics & Astronomy, 1989 (1996); BS 1978 Lamar; MS 1980 North Texas State; PHD 1982 North Texas State

**BOGNAR, MATTHEW ALLYN**, Lecturer, Statistics & Actuarial Science, 2002 (2006); BS 1992 Wisconsin-LaCrosse; MS 1994 Wisconsin; PHD 2002 Iowa

**BOHANNAN, CHRISTINA**, Professor, Law-Faculty, 2000 (2010); BS 1994 Florida; JD 1997 Florida

**BOHDE, REBECCA SUE**, Adjunct Assistant Professor, German, 1995 (2002); BA 1972 Cornell College; MA 1979 Christian-Albrechts-Universita; PHD 1991 Iowa

**BOHLMAN, JOHN P.**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1974 Wisconsin

**BOHM, JEFFREY E T**, Adjunct Lecturer, Law-Faculty, 2009 (2009); BA 1976 Haverford; MA 1978 Johns Hopkins; JD 1984 Texas

**BOLDT, H CULVER**, Professor, Ophthalmology & Visual Science, 1992 (2006); BS 1982 Northwestern; MD 1984 Northwestern

**BOLES, TERRY L.**, Associate Professor, International Programs/Management & Organizations, 1993 (2001); BA 1986 California-Santa Barbara; PHD 1991 California-Santa Barbara

**BOLLIER, MATTHEW JOHN**, Clinical Assistant Professor, Orthopaedics and Rehabilitation, 2010 (2010); BA 2000 Wheaton; MD 2004 Loyola Stritch

**BOLTON, LINDA**, Associate Professor, English, 1994 (2002); BA 1977 Smith; MA 1983 Brandeis; PHD 1994 Arizona

**BONFIELD, ARTHUR E.**, Professor, Law-Faculty, 1962 (1966); BA 1956 Brooklyn; JD 1960 Yale; LL.M. 1961 Yale

**BONNEY, WILLIAM W.**, Emeritus Associate Professor, Urology, 1969 (1973); AB 1953 Whittier; MD 1961 UCLA

**BONTHIUS, DANIEL JOSEPH**, Professor, Pediatrics/Neurology, 1991 (2008); BS 1982 Iowa; MD 1990 Iowa; PHD 1990 Iowa

**BONTHIUS, NANCY E.**, Clinical Assistant Professor, Pediatrics, 1994 (1994); BS 1986 Iowa; PHARM.D. 1990 Iowa

**BOOK, LARRY**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); DDS 1965 Iowa

**BOOS, FLORENCE**, Professor, English, 1973 (1982); BA 1964 Michigan; MA 1965 Harvard; PHD 1972 Wisconsin

**BOOS, WILLIAM**, Adjunct Assistant Professor, Mathematics, 1973 (1973); BA 1964 Wisconsin; MA 1968 Wisconsin; MA 1969 Wisconsin; PHD 1971 Wisconsin

**BOOTH, JASON W.**, Clinical Adjunct Assistant Professor, Family Medicine, 2005 (2005); BA 1994 St. Olaf, MN; MD 1998 Iowa

**BORK, BYRON E.**, Lecturer, Physical Therapy, 1976 (1984); MA 1967 Iowa

**BORK, ROBERT**, Associate Professor, Art & Art History, 1998 (2004); BA 1989 Harvard; MS 1990 California-Santa Cruz; MA 1993 Princeton; PHD 1996 Princeton

**BOROWSKI, KRISTI SUE**, Assistant Professor, Obstetrics & Gynecology, 2008 (2008); BS 1996 Wisconsin; MD 2000 Wisconsin

**BORRECA, ARTHUR R.**, Associate Professor, Theatre Arts, 1989 (1997); BA 1981 Oberlin; MFA 1986 Yale; DFA 1993 Yale

**BOSCH, JONI JACOBSEN**, Adjunct Assistant Professor, Nursing, 1986 (1998); MA 1986 Iowa; PHD 1993 Iowa

**BOSS, DOUGLAS**, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BA 1979 Hastings, NE; MD 1986 Chicago

**BOSEN, ANN L GIBBS**, Clinical Adjunct Instructor, Nursing, 2003 (2003); BSN 1979 Iowa; MSN 2000 Iowa

**BOSSLER, AARON DOUGLAS**, Clinical Assistant Professor, Pathology, 2005 (2008); MD 2001 Iowa; PHD 2001 Iowa

**BOSTER, FRANK J.**, Adjunct Professor, Community & Behavioral Health, 2004 (2004); BA 1972 Southern Illinois; MS 1975 Southern Illinois; PHD 1978 Michigan State

**BOTTEI, EDWARD M.**, Clinical Adjunct Assistant Professor, Emergency Medicine/Pediatrics/Pharmacy/Occupational & Environmental Health, 2002 (2002); BS 1988 Notre Dame; MD 1992 Chicago

**BOULGER, RICHARD V.**, Lecturer, Marketing, 2008 (2008); BS 1976 California - Davis; MBA 1978 Michigan

**BOURGEOIS, JACQUES A.**, Emeritus Professor, French & Italian, 1969 (1982); MA 1965 St. Louis; PHD 1972 Iowa

**BOURJAILY, PAMELA GIBBS**, Adjunct Lecturer, Management & Organizations, 2009 (2009); MA 1984 Illinois

**BOUSCHLICHER, MURRAY RAY**, Emeritus Professor, Operative Dentistry, 1980 (2001); BA 1969 Iowa; DDS 1976 Iowa; MS 1996 Iowa

**BOVENMYER, DAN A.**, Clinical Adjunct Associate Professor, Dermatology, 1981 (2000); MD 1957 Iowa

**BOVY, BRENT MICHAEL**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARM 2008 Iowa

**BOWDEN, NED B.**, Associate Professor, Chemistry, 2002 (2009); BS 1994 California-Technology; MS 1997 Harvard; PHD 1999 Harvard

**BOWDLER, NOELLE CLARE**, Clinical Professor, Obstetrics & Gynecology, 1988 (2009); BA 1978 Michigan State; MD 1982 Michigan

**BOWERS, WAYNE A.**, Clinical Professor, Psychiatry, 1988 (2002); BA 1974 Wisconsin-Oshkosh; MS 1976 Wisconsin-Oshkosh; PHD 1987 Iowa

**BOYD, WILLARD L.**, Professor, Law-Faculty, 1954 (1961); BLS 1949 Minnesota; LLB 1951 Minnesota; LLM 1952 Michigan; SJD 1962 Michigan

**BOYER, DANIEL B.**, Emeritus Professor, Operative Dentistry, 1974 (1988); BA 1966 Iowa; DDS 1970 Iowa; PHD 1974 Polytechnic Institute

**BOYER, FLOYD R.**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 2000 Iowa

**BOYER, JOEL**, Adjunct Assistant Professor, Music, 2002 (2002); BM 1982 Missouri-Kansas City; MA 1987 Missouri-Kansas City

**BOYLE, DON E.**, Emeritus Assistant Professor, Surgery, 1978 (1978); MD 1963 Iowa

**BOYLE, LINDA NG**, Adjunct Associate Professor, Industrial Engineering, 2002 (2008); BS 1986 New York State; MS 1994 Washington; PHD 1998 Washington

**BOYNTON, GEORGE R.**, Professor, Political Science, 1964 (1971); BA 1957 Oklahoma Baptist; PHD 1964 North Carolina

**BOZEMAN, THEODORE D.**, Emeritus Professor, History, 1974 (1987); BA 1964 Florida Presbyterian; BD 1968 Theological Seminary; PHD 1974 Duke

**BRADEN, VARETTA G H**, Adjunct Instructor, Social Work, 1997 (1997); BS 1985 Memphis State; MS 1993 Tennessee-Memphis

**BRADLEY, CATHERINE S.**, Associate Professor, Obstetrics & Gynecology/Epidemiology, 2003 (2008); AB 1990 College of the University of C; MD 1994 Washington Univ. School of Med; MS 2002 Clin. Epidemiology, Univ. Penn

**BRADLEY JR, A ALLEN**, Professor, Civil-Environmental Engineering, 1994 (2009); BS 1983 Virginia Tech; MS 1984 Stanford; PHD 1992 Wisconsin-Madison

**BRANCH, LORI ANN**, Associate Professor, English, 2000 (2006); BA 1992 Harding; MA 1994 Memphis; PHD 2000 Indiana

**BRANDTNER, ALEX**, Adjunct Instructor, Pediatric Dentistry, 1998 (2010); BS 1977 William Penn; DDS 1981 Iowa; MS 1989 Iowa

**BRANHAM, LYNN**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BA 1976 Illinois; JD 1980 Chicago

**BRANSON, DAN E.**, Emeritus Professor, Civil-Environmental Engineering, 1963 (1963); BS 1954 Auburn; MCE 1956 Auburn; PHD 1960 Florida

**BRAR, MOHAN**, Clinical Assistant Professor, Internal Medicine/Radiology, 2010 (2010); MBBS 1990 King George Med College India

**BRASHERS-KRUG, THOMAS M.**, Clinical Associate Professor, Psychiatry, 2008 (2008); PHD 1995 Massachusetts; MD 1996 Rush Medical

**BRAUN, ALAN L.**, Clinical Adjunct Instructor, Internal Medicine, 2005 (2005); BA 1973 Kansas; MD 1976 U of Kansas School of Med

**BRAUN, TERRY A.**, Associate Professor, Ophthalmology & Visual Science/Biomedical Engineering, 2002 (2007); BS 1993 Iowa; MS 1995 Iowa; PHD 2001 Iowa

**BREAM-ROUWENHORST, HEATHER RENEE**, Clinical Assistant Professor, Pharmacy, 2005 (2007); PHARM D 2005 Iowa

**BREDER, HANS**, Emeritus Professor, Art & Art History, 1966 (1979);

**BREGAR, JEFFREY J.**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1994 Drake

**BREHMER, AILEY M.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); DO 2006 Des Moines

**BREITBACH, KATHRYN CAROLE MOORE**, Adjunct Lecturer, Nursing, 1986 (1999); MA 1994 Iowa

**BREITKREUZ, DAVID R.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1983 George Fox; MD 1987 Oregon

**BREMS, COLLEEN S.**, Clinical Adjunct Assistant Professor, Nursing, 1991 (2001); BSN 1975 Mt. Mercy; MN 1984 Wichita State

**BRENEMAN-WISONG, LYNN MARIE**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); DDS 2006 Iowa

**BRENNAN, ROBERT L.**, Professor, Psych & Quant Foundations, 1979 (1994); BA 1967 Salem State-Massachusetts; MAT 1968 Harvard; EDD 1970 Harvard

**BRENNAN, THERESA**, Clinical Associate Professor, Internal Medicine, 2001 (2005); BS 1988 Iowa; MD 1992 Northwestern

**BRENNAN, TIMOTHY J.**, Professor, Pharmacology/Anesthesia, 1993 (2006); BS 1973 St. Johns; PHD 1984 Texas; MD 1989 Oklahoma

**BRENNEMAN, ANTHONY E.**, Clinical Associate Professor, Physician Assistant, 2004 (2007); BA 1984 Linfield, OR; MSW 1987 Portland State; MPAS 1996 Iowa

**BRENNER, CHARLES MICHAEL**, Professor, Biochemistry/Internal Medicine, 2009 (2009); PHD 1993 Stanford

**BRENNER, ROBERT L.**, Emeritus Associate Professor, Geoscience, 1977 (1982); BS 1963 City College of New York; MS 1964 Montana; PHD 1973 Missouri

**BRENZA, TIMOTHY M.**, Adjunct Assistant Professor, Music, 2009 (2009); BS 1996 Pennsylvania State; PHE 2008 Pennsylvania State

**BREON, RICHARD C.**, Adjunct Lecturer, Health Management & Policy, 1990 (1990); MA 1980 Iowa

**BRETTELL, LESLIE MARIE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2003 (2003); BS 1978 Stanford; MS 1980 Colorado State; MD 1986 Texas, Southwestern

**BREUKER, MAUREEN KAY**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1979 Iowa

**BRIAN, AMBER ELISE**, Assistant Professor, Spanish & Portuguese, 2001 (2008); MA 1996 Wisconsin

**BRICKER, DENNIS L.**, Emeritus Associate Professor, Industrial Engineering, 1974 (1980); BS 1965 Illinois; MS 1966 Illinois; MS 1972 Northwestern; PHD 1975 Northwestern

**BRIDGES, JULIE ANNE**, Adjunct Instructor, Communication Sciences and Disorders, 2003 (2003); BS 1994 Iowa; MA 1996 Iowa

**BRIGHAM, JEREMY JOHN**, Adjunct Assistant Professor, International Programs, 2000 (2000); BA 1966 Antioch; MA 1997 Iowa; PHD 1998 Iowa

**BRIGHTON, VERONICA A.**, Clinical Assistant Professor, Nursing, 1975 (2002); BSN 1975 Iowa; MA 1977 Iowa

**BRINKMAN, JOHN HENRY**, Clinical Adjunct Associate Professor, Internal Medicine, 2000 (2000); BA 1959 Iowa; MD 1962 Iowa

**BRINKMAN, MARY KAY**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009);

**BRISTOL, TIMOTHY JOHN**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1998 Wisconsin-Madison; MSN 2000 Clarkson; PHD 2005 Capella

**BROCHU, CHRISTOPHER ANDREW**, Associate Professor, General University College/Geoscience, 2001 (2006); BS

1989 Iowa; MA 1992 Texas-Austin; PHD 1997 Texas-Austin

**BROCK, ANDRE**, Assistant Professor, Interdisciplinary Programs/Library & Information Science, 2007 (2007); BA 2001 CUNY; MA 2003 Carnegie Mellon; PHD 2007 Illinois

**BRODERICK, ANN**, Clinical Associate Professor, Internal Medicine, 2001 (2007); AB 1978 Princeton; MD 1986 Iowa; MS 1991 Iowa

**BROFFITT, JAMES D.**, Emeritus Professor, Statistics & Actuarial Science, 1970 (1988); BA 1963 DePauw; MS 1965 Colorado State; PHD 1969 Colorado State

**BROGDEN, KIM ALAN**, Professor, Periodontics, 2004 (2004); BS 1975 Iowa State; MS 1977 Iowa State; PHD 1981 Iowa State

**BROKEL, JANE**, Assistant Professor, Nursing, 2004 (2004); BSN 1988 Iowa; MA 1992 Iowa; PHD 2003 Iowa

**BRONGEL, JULIE LYNN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BSPH 1995 Iowa; PHARMD 1997 Iowa

**BROOK, STACEY LEE**, Lecturer, Economics, 2008 (2008); BBA 1989 Eastern New Mexico; MA 1991 Nebraska-Lincoln; PHD 1995 Colorado State

**BROOKS, JOHN M.**, Professor, Epidemiology/Health Management & Policy/Pharmacy, 1996 (2010); BA 1982 Michigan State; MA 1984 North Carolina; PHD 1993 Michigan

**BROOKS, MICHAEL S.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1986 (1986); MD 1980 Loyola

**BROOKS, PHILIP DEAN**, Adjunct Lecturer, Finance, 2005 (2005); BBA 1972 Iowa; MBA 1974 Iowa; JD 1977 Creighton

**BROPHY, PATRICK DAVID**, Associate Professor, Pediatrics, 2007 (2007); MD 1994 Saskatchewan

**BROSIUS, GREGORY ALAN**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2000 Iowa

**BROTHERSEN, MAYNARD DAVID**, Adjunct Instructor, Pharmacy, 2006 (2006); BLS 1981 Iowa; BSPH 1984 Iowa

**BROWN, ALLISON**, Clinical Adjunct Assistant Professor, Pediatrics, 2005 (2005); BA 1997 William Jewell; MD 2001 Iowa

**BROWN, BRUCE PHILSON**, Emeritus Associate Professor, Radiology, 1977 (1995); BS 1966 Michigan; MD 1971 Medical College of VA

**BROWN, CAROLYN JANE**, Professor, Otolaryngology-Head & Neck Surgery/Communication Sciences and Disorders, 1992 (2006); BS 1980 Iowa; MSPA 1982 Washington; PHD 1989 Iowa

**BROWN, CAROLYN J.**, Adjunct Associate Professor, Communication Sciences and Disorders, 1983 (1992); PHD 1981 Iowa

**BROWN, CHARLES EDWARD**, Adjunct Lecturer, Health Management & Policy, 2000 (2000); MHA 1984 Washington

**BROWN, DONALD D.**, Professor, Internal Medicine, 1973 (1994); BA 1962 Iowa; MS 1965 Iowa; MD 1966 Iowa

**BROWN, ELIZABETH ANN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BS 1988 Iowa; MD 1992 Iowa; MA 1994 Iowa

**BROWN, JAMES ANDREW**, Associate Professor, Biomedical Engineering/Urology, 2009 (2009); BS 1986 Colorado State University, CO; BA 1986 Colorado State; MD 1991 Baylor

**BROWN, KENNETH G.**, Associate Professor, Management & Organizations, 1998 (2005); BS 1993 Maryland; MA 1996 Michigan State; PHD 1999 Michigan State

**BROWN, KYLE E.**, Associate Professor, Radiation Oncology/Internal Medicine, 2001 (2007); BA 1981 Case Western Reserve; MSC 1982 London-Economics; MD 1986 Case Western Reserve

**BROWN, LAD**, Adjunct Assistant Professor, Theatre Arts, 2001 (2001); BA 1988 Kings College; BA 1990 Kings College; MFA 2003 Iowa

**BROWN, MATTHEW ROBERT**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 2006 (2006); MD 1996 Iowa

**BROWN, MATTHEW P.**, Associate Professor, English, 2001 (2007); BA 1986 Oberlin; PHD 1996 Virginia

**BROWN, ROBERT TERRANCE**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 1997 (1997); MD 1966 Iowa

**BROWN, THOMAS D.**, Professor, Mechanical Engineering/Orthopaedics and Rehabilitation/Biomedical Engineering, 1983 (1987); BS 1972 Maryland; PHD 1976 Carnegie-Mellon

**BROWN, THOMAS M JR**, Clinical Adjunct Assistant Professor, Internal Medicine, 1980 (1980); MD 1969 Vanderbilt

**BROWN, TIMOTHY LEO**, Adjunct Assistant Professor, Industrial Engineering, 2003 (2003); BE 1994 Iowa; MS 1996 Iowa; PHD 2000 Iowa

**BROWN-MATTHES, ALICIA ANNE**, Emeritus Associate Professor, Dance, 1976 (1982); BA 1972 George Washington; MA 1976 Iowa

**BROWNELL, TRAVIS RICHARD BRADLEY**, Clinical Adjunct Assistant Professor, Emergency Medicine, 2009 (2009); MD 2004 Iowa

**BRUCH, LESLIE ANNE**, Clinical Associate Professor, Pathology, 2006 (2006); BS 1986 Iowa; MD 1992 Iowa

**BRUCH CANNON, DELORES R.**, Emeritus Professor, Music, 1979 (1987); BS 1956 Central Missouri; MM 1969 Missouri-Kansas City; DMA 1979 Kansas

**BRUELL, STEVEN C.**, Emeritus Professor, Computer Science, 1985 (1996); BA 1973 Texas-Austin; MS 1975 Purdue; PHD 1978 Purdue

**BRUNING-ANDERSON, MARY CHRISTINE**, Adjunct Instructor, Preventive & Community Dentistry, 2003 (2003); AS 1971 Minnesota; BS 2006 University of Iowa; CER 2006 Aging Studies; U of Iowa

**BRUS, CHRISTINE PETERSON**, Adjunct Instructor, Division of Interdisciplinary Program, 2000 (2000); BLS 1985 Iowa; MS 1994 Iowa

**BRYANT, KAREN NANCY**, Clinical Associate Professor, Communication Sciences and Disorders, 2003 (2010); BA 1984 Augustana; SCM 1989 Wisconsin

**BRYCE, HELEN MARGARET**, Adjunct Assistant Professor, Physics & Astronomy, 2002 (2002); BSC 1998 Glasgow; PHD 2001 Glasgow

**BUATTI, JOHN**, Professor, Radiation Oncology/Otolaryngology-Head & Neck Surgery/Neurosurgery, 1999 (2001); BS 1982 Georgetown; MD 1986 Georgetown

**BUCHANAN, EDWARD B JR**, Emeritus Professor, Chemistry, 1960 (1982);

**BUCHHOLZ, JAMES HARRY JOHN**, Assistant Professor, Mechanical Engineering, 2008 (2008); BS 1995 Alberta; BSC 1995 University of Alberta (Canada); MS 1997 Alberta; PHD 2006 Princeton

**BUCK, BRIDGET L.**, Clinical Adjunct Assistant Professor, Psychiatry, 1999 (1999); MD 1985 Nebraska

**BUCKWALTER, JOSEPH ADDISON**, Professor, Pediatrics/Orthopaedics and Rehabilitation/Integrative Physiology, 1979 (1985); BA 1969 Iowa; MS 1972 Iowa; MD 1974 Iowa

**BUCKWALTER, KATHLEEN COEN**, Professor, Nursing/Law-Faculty/Health Management & Policy/Psychiatry/Internal Medicine, 1974 (1989); BSN 1971 Iowa; MA 1976 Iowa; PHD 1980 Illinois

**BUDD, ANN F.**, Professor, Geoscience, 1978 (1995); BA 1973 Lawrence; MS 1975 Johns Hopkins; PHD 1978 Johns Hopkins

**BUDZINE, JANICE MAE**, Clinical Adjunct Instructor, Nursing, 2007 (2007); BSN 1989 Coe College; MSN 2001 Iowa

**BUETTNER, GARRY R.**, Professor, Radiation Oncology, 1993 (1999); BA 1967 Northern Iowa; MS 1969 Iowa; PHD 1976 Iowa

**BULECHEK, GLORIA MARIE**, Professor, Nursing, 1963 (1996); BSN 1963 Iowa; MA 1967 Iowa; PHD 1981 Iowa

**BULLOCK, TAMMY SUE CLAPHAM**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); PHARMD 1998 Iowa

**BULMAN, BROOKE N.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 2005 Iowa

**BUNCH, JACINDA**, Lecturer, Nursing, 2009 (2009); BSN 2006 Missouri - Columbia; MSN 2008 Missouri - Columbia

**BUNNELL, CHARLENE ELISABETH**, Adjunct Instructor, Communication Studies, 2008 (2008); MA 1979 Western Illinois; PHD 1995 Delaware

**BUNTING, DEAN A.**, Clinical Adjunct Assistant Professor, Family Medicine, 1990 (2002); BS 1980 Dubuque; MD 1984 Iowa

**BUNTZ, LOIS ANN**, Adjunct Instructor, Social Work, 1990 (1990); BA 1975 Wisconsin; MSW 1977 Iowa

**BURCHETT, ERIC R.**, Adjunct Instructor, Theatre Arts, 2008 (2008); BA 2004 Iowa

**BURDEN, PAIGE C.**, Adjunct Instructor, Communication Sciences and Disorders, 2005 (2005); BS 1990 Arizona; MA 2002 Iowa

**BURDEN, SARA LYNN**, Adjunct Lecturer, General University College, 2006 (2007); AA 1999 Indian Hills CC; BA 2001 Iowa; MA 2003 Iowa

**BURDT, MARK**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BA 1989 Northern Iowa; DO 1993 U of Osteopathic Med

**BUREK PIERCE, JENNIFER**, Assistant Professor, Library & Information Science, 2005 (2005); MA 1990 Gonzaga; PHD 1999 Indiana; AMLS 1999 Indiana

**BURER, SAMUEL**, Associate Professor, Management Sciences, 2001 (2007); BS 1997 Georgia; PHD 2001 Georgia Inst of Technology

**BURESH, CHRISTOPHER THOMAS**, Clinical Assistant Professor, Emergency Medicine, 2007 (2007); BA 1997 St. Olaf College; MD 2001 Iowa

**BURESH, DAVID JAMES**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1972 Iowa

**BURFORD, BYRON L JR**, Emeritus Professor, Art & Art History, 1949 (1985);

**BURGESS, DAVID MITCHELL**, Lecturer, Economics, 2003 (2003); BA 1993 Miami, OH; BM 1993 Miami, OH; MPHIL 1997 Vilnius University (Lithuania); MFA 2003 Iowa

**BURKE, MAUREEN ELIZABETH**, Adjunct Instructor, Linguistics, 1981 (1997); BA 1968 Emmanuel College; MA 1984 Iowa

**BURKE, N PEGGY**, Emeritus Associate Professor, Health, & Sport Studies, 1964 (1978); BA 1956 Moorhead State; MA 1957 Moorhead State; PHD 1965 Iowa

**BURKE JR, RICHARD MARTIN**, Clinical Associate Professor, Pediatric Dentistry, 1999 (2008); BA 1982 South Florida; DMD 1986 Pittsburgh; CER 1999 The University of Iowa

**BURKETTA, VICKI**, Clinical Professor, Teaching and Learning, 2006 (2010); PHD 1984 Georgia

**BURKS, DOUGLAS ALAN**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 1979 Iowa; MBA 1998 St Ambrose

**BURMEISTER, LEON F.**, Professor, Biostatistics, 1969 (1982); BS 1964 Iowa State; MS 1966 Iowa State; PHD 1972 Iowa State

**BURNETT, ANDREAN LLEWELA**, Adjunct Assistant Professor, Radiation Oncology, 2010 (2010); BS 2000 Iowa State; PHD 2005 Iowa State

**BURNHAM, FREDERICK C.**, Adjunct Associate Professor, Family Dentistry, 1986 (2000); DMD 1977 Southern Illinois

**BURNS, C PATRICK**, Emeritus Professor, Internal Medicine, 1971 (1980); BA 1959 Kansas; MD 1963 Kansas

**BURNS, ROBERT RAYMOND**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); DDS 2005 Iowa

**BURNS, TRUDY L.**, Professor, Pediatrics/Nursing/Epidemiology, 1982 (1993); BA 1973 Oakland; MPH 1976 Michigan; PHD 1982 Michigan

**BURR, LARRY JAMES**, Clinical Adjunct Assistant Professor, Radiology, 2004 (2004); MD 1992 South Dakota

**BURSTAIN, TODD L.**, Clinical Associate Professor, Internal Medicine, 2000 (2003); BA 1986 Rice; MD 1990 Texas Southwestern

**BURT, CHARLOTTE WHITE**, Adjunct Instructor, Nursing, 1999 (1999); MA 1979 Marycrest

**BURTON, DONALD J.**, Emeritus Professor, Chemistry, 1962 (1970); BS 1956 Loyola-Maryland; PHD 1961 Cornell

**BURTON, RICHARD G.**, Clinical Professor, Oral & Maxillofacial Surgery, 1997 (2002); BA 1973 Hanover College; DDS 1977 Ohio State; MS 1985 Iowa

**BURTON, STEVEN J.**, Professor, Law-Faculty, 1977 (1981); BA 1970 California; JD 1973 Southern California

**BUSHNELL, DAVID**, Professor, Radiology, 1992 (2004); BS 1975 Illinois; MD 1979 Illinois

**BUSS, WILLIAM G.**, Emeritus Professor, Law-Faculty, 1967 (1970); BA 1955 Yale; LLB 1960 Harvard

**BUTCHER, HOWARD K.**, Associate Professor, Nursing, 1998 (2005); BS 1977 Lebanon Vally; BSN 1979 Thomas Jefferson; MSN 1986 Toronto; PHD 1994 South Carolina

**BUTCHVAROV, PANAYOT**, Emeritus Professor, Philosophy, 1967 (1967); BA 1952 Robert-Turkey; MA 1954 Virginia;

PHD 1955 Virginia

**BUTLER, AMY C.**, Associate Professor, Social Work, 1992 (1996); BA 1977 Boston; MSW 1980 Michigan; MA 1984 Michigan; PHD 1987 Michigan

**BUTLER, AUDREY AHCHIN**, Lecturer, Chemical & Biomedical Engineering, 1989 (1998); PHD 1989 Iowa

**BUTLER, JOHN E.**, Professor, Microbiology, 1971 (1980); BS 1961 Univ of Wisconsin-River Falls; PHD 1965 Kansas

**BUTLER, PATRICK BARRY**, Professor, Mechanical Engineering, 1984 (1995); BS 1979 Illinois; MS 1981 Illinois; PHD 1984 Illinois

**BUYS, LUCINDA M.**, Clinical Associate Professor, Pharmacy/Family Medicine, 1994 (2005); BS 1985 Briarcliff; BS 1987 Creighton; PHARM D 1989 Creighton

**BYBEE, JERALD W.**, Clinical Adjunct Assistant Professor, Family Medicine, 2001 (2001); MD 1978 Iowa

**BYRN, JOHN C.**, Clinical Assistant Professor, Surgery, 2009 (2009); BA 1998 Hope, Holland MI; MD 2002 Illinois College

**BZDEGA, HOLLEY A.**, Clinical Adjunct Assistant Professor, Pediatrics, 1987 (1987); MD 1978 Manitoba-Canada

**CAC, NGUYEN P.**, Emeritus Professor, Mathematics, 1968 (1972); LIC 1958 Saigon-Vietnam; MS 1961 London-England; PHD 1965 Cambridge-England

**CAGLEY, AMY JOLEEN**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); DDS 1999 Iowa; PHARM D 1999 Iowa

**CAI, XUEYA**, Assistant Professor, Internal Medicine, 2009 (2009); PHD 2008 SUNY, Buffalo NY

**CAIN, GEORGE D.**, Emeritus Professor, Department of Biology, 1970 (1984); BS 1962 Sterline; MS 1964 Purdue; PHD 1968 Purdue

**CAIN, JERRY**, Lecturer, Music, 2004 (2009); BM 1990 Appalachian State; PHD 2003 Florida State

**CAIN, PATRICIA A.**, Emeritus Professor, Law-Faculty, 1991 (1991); BA 1968 Vassar; JD 1973 Georgia

**CAK, ROBERT J.**, Clinical Adjunct Associate Professor, Surgery, 1993 (2004); MD 1971 Indiana

**CALARGE, CHADI ALBERT**, Assistant Professor, Psychiatry, 2005 (2005); MD 1998 Dekwaneh, Lebanon

**CALCATERRA, DOMENICO**, Clinical Assistant Professor, Cardiothoracic Surgery, 2008 (2008); MD 1992 Rome, Italy; PHD 2000 Rome, Italy

**CALDWELL, CAROL L.**, Lecturer, Nursing, 2004 (2004); BSN 1987 Iowa Wesleyan; MSN 1993 Syracuse

**CALLAGHAN, JOHN J.**, Professor, Orthopaedics and Rehabilitation/Biomedical Engineering, 1990 (1993); BS 1975 Notre Dame; MD 1978 Loyola

**CAMERON, JOHN**, Associate Professor, Theatre Arts, 1997 (1997); BS 1977 Brigham Young; MA 1982 Kent State; PHD 1986 Kent State

**CAMILLO JR, VICTOR P.**, Professor, Mathematics, 1970 (1979); BA 1966 Bridgeport; PHD 1969 Rutgers

**CAMPBELL, ANN MELISSA**, Associate Professor, Management Sciences, 2000 (2006); BA 1993 Rice; PHD 2000 Georgia Tech

**CAMPBELL, CAM F.**, Clinical Adjunct Instructor, Internal Medicine, 1992 (1992); MD 1982 Southern California

**CAMPBELL, DAVID L.**, Adjunct Professor, Geoscience, 2002 (2004); BA 1963 Iowa; MA 1966 California-Berkeley; PHD 1969 California-Berkeley

**CAMPBELL, KEVIN P.**, Professor, Physiology/Internal Medicine/Neurology, 1981 (1988); BS 1973 Manhattan; MS 1976 Rochester; PHD 1979 Rochester

**CAMPBELL, MARY E.**, Associate Professor, Sociology, 2004 (2010); BA 1997 George Washington; MA 1999 Wisconsin; PHD 2004 Wisconsin

**CAMPBELL, SARA L.**, Adjunct Associate Professor, Nursing, 2006 (2006); BSN 1986 Mennonite College of Nursing; MS 1993 Illinois State

**CAMPE, LEE**, Adjunct Lecturer, Management Sciences, 2009 (2009); MBA 1998 Clemson

**CAMPO, MICHELLE**, Associate Professor, Community & Behavioral Health/Communication Studies, 2002 (2008); BS 1990 Cornell; MA 1994 Ohio State; PHD 1999 Michigan State

**CAMPOS, JAVIER H.**, Clinical Professor, Anesthesia, 1987 (2001); BS 1971 Federal Prep School; MD 1975

## Autonomous

**CANADY, JOHN WESLEY**, Professor, Surgery/International Programs/Orthopaedics and Rehabilitation/Otolaryngology-Head & Neck Surgery, 1990 (2002); BA 1980 Grinnell; MD 1983 Iowa; MS 1988 Iowa

**CANAHUATE, GUADALUPE**, Adjunct Assistant Professor, Electrical-Computer Engineering, 2009 (2009); BS 2000 Pontificia; MS 2003 Ohio State; PHD 2009 Ohio State

**CANIN, ETHAN A.**, Professor, English/Creative Writing, 1991 (1998); BA 1982 Stanford; MFA 1984 Iowa; MD 1991 Harvard

**CANNON, JOSEPH G.**, Emeritus Professor, Pharmacy, 1962 (1965); BS 1951 Illinois; MS 1953 Illinois; PHD 1956 Illinois

**CANNON, KATRINA TERESE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2009 (2009); BS 1998 Iowa; MD 2002 Iowa

**CANTER, ARTHUR**, Emeritus Professor, Psychiatry, 1960 (1965); BA 1946 Iowa; MA 1948 Iowa; PHD 1950 Iowa

**CANTOR, JOAN H.**, Emeritus Professor, Psychology, 1960 (1979); BA 1951 Syracuse; MA 1953 Iowa; PHD 1954 Iowa

**CANTRELL, MATTHEW A.**, Clinical Assistant Professor, Pharmacy, 2005 (2007); BS 2000 Mount Mercy; PHARM D 2005 Iowa

**CAPLAN, DANIEL JONATHAN**, Professor, Preventive & Community Dentistry, 2007 (2007); DDS 1988 Iowa; PHD 1995 North Carolina

**CAPLAN, RICHARD M.**, Emeritus Professor, Dermatology, 1961 (1969); BS 1949 Iowa State; MA 1951 Iowa; MD 1955 Iowa

**CAPLAN, ROBERT H.**, Clinical Adjunct Associate Professor, Internal Medicine, 1982 (1990); MD 1961 Chicago

**CAREW, DAVID P.**, Emeritus Professor, Pharmacy, 1957 (1965); BS 1952 Massachusetts; MS 1954 Massachusetts; PHD 1958 Connecticut

**CARLILE, MARK ELTON**, Adjunct Assistant Professor, History, 1993 (1996); BA 1982 Marquette; MA 1984 Marquette; PHD 1995 Iowa

**CARLISLE, THOMAS L.**, Clinical Associate Professor, Internal Medicine, 1992 (2002); BS 1972 Maryland-Baltimore; PHD 1978 Wisconsin-Madison; MD 1986 Missouri-Columbia

**CARLSON, ELIZABETH D.**, Adjunct Assistant Professor, Nursing, 2008 (2008); BSN 1994 Texas Health Science C; MPH 1997 Texas Health Science C; MSN 1997 Texas Health Science C

**CARLSON, JONATHAN C.**, Professor, Law-Faculty/International Programs, 1983 (1987); BA 1976 McGill; JD 1979 Chicago

**CARLSON, KENT DAVID**, Adjunct Associate Professor, Mechanical Engineering, 1998 (2006); BSE 1991 Iowa; MS 1993 Iowa; PHD 1997 Florida State

**CARLSON, WAYNE R.**, Emeritus Professor, Department of Biology, 1968 (1993); BA 1962 Rockford; MA 1966 Indiana; PHD 1968 Indiana

**CARMEN, LEE T.**, Adjunct Assistant Professor, Health Management & Policy, 2002 (2002); BS 1983 Oklahoma; BS 1990 Iowa

**CARMICHAEL, GREGORY R.**, Professor, Civil-Environmental Engineering/Mechanical Engineering/Chemical & Biomedical Engineering, 1978 (1985); BS 1974 Iowa State; MS 1975 Kentucky; PHD 1979 Kentucky

**CARMICHAEL, ROBERT S.**, Emeritus Professor, Geoscience, 1977 (1983); BA 1963 Toronto; MS 1964 Pittsburgh; PHD 1967 Pittsburgh

**CARMODY, BRENDA RENEE**, Adjunct Assistant Professor, Pharmacy, 1998 (2007); BSPH 1991 Iowa

**CARNAHAN, RYAN MICHAEL**, Clinical Assistant Professor, Epidemiology, 2003 (2008); PHAR 2001 Iowa; MS 2004 Iowa

**CAROPRESO, PHILIP R.**, Clinical Adjunct Professor, Surgery, 1987 (2004); MD 1972 Upstate Medical School

**CARPENTER, MARTIN**, Clinical Adjunct Assistant Professor, Psychiatry, 2007 (2007); MD 2002 Missouri

**CARPENTER, RAYMON T.**, Emeritus Professor, Physics & Astronomy, 1962 (1983); BS 1954 Kansas; MS 1956 Kansas; PHD 1962 Northwestern



**CARRASCO, ENRIQUE R.**, Professor, Law-Faculty, 1990 (1994); BA 1980 Indiana; JD 1986 Georgetown

**CARRICA, PABLO**, Associate Professor, Mechanical Engineering, 2002 (2002); PHD 1993 Nacional De Cuyo

**CARRIER, HEIDI JOHNSON**, Adjunct Assistant Professor, English, 2001 (2001); PHD 2001 Iowa

**CARRILLO, PEDRO M.**, Adjunct Assistant Professor, Pharmacy, 1990 (1990); BSPH 1981 Iowa; PHARMD 1987 Iowa

**CARRILLO ROWE, AIMEE M.**, Associate Professor, Rhetoric, 2001 (2007); AA 1990 Riverside Community; BA 1992 Pepperdine; MA 1993 Pepperdine; PHD 2000 Washington

**CARROLL, JOHN RAYMOND**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (2002); MD 1979 Iowa

**CARROLL, THOMAS J.**, Lecturer, Accounting, 1989 (1999); BBA 1979 Notre Dame; PHD 1988 Michigan-Ann Arbor

**CARRUTHERS, CURTIS LEE**, Adjunct Instructor, Family Dentistry, 2005 (2005); BS 2001 Iowa; DDS 2005 Iowa

**CARRUTHERS, KARA MICHELLE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BS 1998 Iowa State; PHARMD 2004 Iowa

**CARSTENS, COBY**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BA 2002 Iowa; PHARMD 2006 Iowa

**CARSTENSEN, JOHN AUGUST**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BS 1995 Iowa State; MD 2000 Iowa

**CARTER, A BRENT**, Associate Professor, Radiation Oncology/Internal Medicine, 1998 (2008); AB 1988 William Jewell; MD 1992 Missouri

**CARTER, ANTHONY DAVID**, Clinical Adjunct Assistant Professor, Emergency Medicine, 2004 (2004); BA 1989 Cornell-Iowa; DO 1995 Univ of Osteopathic Medicine

**CARTER, BARRIE JAMES**, Adjunct Professor, Anatomy & Cell Biology, 2009 (2009); BS 1966 Otago, New Zealand; BSC 1967 U Otago, New Zealand; PHD 1969 Otago, New Zealand

**CARTER, BARRY L.**, Professor, Pharmacy, 2000 (2000); BS 1978 Iowa; PHARMD 1980 Virginia

**CARTER, DAVID ALAN**, Adjunct Associate Professor, Finance, 2009 (2009); BS 1985 Brigham Young; MBA 1990 Utah; PHD 1996 Georgia

**CARTER, DEANNA LYNN**, Assistant Professor, Dance, 2004 (2004);

**CARTER, JAMES G.**, Emeritus Associate Professor, Anesthesia, 1977 (1981); BA 1948 Iowa; MD 1952 Iowa

**CARTER, KEITH D.**, Professor, Otolaryngology-Head & Neck Surgery/Ophthalmology & Visual Science, 1988 (2001); BS 1979 Purdue; MD 1983 Indiana

**CARTER, THOMAS H.**, Clinical Associate Professor, Internal Medicine, 2001 (2001); AB 1977 Dartmouth; PHD 1982 Case Western Reserve; MD 1983 Case Western Reserve

**CARVALHO, EDGAR**, Adjunct Professor, Internal Medicine, 2007 (2007); MD 1973 Fed Univ of Bahia; PHD 1986 Fed. Univ of Bahia

**CARY, RICHARD T.**, Associate Professor, Teaching and Learning, 1981 (1984); BS 1971 North Carolina State; MS 1973 North Carolina State; PHD 1976 Purdue

**CASADY, DONALD REX**, Emeritus Professor, Health, & Sport Studies, 1958 (1969); BSPE 1950 Iowa; MA 1955 Iowa; PHD 1959 Iowa

**CASAVANT, THOMAS L.**, Professor, Ophthalmology & Visual Science/Electrical-Computer Engineering/Biomedical Engineering, 1986 (1999); BS 1982 Iowa; MS 1983 Iowa; PHD 1986 Iowa

**CASELLA, PAUL**, Adjunct Assistant Professor, Internal Medicine, 2009 (2009); MFA 1990 Iowa

**CASHMAN, SHARON K.**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); BSPH 1987 Iowa

**CASILLAS, ALEX**, Adjunct Assistant Professor, Psychology, 2008 (2008); BA 1997 Grinnell; MA 2000 Iowa; PHD 2005 University of Iowa

**CASKO, JOHN S.**, Professor, Orthodontics, 1976 (1976); BS 1960 Holy Cross; DDS 1964 Georgetown; MS 1968 Georgetown; PHD 1970 Pittsburgh

**CASSADAY, MICHAEL**, Adjunct Assistant Professor, Internal Medicine, 2009 (2009); DO 1976 Des Moines

**CASSEL, SUZANNE**, Assistant Professor, Internal Medicine, 2007 (2010); BA 1992 Reed, Portland OR; MD 2000 Temple

**CASELL, MARTIN D.**, Professor, Anatomy & Cell Biology, 1982 (2004); BS 1976 Bristol-England; PHD 1980 Bristol-England

**CASTRO RUIZ, LEYRE**, Adjunct Assistant Professor, Psychology, 2006 (2006); PHD 2003 Deusto, Bilbao, Spain

**CATALANO, COSMO A.**, Emeritus Professor, Theatre Arts, 1966 (1975); BA 1950 Allegheny; MFA 1953 Yale

**CATANZARO, DAVID AUSTIN**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARM 2004 Cincinnati

**CATELLIER, MICHELLE J.**, Clinical Adjunct Assistant Professor, Pathology, 2007 (2007); MD 1987 Indiana

**CATER, E DAVID**, Emeritus Professor, Chemistry, 1961 (1979); BS 1954 Trinity; PHD 1960 Kansas

**CATES, DIANA F.**, Professor, Religion, 1990 (2010); BA 1983 St. Olaf; PHD 1990 Brown

**CATNEY, CHRISTINE M.**, Clinical Assistant Professor, Pharmacy, 1996 (1996); BS 1975 St. Louis Coll of Pharmacy; MA 1986 Iowa; PHARM 1996 Iowa

**CAUGHLAN, CHARLES R.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1992 (1997); MD 1973 Iowa

**CAVANAUGH, JOSEPH E.**, Professor, Biostatistics/Statistics & Actuarial Science, 2003 (2008); BS 1986 Montana Tech; MS 1988 Montana State; PHD 1993 California

**CAWIEZELL, JILL RENEE**, Professor, Nursing/International Programs, 2008 (2008); MSN 1994 Missouri-Columbia; PHD 1998 Missouri-Columbia

**CAZIN, JOHN JR**, Emeritus Professor, Microbiology, 1957 (1972); BS 1952 North Carolina; MS 1954 North Carolina; PHD 1957 North Carolina

**CEARLOCK, KENNETH**, Clinical Adjunct Assistant Professor, Family Medicine, 2000 (2002); MD 1979 Missouri

**CEILLEY, ROGER IVAN**, Clinical Adjunct Professor, Dermatology, 1976 (2000); MD 1971 Iowa

**CERHAN, JAMES**, Adjunct Professor, Epidemiology, 2000 (2005); BA 1986 Iowa; PHD 1991 University of Iowa; MD 1993 Iowa

**CERONE, SHANE MICHAEL**, Adjunct Assistant Professor, Health Management & Policy, 1998 (2004); MA 1995 Iowa

**CERRETA, FLORINDO V.**, Emeritus Professor, French & Italian, 1957 (1964); BA 1943 Fordham; PHD 1954 Columbia

**CHABAL, ROBERT JAMES JR**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1979 Iowa

**CHADIMA, HELEN LOUISE GOWER**, Emeritus Associate Professor, Dance, 1983 (1990); BA 1949 Iowa; MA 1981 Iowa

**CHAFFEE, JAMES WILLIAM**, Adjunct Lecturer, Management Sciences, 2007 (2007); BS 1990 California PA; MA 2001 Illinois

**CHAHAL, JASPREET KAUR**, Clinical Assistant Professor, Internal Medicine, 2006 (2007); MBBS 1990 Government Medical

**CHAKRABORTY, ALISON WITHAM**, Adjunct Lecturer, Marketing, 2009 (2009); BA 1992 Texas @Austin; MBA 1997 Oklahoma State

**CHALKLEY, YVONNE M.**, Emeritus Associate Professor, Operative Dentistry, 1977 (1984); BS 1973 Iowa; DDS 1977 Iowa; MS 1979 Iowa

**CHALONER, KATHRYN**, Professor, Design Biostat and Ethics/Statistics & Actuarial Science/Biostatistics, 2002 (2002); BA 1975 Oxford; MS 1976 London; PHD 1982 Carnegie Mellon

**CHALOUPKA, JOHN**, Professor, Anatomy & Cell Biology, 1998 (2002); BS 1982 Union; MD 1986 Johns Hopkins

**CHALSTROM, CARL VICTOR**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1987 Iowa

**CHAMBERLAIN, DAVID S.**, Emeritus Professor, English, 1961 (1975); BA 1952 Dartmouth; MA 1958 Oxford-England; PHD 1966 Princeton

**CHAMBERLAIN, TIFFANY LYNN**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); BS 1997 Wisconsin; PHARM 2004 Iowa

**CHAMBERS, GEORGE A.**, Emeritus Professor, Educ Policy & Leadership Studies, 1963 (1970); BA 1954 Northern Iowa; MA 1958 Northern Iowa; PHD 1964 Iowa

**CHAMBERS, SUSAN ELIZABETH**, Adjunct Assistant Professor, Theatre Arts, 1999 (1999); BA 1976 Shimer; MFA 1981 Pennsylvania State

**CHAMETZKY, ROBERT**, Adjunct Associate Professor, Linguistics, 2003 (2008); BA 1979 Columbia; PHD 1987 Chicago

**CHAMPION, CHRISTOPHER SCOTT**, Clinical Adjunct Assistant Professor, Family Medicine, 2005 (2005); BA 1993 Missouri @ Kansas City; DO 2000 Kansas City

**CHAMPION, CRAIG M.**, Clinical Adjunct Associate Professor, Internal Medicine, 1973 (1983); MD 1962 Iowa

**CHAN, BING C.**, Emeritus Associate Professor, Asian & Slavic Languages & Literature, 1979 (1987);

**CHAN, KUNG-SIK**, Professor, Statistics & Actuarial Science, 1991 (1999); BSC 1980 Chinese-Hong Kong; MA 1982 Princeton; PHD 1986 Princeton

**CHANDE, VIDYA BALKRISHNA**, Clinical Adjunct Associate Professor, Pediatrics, 2001 (2005); MD 1986 Iowa

**CHANDRAMOULI, B**, Clinical Adjunct Assistant Professor, Pediatrics, 1971 (1985); MBBS 1960 Mysore India

**CHANDRAN, KRISHNAN B.**, Professor, Mechanical Engineering/Biomedical Engineering, 1978 (1984); BS 1963 American-India; BTECH 1966 Indian Institute of Technology; MS 1969 Washington-Missouri; DSC 1972 Washington-Missouri

**CHANDRAN, PREM K.**, Clinical Adjunct Associate Professor, Internal Medicine, 1987 (1999); MBBS 1973 Kerala-India

**CHANG, EUGENE**, Assistant Professor, Otolaryngology-Head & Neck Surgery, 2010 (2010); BA 1999 Brown Univ; MD 2004 Brown Medical School

**CHANG, KRISTI ERIN**, Clinical Associate Professor, Radiation Oncology/Otolaryngology-Head & Neck Surgery, 2003 (2009); BS 1991 Palo Alto, CA; MD 1997 Southern California

**CHANG, LAN SAMANTHA**, Professor, Creative Writing/English, 1998 (2006); BA 1987 Yale; MPA 1991 Harvard; MFA 1993 Iowa

**CHAPLEAU, MARK W.**, Professor, Physiology/Internal Medicine, 1989 (2004); BS 1977 Wisconsin-Whitewater; PHD 1985 Louisiana State

**CHAPLER, FREDERICK K.**, Emeritus Professor, Obstetrics & Gynecology, 1970 (1976); BA 1957 UC Berkeley; MD 1960 UC-San Francisco

**CHAPPELLE, CHRISTOPHER MARK**, Adjunct Instructor, Social Work, 2010 (2010); BSW 1970 South Dakota; MPA 1985 Drake

**CHARLTON, MARY ELIZABETH**, Adjunct Assistant Professor, Health Management & Policy/Epidemiology, 2009 (2009); BN 1998 Iowa; BSN 1998 University of Iowa; MS 2002 Iowa; PHD 2008 Iowa

**CHARMICHAEL, ASHLEY LYNN**, Adjunct Instructor, Family Dentistry, 2010 (2010); DDS 2010 Iowa

**CHARSHA-HARNEY, ANGELA LEIGH**, Adjunct Instructor, Integrative Physiology, 2009 (2009); BA 1998 Monmouth College; MA 2001 Michigan State; MS 2002 Michigan State

**CHASE, JOHN**, Clinical Assistant Professor, Internal Medicine, 1999 (2000); BA 1989 North Carolina; MD 1993 North Carolina

**CHATTERJEE, KANU**, Clinical Professor, Internal Medicine, 2009 (2009); MBBS 1956 R.G. Kar Medical

**CHAUHAN, ANIL**, Assistant Professor, Internal Medicine, 2008 (2008); PHD 2002 Intl Centre for Genetic Eng

**CHEATUM, CHRISTOPHER**, Assistant Professor, Chemistry, 2003 (2003); BS 1995 New Mexico; PHD 2001 Wisconsin

**CHEN, JOSEPH JACK**, Clinical Associate Professor, Physical Therapy/Orthopaedics and Rehabilitation, 2000 (2006); BSC 1991 Brown; MD 1996 Brown

**CHEN, LEA-DER**, Emeritus Professor, Mechanical Engineering, 1982 (1991); BS 1974 National Taiwan; MS 1979 Pennsylvania State; PHD 1981 Pennsylvania State

**CHEN, SHUANG**, Assistant Professor, History, 2010 (2010); MA 2002 Peking; MA 2005 Michigan; PHD 2009 Michigan

**CHEN, SONGHAI**, Assistant Professor, Pharmacology, 2008 (2008); MD 1988 Fujian, China; PHD 2002 New South Wales,Australia

**CHEN, YONG**, Associate Professor, Industrial Engineering, 2003 (2010); MS 2000 Michigan; PHD 2003 Michigan; MA 2003 Michigan

**CHENG, CHI-LIEN**, Associate Professor, Department of Biology, 1990 (1997); BS 1969 National Taiwan; PHD 1982 Connecticut

- CHENG, FRANK H.**, Emeritus Professor, Radiology, 1964 (1980); BS 1946 St Johns-China; MS 1950 Tennessee; PHD 1957 Indiana
- CHERASCU, BOGDAN N.**, Clinical Assistant Professor, Internal Medicine, 2008 (2008); MD 1994 Carol Davila
- CHERECHES, RAZVAN**, Adjunct Assistant Professor, Occupational & Environmental Health, 2007 (2007); MD 2001 LuLiu Hatieganu, Romania; MS 2005 Univ Lucian Blaga, Romania; PHD 2007 Univ Lucian Blaga, Romania
- CHEYNE, KEN**, Clinical Adjunct Professor, Pediatrics, 1999 (2006); MD 1982 Iowa
- CHIBNIK, MICHAEL S.**, Professor, Anthropology/International Programs, 1978 (1994); BA 1968 Cornell; MA 1973 Columbia; PHD 1975 Columbia
- CHIHAK, BENJAMIN JOHN**, Adjunct Assistant Professor, Psychology, 2008 (2008); PHD 2007 Minnesota
- CHIN, HAK KEUNG**, Clinical Adjunct Instructor, Nursing, 2008 (2008); MSN 2006 North Dakota
- CHIN, TING-FONG**, Emeritus Associate Professor, Pharmacy, 1963 (1976); BS 1951 Nat'l Defense Med Ctr-Taiwan; MS 1960 Iowa; PHD 1962 Iowa
- CHIUSANO, ROBERT MICHAEL**, Adjunct Lecturer, Industrial Engineering, 2008 (2008); BSE 1977 New York; MBA 1984 Iowa
- CHOE, STEVE**, Assistant Professor, Cinema & Comparative Literature, 2008 (2008); PHD 2008 California - Berkeley
- CHOI, JAMES YUKNAM**, Clinical Associate Professor, Anesthesia, 1996 (2004); BA 1986 Northwestern; MD 1991 University of Iowa
- CHOI, KENT CHOUNG**, Clinical Associate Professor, Surgery, 2001 (2007); BS 1989 Florida; MD 1993 Georgia Medical
- CHOI, KYONG MI**, Assistant Professor, Teaching and Learning, 2009 (2009); BS 2002 Seoul National; MPHIL 2008 Columbia Univ; PHD 2009 Columbia Univ
- CHOI, KYUNG KOOK**, Professor, Mechanical Engineering, 1983 (1990); BS 1970 Yon Sei-Korea; MS 1977 Iowa; PHD 1980 Iowa
- CHOI, WON WUNG**, Professor, Anesthesia, 1979 (1992); MD 1957 Chon-nam-Korea; DMS 1966 Seoul National-Korea
- CHONG, HUI SEN**, Clinical Assistant Professor, Surgery, 2010 (2010); MD 2004 Calgary
- CHOO, CHUNGHI**, Professor, Art & Art History, 1968 (1981); BFA 1961 Ewha Women's-Korea; MFA 1965 Cranbrook Academy of Art
- CHOPE, ROGER ALLEN**, Adjunct Professor, Finance/Accounting, 2008 (2008); BA 1968 Albion; MBA 1977 Louisville; PHD 1981 Oregon
- CHORAZY, MARGARET LYNN**, Instructor, Epidemiology, 2010 (2010); BS 2002 Illinois Wesleyan; MPH 2004 Yale
- CHOUDHARY, JASPREET**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); DDS 2005 Creighton
- CHOUDHURY, AMIT K.**, Assistant Professor, Anatomy & Cell Biology, 2007 (2007); BS 1987 Gandhi Memorial, India; MS 1992 Nat. Dairy Resch, India; PHD 1998 Chandigarh, India
- CHRISCHILLES, ELIZABETH A.**, Professor, Design Biostat and Ethics/Pharmacy/Epidemiology, 1982 (2000); BS 1979 Iowa; MS 1981 Iowa; PHD 1986 Iowa
- CHRISTENSEN, ALAN J.**, Professor, Psychology/Internal Medicine, 1993 (2002); BS 1987 Utah; MS 1991 Utah; PHD 1993 Utah
- CHRISTENSEN, CYNTHIA K.**, Emeritus Associate Professor, Pediatric Dentistry, 2002 (2002); BS 1976 Iowa; DDS 1980 Iowa; MS 1983 Iowa
- CHRISTENSEN, GARY E.**, Professor, Electrical-Computer Engineering/Radiation Research Laboratory, 1997 (2010); BS 1988 Washington-St. Louis; MS 1989 Washington-St. Louis; PHD 1994 Washington-St. Louis
- CHRISTENSEN, JAMES**, Emeritus Professor, Internal Medicine, 1963 (1972); BA 1953 Nebraska-Lincoln; MS 1957 Nebraska-Omaha; MD 1957 Nebraska-Omaha
- CHRISTENSEN, LORI**, Clinical Associate Professor, Pathology, 2001 (2007); BA 1993 Iowa; MD 1998 Iowa
- CHRISTENSEN, SHANNON MAUREEN**, Adjunct Lecturer, Marketing, 2007 (2007); BA 1988 Columbia; MA 1990 Webster, St. Louis,
- CHRISTENSEN, STEVE**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); DDS 1986 Iowa

**CHRISTENSEN-SZALANSKI, CARLYN M.**, Clinical Assistant Professor, Emergency Medicine, 2003 (2005); MD 1983 Washington

**CHRISTENSEN-SZALANSKI, JAY**, Professor, Management & Organizations, 1986 (1991); AB 1975 Harvard; PHD 1978 Washington; MPH 1979 Washington

**CHRISTIANS, KEVIN**, Adjunct Instructor, Pharmacy, 2004 (2004); BSPH 1995 Iowa

**CHRISTIANSEN, MARGARET A.**, Adjunct Instructor, Communication Sciences and Disorders, 2008 (2008); BA 1999 UNI; MA 2001 UNI; DAUD 2006 AT Still U of Health Sci

**CHRISTISON, THOMAS A.**, Lecturer, Art & Art History, 2006 (2006); BFA 1981 Wisconsin @ Eau Claire; MFA 1984 Arizona State

**CHRISTNER, RONALD**, Adjunct Associate Professor, Finance, 2009 (2009); MS 1971 Minnesota; PHD 1973 Minnesota

**CILEK, TONI LEE DATERS**, Clinical Associate Professor, Communication Sciences and Disorders, 1992 (1992); BA 1975 Iowa; MA 1976 Iowa

**CIOCHON, RUSSELL L.**, Professor, Pediatric Dentistry/Anthropology, 1987 (1996); BA 1971 California-Berkeley; MA 1974 California-Berkeley; PHD 1986 California-Berkeley

**CIVETTINI, NICOLE HAGAN WOLENSKY**, Adjunct Assistant Professor, Sociology, (); MA 2003 Iowa; PHD 2009 Iowa

**CLAMON, GERALD H.**, Professor, Internal Medicine, 1976 (1991); BS 1967 Dartmouth; MD 1971 Washington-Missouri

**CLANCEY, CONSTANCE JEAN LEHMAN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHD 1990 Baylor College

**CLANCY, GREGORY MELVIN**, Adjunct Instructor, Nursing, 2009 (2009); MSN 1999 Iowa

**CLANCY, JAMES M.**, Associate Professor, Prosthodontics, 1986 (1991); BS 1975 Iowa; DDS 1978 Iowa; MS 1980 Iowa

**CLANCY, JOANNA LYNN**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine/Endodontics, 2005 (2005); DMD 1987 Alabama Birmingham; MDS 1992 Iowa

**CLANCY, THOMAS R.**, Adjunct Assistant Professor, Nursing, 1999 (2007); BSN 1978 Iowa; MBA 1993 Iowa; PHD 2006 Iowa

**CLARK, CHARLES R.**, Professor, Biomedical Engineering/Orthopaedics and Rehabilitation, 1980 (1988); BS 1972 Notre Dame; MD 1976 Michigan

**CLARK, CRAIG LEO**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1978 Iowa

**CLARK, CRAIG B.**, Clinical Adjunct Associate Professor, Internal Medicine, 2001 (2008); BS 1991 Iowa State; DO 1995 Des Moines- Col of Osteopa

**CLARK, DEWEY KEALAKAI**, Clinical Assistant Professor, Pediatrics, 2007 (2007); MD 2000 Iowa

**CLARK, ELIZABETH LEE**, Adjunct Assistant Professor, English, 2001 (2001); BA 1986 Carroll; MA 1993 Iowa; PHD 2001 Iowa

**CLARK, EVE DILLMAN**, Clinical Assistant Professor, Radiology, 2008 (2008); MD 2002 Iowa

**CLARK, JAMES P.**, Adjunct Instructor, Social Work, 1998 (1998); MSW 1978 Nebraska

**CLARK, JASON K.**, Assistant Professor, Psychology, 2009 (2009); BA 2000 Purdue; MS 2005 Purdue; PHD 2007 Purdue

**CLARK, LEE ANNA**, Emeritus Professor, Psychology, 1993 (1993); BA 1972 Cornell; MA 1977 Cornell; PHD 1982 Minnesota

**CLARK, MARY KATHLEEN**, Professor, IA Consortium Substance Abuse/Nursing, 1982 (2007); BSN 1973 Michigan; MN 1979 Washington; PHD 1990 Iowa

**CLARK, RUTH ANN**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1992 Iowa

**CLARK, SHAUNDA LOUISE**, Adjunct Instructor, Preventive & Community Dentistry, 1998 (1998); BS 1997 Iowa

**CLARK, STEVEN HEYEN**, Clinical Associate Professor, Periodontics, 1991 (2009); BS 1977 Illinois; DDS 1983 Illinois

**CLARK, TARA ANN NOARD**, Adjunct Instructor, Social Work, 2007 (2007); BA 1997 Iowa; MSW 1998 Washington;

MBA 2005 University of Iowa

**CLARK, TERESA DIANE**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1974 Iowa; MSN 1996 Iowa

**CLARK, WILLIAM DAVID**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (1999); MD 1977 Iowa

**CLARKE, APRILLE ANNE**, Adjunct Lecturer, General University College, 2008 (2008); BA 1998 Iowa; MFA 2001 Iowa

**CLARKE, MARY FRANCES**, Adjunct Assistant Professor, Nursing, 1996 (2007); BSN 1982 Mount Mercy College; MA 1993 Iowa; PHD 2006 Iowa

**CLARKE, WILLIAM RADUE**, Professor, Biostatistics, 1964 (1986); BA 1964 Oregon; MS 1967 Iowa; PHD 1975 Iowa

**CLAUS, JULIE ANN**, Adjunct Lecturer, College Transition, 2002 (2002); BA 1984 Iowa; MA 1986 Iowa

**CLAYTON, CHRISTOPHER EDMUND**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); AS 1995 North Iowa Area Community; PHARM D 2000 Iowa

**CLEGG, STEVEN**, Professor, Microbiology, 1980 (1992); BSC 1975 Dundee - Scotland; PHD 1978 Dundee-Scotland

**CLEMSEN, LANCE V.**, Adjunct Instructor, Social Work, 1997 (1997); MS 1986 Columbia

**CLEVELAND, MARK G.**, Clinical Adjunct Assistant Professor, Dermatology, 1999 (1999); BS 1984 Baylor; MD 1990 Texas Medical Galveston; PHD 1990 Texas Medical-Houston

**CLIFTON, JAMES A.**, Emeritus Professor, Internal Medicine, 1953 (1963); BA 1944 Vanderbilt; MD 1947 Vanderbilt

**CLINE, ROBERT N.**, Adjunct Lecturer, Marketing, 1996 (1996); BA 1968 Iowa

**CLINTON, PATRICIA KAY**, Clinical Professor, Nursing, 1984 (2002); BSN 1976 Iowa; MA 1984 Iowa; PHD 1995 Iowa

**CLOUSE, REBECCA LYNN**, Adjunct Assistant Professor, English, 1996 (1996); AB 1977 CHICAGO; MDIV 1986 YALE; PHD 1995 Iowa

**CLOW, TONI J.**, Emeritus Associate Professor, Nursing, 1976 (1981); BSN 1966 Iowa; MA 1975 Iowa

**CLUBB, MERREL D.**, Associate Professor, Theatre Arts, 1999 (1999); BA 1976 Amherst College; MFA 1982 Yale; DFA 1991 Yale

**COBB, AMY MARIE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARM D 2002 Iowa

**COBB, DEBORAH SCHECKEL**, Associate Professor, Operative Dentistry, 1986 (2000); BS 1976 Northern Arizona; DDS 1982 Iowa; MS 1995 Iowa

**COBB, HOWARD LEE**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BS 2000 Iowa; PHARM D 2005 Iowa

**COBB, STUART STANLEY**, Adjunct Assistant Professor, Endodontics, 1988 (1988); DDS 1982 Iowa

**COBLIN, WELDON S.**, Professor, Asian & Slavic Languages & Literature, 1973 (1985); BA 1967 Washington; PHD 1972 Washington

**COCHRAN, BRIDGETTE FAY**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARM D 2005 Iowa

**COCHRAN, HEATHER M.**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); BS 2000 Aquinas; MA 2003 Central Michigan; PHD 2006 Central Michigan

**COCHRAN, LIDA**, Emeritus Associate Professor, Psych & Quant Foundations, 1961 (1977); BA 1934 Washburn; BA 1960 Central Washington State; MA 1960 Central Washington State

**COCHRAN, SAM V III**, Clinical Professor, Psych & Quant Foundations, 1994 (2001); BA 1972 Chicago; MED 1975 Missouri; PHD 1983 Missouri

**COELHO, BENJAMIN ANTONIO**, Professor, Music, 1998 (2010); BA 1984 State Univ of NY - Purchase; MA 1986 Manhattan School of Music

**COFFEY, CHRISTOPHER S.**, Professor, Biostatistics, 2009 (2009); BS 1992 Tennessee; MS 1996 Chapel Hill; PHD 1999 Chapel Hill

**COFFMAN, DON D.**, Professor, Teaching and Learning/Music, 1987 (2002); BME 1978 Kansas; MMED 1984 Wichita State; PHD 1987 Kansas

**COFFMAN, ROBERT E.**, Emeritus Professor, Chemistry, 1967 (1979); BS 1953 Illinois; MS 1955 UC Berkeley; PHD 1964 Minnesota

**COGGINS MOSHER, SARAH LUCINDA**, Lecturer, Rhetoric, 2001 (2002); PHD 2001 Iowa

**COHEN, JORDAN L.**, Professor, Pharmacy, 1999 (1999); BS 1965 Wisconsin; PHD 1969 Wisconsin; MS 1997 Wisconsin

**COHEN, MARY L.**, Assistant Professor, Teaching and Learning/Music, 2007 (2007); BME 1992 Kansas; MME 2000 Kansas; PHD 2007 Kansas

**COHEN, MICHAEL B.**, Professor, Pathology/Urology/Epidemiology, 1990 (1996); BA 1977 Haverford; MD 1982 Albany Medical

**COHEN, RONALD M.**, Associate Professor, Art & Art History, 1991 (1991); BFA 1969 Philadelphia; MFA 1973 Queens

**COHENOUR, RYAN PAUL**, Adjunct Lecturer, College Transition, 2009 (2009); BA 2000 Eastern Illinois; MS 2008 Western Illinois

**COLAIZY, TARAH T.**, Assistant Professor, Pediatrics, 2004 (2004); MD 1988 Wisconsin; BS 1998 Wisconsin

**COLANGELO, NICHOLAS**, Professor, Counseling, Rehab & Stu Dev, 1977 (1986); BA 1970 State Univ-NY-Cortland; MED 1973 Vermont; PHD 1977 Wisconsin

**COLBERT, AMY ELIZABETH**, Associate Professor, Management & Organizations, 2007 (2010); BS 1995 Culver-Stockton; MA 1999 St Louis; PHD 2004 Iowa

**COLBERT, MICHAEL WILLIAM**, Lecturer, Management Sciences, 2007 (2007); BS 1994 Culver-Stockton

**COLE, CATHERINE A.**, Professor, Marketing, 1984 (2004); BA 1971 Beloit; MBA 1976 Wisconsin; PHD 1983 Wisconsin

**COLE, KELLY J.**, Associate Professor, Integrative Physiology/Physical Therapy, 1987 (1993); BS 1977 Wisconsin-Madison; MS 1981 Wisconsin-Madison; PHD 1984 Wisconsin-Madison

**COLEMAN, CARLA RAE**, Adjunct Instructor, Teaching and Learning, 2004 (2004); BA 1986 Luther College; MA 1993 Northern Iowa

**COLGAN, JOHN DAVID**, Assistant Professor, Anatomy & Cell Biology/Internal Medicine, 2004 (2005); MA 1989 Columbia; MPHIL 1991 Columbia; PHD 1994 Columbia

**COLLAGUAZO, DANA MARIE**, Clinical Assistant Professor, Emergency Medicine, 2003 (2003); BS 1996 Iowa; MD 2000 Iowa

**COLLINS, ANGELA SUE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2001); MD 1990 South Dakota

**COLLINS, DANIEL W.**, Professor, Accounting, 1977 (1981); BBA 1968 Iowa; PHD 1973 Iowa

**COLLINS, DAVID E.**, Lecturer, Marketing, 1997 (2000); BS 1974 Iowa

**COLLINS, JOSEPH JOHN**, Adjunct Instructor, Pharmacy, 2010 (2010); ADN 1984 New Mexico State

**COLLINS, JUDITH A.**, Lecturer, Nursing, 1982 (2000); BSN 1965 Iowa; MA 1967 Iowa

**COLLINS, NERISSA MICHELLE**, Clinical Assistant Professor, Internal Medicine, 2010 (2010); MD 2007 Oklahoma

**COLLINS, PAUL J.**, Emeritus Associate Professor, Periodontics, 1969 (1982); DDS 1966 Iowa; MS 1973 Iowa

**COLLINS, STEVE M.**, Professor, Electrical-Computer Engineering, 1976 (1987); BS 1971 Illinois-Chicago; MS 1974 Illinois-Chicago; PHD 1977 Illinois-Chicago

**COLLINS, THOMAS**, Clinical Assistant Professor, Surgery, 2007 (2007); MD 2000 Texas

**COLVIN, CAROLYN**, Associate Professor, Teaching and Learning, 1991 (1997); BA 1971 Doane; MED 1981 Nebraska-Lincoln; PHD 1987 Nebraska-Lincoln

**COMELLAS, ALEJANDRO**, Assistant Professor, Internal Medicine, 2008 (2008); MD 1996 Venezuela

**COMERON, JOSEP M.**, Associate Professor, Department of Biology, 2002 (2008); BS 1987 Barcelona; PHD 1997 Barcelona

**CONCANNON, KEVIN**, Adjunct Professor, Social Work, 2005 (2005); MSW 1966 St. Francis Xavier

**CONKLIN, SCOTT**, Associate Professor, Music, 2005 (2010); BM 1997 Cleveland Institute; MM 1999 Michigan; DMA 2002 Michigan

**CONNERLY, CHARLES**, Professor, Urban & Regional Planning/Public Policy Center, 2008 (2008); BA 1968 Grinnell College; MUP 1976 Michigan; PHD 1980 Michigan

**CONNOLLY, CONNIE JO**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1992 Iowa

**CONNOR, JAMES DAVIS**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BA 1978 UCSD; JD 1982 UCSD

**CONRAD, ALLEN J.**, Adjunct Instructor, Pharmacy, 2003 (2003); BSPH 1992 Iowa

**CONREY, MICHAEL ARTHUR**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMMD 2004 Iowa

**CONSTANTINE, ELIZABETH A.**, Adjunct Assistant Professor, International Programs, 1998 (2003); BA 1980 Univ Wisconsin-Madison; MA 1989 Monterey Inst Internat'l Studi; PHD 2001 Indiana

**CONSTANTINESCU, GEORGE**, Associate Professor, Civil-Environmental Engineering, 2004 (2009); MS 1992 Bucharets; PHD 1997 Iowa

**CONTRADA, DEBORAH**, Associate Professor, French & Italian, 1986 (1996); AB 1972 Mount Holyoke; AM 1973 Middlebury; PHD 1985 Harvard

**CONWAY, MAUREEN THERESE**, Adjunct Assistant Professor, Marketing, 2007 (2007); BA 1971 Marycrest; MFA 1978 Georgia; PHD 2000 Illinois

**CONWAY, THOMAS W.**, Emeritus Professor, Biochemistry, 1964 (1973); BS 1953 St Thomas; MA 1955 Texas; PHD 1962 Texas

**CONYBEARE, JOHN A.**, Professor, Political Science, 1987 (1988); BA 1971 Australian National; MA 1974 Harvard; PHD 1976 Harvard

**COOHEY, CAROL ANN**, Professor, Social Work, 1996 (2010); BA 1984 Northern Iowa; MSW 1985 Michigan; PHD 1993 Chicago

**COOK, BRIAN L.**, Professor, Psychiatry, 1986 (2001); BA 1976 Grinnell; DO 1979 Col of Osteopathic Med & Surge; MS 1984 Iowa

**COOK, ELIZABETH LORRAINE**, Clinical Assistant Professor, Obstetrics & Gynecology, 2010 (2010); BSN 2007 Excelsior; MSN 2009 Frontier Midwifery

**COOK, JENNIFER**, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); MD 1985 Iowa

**COOK, ROBERT T.**, Professor, Pathology, 1977 (1996); AB 1958 Kansas; MD 1962 Kansas; PHD 1967 Kansas

**COOK, ROBERT C.**, Assistant Professor, Music, 2003 (2003); BM 1987 Northwestern; MA 1995 Chicago; PHD 2001 Chicago

**COOK, SUSAN WAGNER**, Assistant Professor, Psychology, 2008 (2008); BS 2000 Chicago; PHD 2006 Chicago

**COOK, THOMAS MICHAEL**, Professor, Occupational & Environmental Health/Physical Therapy/International Programs, 1981 (1998); BA 1968 Thomas More-Kentucky; MS 1973 Duke; MS 1980 Drexel; PHD 1987 Iowa

**COOLEY, LISA N.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMMD 2002 Iowa

**COOLIDGE, ARCHIBALD C.**, Emeritus Professor, English, 1956 (1974); BA 1951 Harvard; MA 1954 Brown; PHD 1956 Brown

**COONER, RUSSELL**, Adjunct Lecturer, Health Management & Policy, 2010 (2010); MBA 1988 Tampa College

**COOP, NICHOLE E.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); BS 1997 Bradley; PHARMMD 2006 Midwestern

**COOPER, CHRISTOPHER SCOTT**, Professor, Urology/Pediatrics, 1999 (2008); BA 1987 Iowa; MD 1991 Iowa

**COOPER, REGINALD R.**, Emeritus Professor, Orthopaedics and Rehabilitation, 1962 (1971); BA 1952 West Virginia; BS 1953 West Virginia; MD 1955 Med College of Virginia; MS 1960 Iowa

**COOPER, STEVEN H.**, Adjunct Assistant Professor, Periodontics, 1970 (1973); DDS 1966 Iowa; MS 1970 Iowa

**COOPER-BROWN, LINDA JO**, Clinical Assistant Professor, Pediatrics, 2000 (2000); BA 1984 Miami; EDS 1988 Iowa; PHD 1991 Iowa

**COPA, ALAN**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BSPH 1985 Minnesota; PHARMMD 1986 Minnesota

**CORBETT, KYRA JEAN**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMMD 2004 Iowa

**CORETSOPOULOS, CHRIS**, Adjunct Associate Professor, Chemical & Biomedical Engineering, 1992 (2003); BS 1981 Massachusetts; PHD 1989 Illinois

**CORKERY, BRIAN JAMES**, Adjunct Lecturer, College Transition, 2002 (2002); BA 1983 Iowa; MS 1988 Iowa State; MPA 1996 Utah; PHD 1996 Utah



**CORKERY, JULIE M.**, Adjunct Assistant Professor, Psych & Quant Foundations, 2002 (2002); BA 1983 Mount Mercy; EDS 1987 Iowa State; PHD 1991 Iowa State

**CORLETTE, KRISTINA R.**, Adjunct Assistant Professor, Nursing, 2004 (2004); MA 1988 South Florida; JD 2000 Iowa; BSN Iowa

**CORNELL, ROBERT A.**, Associate Professor, Anatomy & Cell Biology, 2001 (2007); BS 1987 Stanford; PHD 1995 Washington

**CORNELL, STEVEN HAJOS**, Emeritus Professor, Radiology, 1963 (1971);

**CORREIA, AMY E.**, Adjunct Instructor, Social Work, 2006 (2006); MSW 1998 Iowa

**CORREIA, MONICA CRUZ DE GUSMAO**, Associate Professor, Art & Art History, 2003 (2010); AB 1991 Uni of Rio de Janeiro; MA 1999 Iowa; MFA 2000 Iowa

**CORYELL, WILLIAM H.**, Professor, Psychiatry, 1977 (1986); BS 1970 Georgia; MD 1973 Medical College of Georgia

**COSSMAN, GEORGE W.**, Emeritus Associate Professor, Teaching and Learning, 1966 (1970); AB 1952 Shimer; BS 1954 Illinois; MED 1955 Illinois; PHD 1967 Iowa

**COTTON, GREGORY M.**, Adjunct Assistant Professor, Library & Information Science, 1990 (1990); BS 1980 Northern State; MA 1987 Iowa

**COUGHLIN-JULIAN, MARY AGNES**, Adjunct Lecturer, College Transition, 2004 (2004); BA 1997 Northern State; MS 2001 Northern State

**COULTER, JOE D.**, Professor, Anatomy & Cell Biology/Community Programs/Community & Behavioral Health, 1985 (1985); BA 1966 Oklahoma; PHD 1971 Oklahoma

**COUSER, GREGORY PATRICK**, Adjunct Assistant Professor, Occupational & Environmental Health, 2004 (2007); BSE 1992 Iowa; MD 1997 Iowa; MPH 2002 Iowa

**COVERT, CHRISTOPHER M.**, Clinical Adjunct Instructor, Internal Medicine, 1995 (1995); DO 1984 Osteopathic Med & Hlth

**COVINGTON, CARY**, Associate Professor, Political Science/General University College, 1982 (1988); BA 1973 Whittier; MA 1975 Illinois-Urbana; PHD 1981 Illinois-Urbana

**COWDERY JR, JOHN S.**, Emeritus Professor, Internal Medicine, 1983 (1994); BA 1971 Duke; MS 1974 Emory; MD 1978 Emory

**COWEN, HOWARD JEFFREY**, Clinical Professor, Preventive & Community Dentistry, 1982 (2010); BA 1972 Colorado; DDS 1976 Iowa; MS 1995 Iowa

**COWLES, MARY KATHRYN**, Associate Professor, Biostatistics/Statistics & Actuarial Science, 1997 (2002); BA 1971 Carleton college; MM 1972 Northwestern; MS 1990 Minnesota-Minneapolis; PHD 1994 Minnesota-Minneapolis

**COX, CHARLES D.**, Emeritus Professor, Microbiology, 1974 (1988); BS 1967 William and Mary; PHD 1971 Georgia

**COX, JEFFREY L.**, Professor, History, 1977 (1988); BA 1970 Rice; AM 1971 Harvard; PHD 1978 Harvard

**COX, LOIS K.**, Clinical Professor, Law-Faculty, 1991 (1999); BA 1971 Rice; MA 1973 Tufts; JD 1978 Boston

**COX, PAUL RUSSELL**, Adjunct Instructor, German, 2005 (2005); BA 1993 Missouri - Columbia; MA 1995 Missouri - Columbia

**COX, RUTH A.**, Adjunct Assistant Professor, Nursing, 1985 (1985); PHD 1984 Iowa

**CRABB, LARRY**, Emeritus Associate Professor, Family Dentistry, 1977 (1979);

**CRABB, THOMAS G.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); BS 1973 Morningside; BSPH 1977 Creighton; JD 1991 Drake

**CRABTREE, CAROL JEANNE**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); BS 1996 Iowa State; PHARMD 2001 Iowa

**CRABTREE, KIRK**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2001 Iowa

**CRAFT-ROSENBERG, MARTHA JANE**, Emeritus Professor, Nursing, 1980 (1997); BSN 1970 Iowa; MA 1978 Iowa; PHD 1985 Iowa

**CRAIG, STEVEN ROBERT**, Clinical Adjunct Professor, Internal Medicine, 1987 (2005); MD 1979 Iowa

**CRAIN, CARIN N.**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BA 1983 Scripps College; JD 1991 California, Davis

**CRAM, ALBERT EDWIN**, Emeritus Professor, Surgery, 1975 (1991); BS 1965 Nebraska; MD 1969 Nebraska

**CRAM, ELLEN**, Clinical Associate Professor, Nursing, 2000 (2005); BSN 1980 Coe; MA 1989 Iowa; PHD 2002 University of Iowa

**CRAM, PETER M.**, Associate Professor, Internal Medicine, 2002 (2008); BA 1991 Vermont; MD 1997 Wake Forest

**CRAMER, BARTON EMMET**, Adjunct Assistant Professor, Economics, 2007 (2009); BS 1963 MA Inst of Technology; MS 1966 MA Inst of Technology; PHD 2007 Iowa

**CRANBERG, GILBERT**, Emeritus Professor, Journalism & Mass Communication, 1982 (1982); BA 1949 Syracuse; MA 1956 Drake

**CRANE, FREDERICK**, Emeritus Professor, Music, 1968 (1980);

**CRANSTON, JANE BARNES**, Clinical Instructor, Teaching and Learning, 2005 (2009); MA 1980 Western Illinois; MA 1993 Iowa

**CRAPON DE CAPRONA, MARIE DOMINIQUE**, Adjunct Associate Professor, Department of Biology, 2008 (2008); MA 1970 Geneva, Switzerland; PHD 1977 Geneva Switzerland

**CRAWFORD, LANCE WAYNE**, Adjunct Assistant Professor, Endodontics, 2003 (2003); BS 1971 Iowa; BDS 1975 Loyola-Chicago; CER 1981 Loyola-Chicago

**CRAWFORD, ROBERT G.**, Adjunct Associate Professor, Economics, 2009 (2009); MS 1971 Carnegie Mellon; PHD 1976 Carnegie Mellon

**CREEDON, PAMELA J.**, Professor, Journalism & Mass Communication, 2002 (2002); BA 1969 Mount Union; MA 1970 Oregon

**CREEKMUR, COREY**, Associate Professor, Cinema & Comparative Literature/International Programs/English, 1997 (2000); BA 1979 Florida; MA 1981 Chicago; PHD 1991 Illinois-Urbana Champaign

**CREMER, JAMES F.**, Professor, Computer Science, 1992 (2003); BS 1982 Cornell University; MS 1988 Cornell University; PHD 1989 Cornell University

**CREMERS, BERNARD J.**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1964 Iowa

**CRETZMEYER, MARGARET T.**, Adjunct Assistant Professor, Social Work, 2006 (2006); PHD 2006 Iowa

**CRISWELL, THOMAS J.**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARM 2010 Iowa

**CROFT, JERRY**, Adjunct Professor, International Programs, 2001 (2001); PHD 1971 Tulsa

**CROFT, LAURIE J.**, Adjunct Associate Professor, Teaching and Learning, 1998 (2008); BA 1978 Oklahoma State; MA 1984 Oklahoma; PHD 1994 Tulsa

**CROMWELL, JOHN**, Clinical Associate Professor, Surgery, 2009 (2009); BS 1989 Lincoln, Nebraska; MD 1994 Minnesota

**CROSS, LOWELL M.**, Emeritus Professor, Music, 1972 (1981); BA 1961 Texas Tech; BA 1963 Texas Tech; MA 1968 Toronto-Canada

**CROSS-OHDEN, MELISSA ANN**, Adjunct Instructor, Social Work, 2005 (2005); MSW 2005 Iowa

**CROSSETT, CLAY**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); BS 1983 Centre College; DMD 1983 Louisville; DMD 1987 Louisville

**CROSSETT, JUDITH H.**, Clinical Professor, Psychiatry/Nursing, 1998 (2008); BA 1968 Grinnell; MA 1970 Toronto; MD 1984 Iowa; MS 1988 Iowa

**CROWE, RAYMOND R.**, Emeritus Professor, Psychiatry, 1972 (1981); BA 1963 Vanderbilt; MD 1966 Vanderbilt

**CROWELL, CAROLYN M.**, Emeritus Assistant Professor, Nursing, 1968 (1969);

**CROWELL, ERIC T.**, Adjunct Lecturer, Health Management & Policy, 1995 (1995); MA 1982 Minnesota

**CROWLEY, LOIS M.**, Lecturer, Teaching and Learning, 2010 (2010); MA 1995 Iowa

**CRUDEN, ROBERT W.**, Emeritus Professor, Department of Biology, 1967 (1978); AB 1958 Hiram; MS 1960 Ohio State; PHD 1967 UC Berkeley

**CRUIKSHANK, BRENDA M.**, Emeritus Associate Professor, Pediatrics, 1972 (1995); BA 1964 DePauw; MD 1967 North Carolina

**CRUZ, COOPER FRANKLIN**, Adjunct Assistant Professor, Creative Writing, 2010 (2010); BA 1999 Florida; MFA 2010 Iowa

**CRYER, JONATHAN D.**, Emeritus Professor, Statistics & Actuarial Science, 1966 (2000); BA 1961 DePauw; PHD 1966 North Carolina

**CUDDIHY, HENRI A.**, Clinical Associate Professor, Occupational & Environmental Health/Internal Medicine, 2000 (2000); BA 1969 New York; MD 1977 Alabama

**CULLEN, JOSEPH JOHN**, Professor, Radiation Oncology/Surgery, 1993 (2005); BS 1981 Loras; MD 1986 Iowa

**CULLEN, LAURA M.**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1982 Iowa; MA 1990 Iowa

**CULLINAN, DANIEL**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); BS 1995 Iowa; MS 1997 Iowa; PHARMD 1999 Iowa

**CULP, KENNITH RAY**, Professor, Occupational & Environmental Health/Nursing, 1985 (2007); BSN 1980 Iowa; MA 1985 Iowa; PHD 1992 Iowa

**CUMINGS, LAUREN RACHAEL**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHAR 2006 Drake

**CUMMINGS, JAMES MICHAEL**, Clinical Adjunct Assistant Professor, Family Medicine, 2005 (2005); BA 1992 Central Pella, IA; MD 1996 Iowa

**CUMMINGS, STEPHEN PAUL**, Adjunct Instructor, Social Work, 2005 (2005); BA 1994 Iowa; MSW 2002 Iowa

**CUMMINS, PHILLIP D.**, Emeritus Professor, Philosophy, 1963 (1974); BA 1957 Iowa; MA 1959 Iowa; PHD 1961 Iowa

**CUNLIFFE, PAUL WILLIAM**, Adjunct Assistant Professor, Dance, 2002 (2002);

**CUNNING, DAVID**, Associate Professor, Philosophy, 2003 (2007); BA 1993 California, @ Berkeley; MA 1996 California @ Irvine; PHD 2000 California @ Irvine

**CUNNINGHAM-FORD, MARSHA ANN**, Associate Professor, Preventive & Community Dentistry, 1979 (1985); BS 1976 Old Dominion; MS 1979 Old Dominion

**CURLEY, MELISSA ANNE-MARIE**, Assistant Professor, Religion, 2009 (2009); BA 1997 McGill; MA 2004 McGill; PHD 2009 McGill

**CURRIE, JAY DEAN**, Clinical Professor, Pharmacy, 1984 (2005); BSPH 1980 Iowa; PHARMD 1984 Iowa

**CURRIM, FAIZ A.**, Assistant Professor, Management Sciences, 2004 (2004); BA 1995 U Mumbai, India; MBA 1997 IIM, Calcutta, India; PHD 2004 Arizona

**CURRY, CLIFFORD R.**, Lecturer, Electrical-Computer Engineering, 2008 (2008); BSEE 1975 Illinois Urbana; MSEE 1977 Wichita State; PHD 1997 Washington Seattle

**CURRY, RAYGENA ANN**, Adjunct Instructor, Social Work, 1997 (1997); BA 1977 Simpson College; MSW 1992 Iowa

**CURRY, SUE J.**, Professor, Health Management & Policy, 2008 (2008); BA 1976 Massachusetts; MA 1979 New Hampshire; PHD 1981 New Hampshire

**CURTIS, ALICE K.**, Clinical Adjunct Instructor, Nursing, 2006 (2006); BSN 1981 Alderson Broaddus College; MS 1986 Western Michigan; BA 1991 Aquinas College; BFA 1995 Iowa

**CURTIUS, ANNY DOMINIQUE**, Associate Professor, French & Italian/International Programs, 2002 (2007); BA 1986 Antilles-Guyane; MA 1992 Montreal; PHD 1996 Montreal

**CURTO, INES ZIGRINO**, Lecturer, Computer Science, 2000 (2001); PHD 2000 Iowa

**CURTO, RAUL E.**, Professor, Mathematics, 1981 (1987); BS 1975 San Luis-Argentina; MA 1978 State Univ of NY - Stony Brook; PHD 1978 State Univ of NY - Stony Brook

**CURTU, RODICA**, Assistant Professor, Mathematics, 2007 (2007); BS 1995 Transilvania U of Brasov, Roman; MA 1999 Pittsburgh; PHD 2003 Pittsburgh

**CYPHERT, STACEY TODD**, Adjunct Lecturer, Health Management & Policy, 1990 (1990); MHA 1983 Ohio State; PHD 1990 Iowa

**D AGOSTINO, BRUCE ANTHONY**, Adjunct Assistant Professor, Family Dentistry, 2006 (2006); DDS 1979 Iowa

**D'AGATA, JOHN**, Associate Professor, English, 2005 (2007); BA 1995 Iowa; MFA 1998 Iowa

**D'ALESSANDRO, DONNA M.**, Professor, Pediatrics, 1995 (2007); BA 1985 Kalamazoo; MD 1989 Wayne State

**D'ALESSANDRO, MICHAEL**, Professor, Radiology, 1995 (2004); BS 1985 Wayne State; MD 1989 Wayne State

- D'AUNNO, LISA E.**, Adjunct Associate Professor, Social Work, 2008 (2008); AB 1978 Notre Dame; JD 1984 Michigan
- D'SOUZA, JOSEPH E.**, Adjunct Assistant Professor, Endodontics, 1983 (1987); BS 1974 Iowa; DDS 1983 Iowa
- DAACK-HIRSCH, SANDRA ELAINE**, Assistant Professor, Nursing, 1987 (2007); BSN 1986 Iowa; MSN 1998 Iowa; PHD 2007 Iowa
- DAGLE, JOHN MICHAEL**, Associate Professor, Pediatrics, 1998 (2004); BS 1984 Creighton; PHD 1991 Iowa; MD 1991 Iowa
- DAHAL, SANJIV KUMAR**, Clinical Adjunct Assistant Professor, Internal Medicine, 2003 (2003); MD 1988 Minsk State, Belarus
- DAHL, EVA C.**, Adjunct Professor, Oral Path,Radiology&Medicine, 1980 (1999); DDS 1976 Iowa
- DAHMOUSH, LAILA**, Clinical Associate Professor, Urology/Pathology, 2001 (2007); MBCHB 1983 Univ. Alexandria Fac Med-Egypt; MD 1999 Maryland-Baltimore
- DAI, DONGHAI**, Associate Professor, Obstetrics & Gynecology, 2009 (2009); MD 1987 Shanghai Medical; PHD 1998 Medical of Georgia
- DAILEY, MICHAEL E.**, Associate Professor, Department of Biology, 1996 (2002); BS 1985 Geneva; PHD 1990 Washington
- DAILEY, MORRIS O.**, Associate Professor, Pathology, 1984 (1989); BS 1971 Calif-Davis; PHD 1976 Chicago; MD 1977 Chicago
- DALEY, NEAL R.**, Adjunct Instructor, Pharmacy, 2004 (2004); BSPH 1980 Iowa
- DALY, JEANETTE MARIE**, Clinical Adjunct Assistant Professor, Family Medicine/Nursing, 1993 (1993); BS 1973 Northern Illinois; MS 1978 Northern Illinois; PHD 1992 Iowa
- DAMASIO, ANTONIO R.**, Adjunct Professor, Neurology, 1975 (1980); MD 1968 Lisbon; PHD 1974 Lisbon
- DAMASIO, HANNA M.**, Adjunct Professor, Neurology, 1975 (1985); MD 1968 Lisbon-Portugal
- DAMIANO, PETER COSIMO**, Professor, Preventive & Community Dentistry/Public Policy Center, 1988 (2001); BS 1982 Iowa; DDS 1986 Iowa; MPH 1990 California-Los Angeles
- DAMICO, ALFONSO J.**, Emeritus Professor, Political Science, 1999 (1999); BA 1964 George Washington; MA 1967 Ohio State; PHD 1971 Ohio State
- DAMICO, SANDRA BOWMAN**, Professor, Educ Policy & Leadership Studies, 1999 (1999); BA 1962 Ohio State; MA 1969 Ohio State; PHD 1973 Florida
- DANIEL, BRIAN PHILLIP**, Clinical Assistant Professor, Internal Medicine, 2004 (2005); BA 1987 Carson-Newman-TN; MD 1991 Vanderbilt
- DANIEL, JOHN F.**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMD 1999 Iowa
- DANIELS, TIMOTHY K.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); MD 1973 Iowa
- DANIELSON, ANGELA MARIE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2007 Iowa
- DANIELSON, STANTON L.**, Clinical Adjunct Assistant Professor, Family Medicine, 1982 (1984); MD 1976 Iowa
- DANLEY, DANA L.**, Clinical Adjunct Assistant Professor, Family Medicine, 2004 (2004); BA 1993 Grinnell; MD 1998 Iowa
- DARCY, ISABEL K.**, Associate Professor, Mathematics, 2003 (2008); BS 1987 California; MS 1989 California; PHD 1997 Florida State
- DARLING, WARREN G.**, Professor, Integrative Physiology/Physical Therapy, 1987 (2007); BSC 1979 Waterloo-Ontario; MSC 1981 Waterloo-Ontario; PHD 1986 Western Ontario
- DASGUPTA, SOURA**, Professor, Electrical-Computer Engineering, 1985 (1994); BE 1980 Queensland-Australia; PHD 1985 Australian National
- DAVID, MARCELLA**, Professor, Law-Faculty/International Programs, 1995 (1999); BS 1986 Rensselaer Polytechnic Institu; JD 1989 Michigan
- DAVIDSON, BEVERLY L.**, Professor, Internal Medicine/Neurology/Physiology, 1994 (2000); BS 1981 Nebraska Wesleyan; MS 1983 Michigan; PHD 1987 Michigan
- DAVIDSON, CHARLES W.**, Emeritus Professor, Law-Faculty, 1950 (1957); BS 1947 Ohio State; JD 1949 Ohio State;

LLM 1950 Michigan

**DAVIDSON, DAVID WILLIAM**, Adjunct Instructor, Preventive & Community Dentistry, 1993 (1993); DDS 1980 Iowa

**DAVIDSON, JILL ELLEN KRAMER**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 1995 (1995); MD 1988 Iowa

**DAVIES, WILLIAM D.**, Professor, International Programs/Linguistics, 1986 (1995); BA 1975 Duke; MA 1979 California-San Diego; PHD 1981 California-San Diego

**DAVIS, DAVID A.**, Clinical Adjunct Assistant Professor, Dermatology, 2001 (2001); MD 1994 Colorado

**DAVIS, JAMES EUGENE**, Clinical Associate Professor, Cardiothoracic Surgery/Pediatrics, 2007 (2007); MD 1987 Indiana

**DAVIS, KRISTINE ANN ROSS**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BA 1970 Iowa; BSN 1976 Iowa; MA 1988 Iowa; MSN 1996 Iowa

**DAVIS, LEODIS**, Emeritus Professor, Chemistry, 1968 (1976); BS 1956 Missouri; MS 1958 Iowa State; PHD 1960 Iowa State

**DAVIS, MICHAEL WAYNE**, Adjunct Lecturer, College Transition, 2004 (2004); BA 1979 South Carolina; MDIV 1984 Southeastern Baptist Theologic

**DAVIS, PATRICIA H.**, Professor, Neurology, 1992 (2005); BS 1973 Queen's-Ontario; MD 1977 Queen's-Ontario

**DAVIS, REBECCA**, Clinical Assistant Professor, Internal Medicine, 2007 (2007); BS 1981 Indiana; MD 1987 Indiana

**DAVIS, ROY C.**, Adjunct Assistant Professor, Pharmacy, 1997 (1997); BA 1979 Pittsburgh; BS 1987 Kansas; PHARM 1995 Duquesne

**DAVIS, THOMAS L.**, Emeritus Professor, Music, 1958 (1974); BA 1957 Northwestern; MM 1958 Northwestern

**DAVIS, WILLIAM ALAN**, Clinical Associate Professor, Obstetrics & Gynecology, 2000 (2003); BA 1963 Wartburg; MD 1967 Illinois

**DAVIS, WILSON L JR**, Clinical Adjunct Instructor, Internal Medicine, 1990 (1990); MD 1978 Iowa

**DAVIS-DE GEUS, MEGAN SUE**, Lecturer, Nursing, 2009 (2009); BA 2001 St Olaf College; MHP 2004 Iowa; MSN 2009 Iowa

**DAVISON, ALICE L.**, Associate Professor, Linguistics, 1988 (1988); AB 1962 Bryn Mawr; MA 1969 Chicago; PHD 1973 Chicago

**DAWS, WILLIAM R.**, Clinical Adjunct Assistant Professor, Pediatrics, 1981 (1981); MD 1976 Iowa

**DAWSON, DEBORAH V.**, Professor, Biostatistics/Preventive & Community Dentistry, 2001 (2001); BA 1974 Montclair State; SCM 1976 Johns Hopkins; PHD 1981 North Carolina

**DAWSON, JEFFREY D.**, Professor, Biostatistics, 1991 (2009); BS 1987 Brigham Young; SCD 1991 Harvard

**DAWSON, STEVEN**, Clinical Adjunct Assistant Professor, Pediatrics, 2003 (2003); BA 1980 Wheaton; BS 1982 Washington; MD 1986 American University/Caribbean

**DAY, ANTHONY ALAN**, Clinical Adjunct Associate Professor, Family Medicine, 2008 (2008); BS 1988 Iowa; MD 1992 Iowa

**DE GEEST, KOEN**, Clinical Professor, Obstetrics & Gynecology, 2003 (2003); BS 1973 Gent, Belgium; MD 1977 Gent, Belgium

**DE LA PENA, GEORGE R.**, Associate Professor, Dance, 2004 (2005);

**DE MATTA, RENATO E.**, Associate Professor, Management Sciences, 1990 (1997); BS 1977 Phillipines; MA 1979 Phillipines; PHD 1989 Pennsylvania

**DE NARDI, SILVIA**, Adjunct Lecturer, French & Italian, 2008 (2008); BA 1992 Degli Studi di Padova, Italy

**DE SAINT VICTOR, CAROL**, Emeritus Professor, English, 1966 (1984); BA 1956 Indiana; PHD 1966 Indiana

**DEAN, JANE**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); BS 1978 Iowa

**DEAN, THOMAS KEITH**, Adjunct Assistant Professor, Integrative Physiology, 2000 (2000); BA 1982 Northern Illinois; BM 1982 Northern Illinois; MA 1984 Northern Illinois; PHD 1991 Iowa

**DEBINSKI, DIANE M.**, Adjunct Associate Professor, Department of Biology, 2002 (2002); BA 1984 Maryland; MS 1986 Michigan; PHD 1991 Montana State

**DEBOER, ANGELA**, Lecturer, English as Second Language, 2010 (2010); MA 2001 Minnesota

**DEBUHR, CORY**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2001 Iowa

**DECKER, SCOTT MATTHEW**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2008 Iowa

**DECOOK, RHONDA R.**, Assistant Professor, Statistics & Actuarial Science, 2006 (2006); BS 1993 Iowa State; MS 2002 Iowa State; PHD 2006 Iowa State

**DEE, FRED RANDOLPH**, Emeritus Professor, Pathology, 1974 (1983); BA 1963 Iowa; MD 1967 Iowa

**DEGOWIN, RICHARD L.**, Emeritus Professor, Internal Medicine, 1968 (1973); MD 1959 Chicago

**DEHN, RICHARD WILLIAM**, Emeritus Professor, Physician Assistant, 1994 (2000); BA 1973 Iowa; BS 1976 Iowa; MPA 1991 Golden Gate

**DEHRING, DEBORAH J.**, Associate Professor, Anesthesia, 1993 (1993); BS 1974 Wisconsin; MD 1978 Wisconsin

**DEIGNAN, CHRISTINE CHADEK**, Adjunct Assistant Professor, Occupational & Environmental Health, 2004 (2004); BA 1970 Cornell-Iowa; MD 1977 California

**DEJONG, DOUGLAS V.**, Professor, Accounting, 1980 (1993); BBA 1970 Iowa; MBA 1971 Iowa; PHD 1980 Michigan

**DELANEY, CONNIE J.**, Emeritus Professor, Library & Information Science, 1986 (2002); BSN 1975 Viterbo; MA 1978 Iowa; PHD 1986 Iowa

**DELATY, SIMONE**, Emeritus Professor, French & Italian, 1968 (1986); MA 1962 Grenoble-France; PHD 1970 Bordeaux-France

**DELIGIORGIS, STAVROS**, Emeritus Professor, English/Cinema & Comparative Literature, 1965 (1973);

**DELL, SUZANNE**, Adjunct Instructor, Social Work, 1998 (1998); MSW 1995 Illinois

**DELLOS, LAURA MURPHY**, Clinical Assistant Professor, Obstetrics & Gynecology, 2007 (2009); BSN 1985 Missouri, Columb; MSN 1991 California, San Fran

**DELSANDRO, ELIZABETH M.**, Clinical Assistant Professor, Communication Sciences and Disorders, 2010 (2010); BS 1989 W Virginia U; MS 1991 W Virginia U

**DEMALI, KRIS A.**, Assistant Professor, Biochemistry, 2006 (2006); PHD 1999 Colorado Health

**DEMELLO, GEORGE**, Emeritus Professor, Spanish & Portuguese, 1967 (1995); BA 1954 Massachusetts; MA 1959 Colorado; PHD 1968 Colorado

**DEMETROULIS, ELAINE MARIE**, Clinical Associate Professor, Internal Medicine, 2004 (2007); BS 1992 Wisconsin-Madison; MD 1997 Iowa

**DEMONG, JAMES H.**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1976 Iowa

**DEN ADEL, KEVIN JOHN**, Lecturer, Accounting, 2009 (2009); PHD 1999 Iowa

**DENBURG, JEFFREY LEWIS**, Professor, Department of Biology, 1977 (1990); BA 1965 Amherst; PHD 1970 Johns Hopkins

**DENBURG, NATALIE LISA**, Assistant Professor, Neurology, 1999 (1999); BA 1991 New York-Binghamtpm; MA 1994 Michigan State; PHD 1997 Michigan State

**DENEHY, GERALD**, Professor, Operative Dentistry, 1968 (1977); DDS 1968 Loma Linda; MS 1970 Iowa

**DENEHY, JANICE ANN**, Emeritus Associate Professor, Nursing, 1968 (1998); BS 1966 Loma Linda; MA 1971 Iowa; PHD 1978 Iowa

**DENINGER, MICHAEL JOSEPH**, Adjunct Assistant Professor, Pharmacy, 1998 (2001); BS 1991 Iowa; PHD 1998 Iowa

**DENKLAU, MICHAEL ALLEN**, Adjunct Lecturer, Finance, 2010 (2010); BBA 2006 Iowa; BS 2006 Iowa

**DENNIS, LESLIE**, Associate Professor, Epidemiology, 1999 (2004); BA 1984 Loretto Heights College; MS 1988 University of Colorado; PHD 1993 University of Washington

**DENNIS-SMITHART, R K.**, Clinical Adjunct Assistant Professor, Pediatrics, 1988 (1988); MD 1982 Iowa

**DENNISTON, RHAWN FLAVELL**, Adjunct Assistant Professor, Geoscience, 2001 (2001); PHD 2000 Iowa

**DENSEN, PETER**, Professor, Internal Medicine, 1983 (1991); BA 1966 Colby; MD 1970 Johns Hopkins

**DEPEW, DAVID**, Emeritus Professor, Communication Studies/Graduate College-Operations, 1990 (1995); BA 1965 St Marys-Calif; MA 1972 Calif-San Diego; PHD 1978 Calif-San Diego

**DEPEW, MARY J.**, Associate Professor, Classics/International Programs, 1990 (1996); BA 1976 California State; BA 1979 Calif-Irvine; MA 1985 California-Los Angeles; PHD 1989 Calif-Los Angeles

**DEPPE, WENDY L.**, Adjunct Instructor, Pharmacy, 2006 (2006); BS 1988 Moorhead State; BSPH 1995 Drake

**DEPROSSE, CHARLES**, Emeritus Associate Professor, Obstetrics & Gynecology, 1972 (1978); AB 1946 Cornell; MD 1950 Cornell

**DEPUMA, RICHARD DANIEL**, Emeritus Professor, Art & Art History, 1968 (1986); BA 1964 Swarthmore; MA 1967 Bryn Mawr; PHD 1969 Bryn Mawr

**DESJARDIN, LUCY E.**, Adjunct Assistant Professor, Epidemiology, 2003 (2003); BS 1981 Florida; DPHIL 1993 Florida

**DETTMER, HELENA R.**, Professor, Classics, 1976 (1997); BA 1972 Indiana; PHD 1976 Michigan

**DETTMER, TIMOTHY**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 2007 (2007); BA 1996 Wartburg College; MA 2000 Jewish Hosp. Cincinnati OH; MD 2000 Iowa

**DETWILER, TIMOTHY E.**, Adjunct Instructor, Finance, 2008 (2008); MBA 1980 Western Illinois

**DEVANEY, TOM**, Adjunct Instructor, Pharmacy Practice and Science, 2003 (2003); BSPH 1985 Iowa

**DEVINE, ARTHUR WILLIAM**, Clinical Adjunct Assistant Professor, Urology, 1999 (1999); MD 1977 Iowa

**DEVOCHT, JAMES WILLIAM**, Adjunct Assistant Professor, Biomedical Engineering, 1997 (1998); PHD 1996 Iowa

**DEWDNEY, DONNER**, Clinical Adjunct Assistant Professor, Psychiatry, 2007 (2007); MD 1963 Western Ontario

**DEXTER, FRANKLIN**, Professor, Health Management & Policy/Anesthesia, 1994 (2005); SCB 1985 Brown; MS 1988 Case Western Reserve; PHD 1989 Case Western Reserve; MD 1990 Case Western Reserve

**DEYAK, DAVID JOSEPH**, Professor, Military Science, 2009 (2009); BA 1989 Gustavus Adolphus, MN; MA 2001 Troy

**DEYOUNG, BARRY**, Clinical Professor, Orthopaedics and Rehabilitation/Pathology, 2000 (2006); BS 1982 Iowa; MS 1986 Maryland; MD 1991 Georgetown

**DI PAOLA, JORGE ANDRES**, Clinical Adjunct Associate Professor, Pediatrics, 2000 (2007); MD 1989 Buenos Aires

**DIAZ-ARNOLD, ANA M.**, Professor, Family Dentistry, 1987 (2002); BS 1979 Indiana; DDS 1983 Indiana; MS 1987 Iowa

**DIAZ-DUQUE, OZZIE F.**, Lecturer, Spanish & Portuguese, 1980 (1999); BA 1973 Queens College - NY; MA 1975 Iowa; PHD 1980 Iowa

**DIBONA, GERALD F.**, Emeritus Professor, Physiology, 1969 (1975); BA 1960 Harvard; MD 1964 Tufts

**DICARLO, MONIQUE G.**, Adjunct Instructor, Social Work, 1999 (1999); BA 1986 Augustana; MSW 1994 Michigan

**DICHARRY, BRADLEY CLARK**, Assistant Professor, Art & Art History, 2008 (2005); BFA 2001 Tennessee Chatta; MA 2003 Iowa; MFA 2005 Iowa

**DICKSON, ERIC W.**, Adjunct Professor, Emergency Medicine, 2003 (2007); BA 1991 Merrimack; MD 1995 Massachusetts

**DICKSON, JAMES SPARROW**, Adjunct Professor, Epidemiology, 2009 (2009); BA 1977 Clemson; MA 1980 Georgia; PHD 1984 Nebraska-Lincoln

**DIEHL, HUSTON**, Professor, English, 1985 (1995); BA 1970 Colorado College; MA 1971 Duke; PHD 1975 Duke

**DIEHL, PAUL B.**, Emeritus Associate Professor, English, 1975 (1981); BA 1966 Texas; MA 1970 Texas; PHD 1976 Texas

**DIEKEMA, DANIEL JAMES**, Clinical Professor, Internal Medicine/Pathology, 1999 (2008); BA 1985 Calvin; MD 1989 Vanderbilt; MS 1995 Iowa

**DIETZ, CORY LYNN**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (2002); MD 1990 Iowa

**DIETZ, FREDERICK R.**, Professor, Pediatrics/Orthopaedics and Rehabilitation, 1984 (1993); BA 1973 Harvard; MD 1977 Columbia

**DIFFLEY, KATHLEEN**, Associate Professor, English, 1983 (1991); BA 1972 Bard; MED 1974 Harvard; MA 1977 Columbia; MPHIL 1980 Columbia; PHD 1983 Columbia

**DIGMAN, JAMES S.**, Adjunct Instructor, Pharmacy, 2004 (2004); BSPH 1974 Drake

**DILG, JOHN**, Professor, Art & Art History, 1975 (1987); BFA 1969 Rhode Island School of Design

**DILLON, DENA M.**, Clinical Adjunct Assistant Professor, Pharmacy, 1998 (1998); PHARMD 1995 Michigan

**DILLON, JOSEPH S.**, Associate Professor, Internal Medicine, 1996 (2003); MBCH 1981 BAO University College-Dublin

**DIMMER, RACHEL ANN**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2010 Iowa

**DINDO, LILIAN NAZAR**, Assistant Professor, Psychiatry, 2009 (2009); BA 1998 Beirut; MA 2004 Iowa; PHD 2008 Iowa

**DION, DOUGLAS**, Associate Professor, Political Science, 1999 (1999); BA 1984 North Carolina; MS 1986 Minnesota; PHD 1991 Michigan

**DION, MARK WILLIAM**, Clinical Assistant Professor, Radiation Oncology, 2000 (2000); BA 1973 Western State-Colorado; MD 1977 Colorado

**DISSELHORST, DELBERT**, Emeritus Professor, Music, 1970 (1980); BM 1962 Illinois; MMUS 1965 Illinois; DMA 1970 Michigan

**DITTMER, MARK ALLEN**, Clinical Assistant Professor, Family Dentistry, 1989 (1998); BS 1975 Iowa; DDS 1986 Iowa

**DIVEKAR, ABHAY ASHOK**, Clinical Associate Professor, Pediatrics, 2007 (2007); MD 1995 Lokmanya Tilak Municipal

**DIXON, BRADLEY S.**, Associate Professor, Internal Medicine, 1990 (1994); BS 1975 Arizona State; MD 1979 Southern California

**DOBRIAN, WALTER**, Emeritus Associate Professor, Spanish & Portuguese, 1962 (1965); BA 1952 Wisconsin; PHD 1960 Wisconsin

**DOBYNS, RICHARD CRAIG**, Clinical Professor, Family Medicine/International Programs, 1988 (2004); BA 1978 St. Olaf; MD 1983 Minnesota

**DOCHTERMAN, JOANNE MARIE**, Emeritus Professor, Nursing, 1980 (1987); BSN 1967 Simmons; MSN 1972 Illinois; PHD 1981 Chicago

**DODDS, AMBER LYNNE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2006 Iowa

**DODGE, GEORGINA**, Adjunct Associate Professor, English, 2010 (2010); BA 1991 California, Irvine; MA 1993 California; PHD 1996 California

**DODGE, RHONDA LYNN**, Clinical Adjunct Assistant Professor, Pediatrics, 2005 (2005); BA 1996 Simpson; MD 2001 Iowa

**DODSON, ERIC**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); BS 1991 Northeast Missouri State; DO 2000 Kirksville/ Osteopathic Med

**DOEBBELING, BRADLEY NIEL**, Adjunct Professor, Epidemiology, 1991 (2001); BS 1981 Colorado State; MD 1985 Colorado; MS 1990 Iowa

**DOEBBELING, CAROLINE CARNEY**, Adjunct Associate Professor, Epidemiology, 1998 (2003); BS 1988 Loras; MD 1992 Iowa; MA 1999 Iowa

**DOELLE, GREGORY CHARLES**, Clinical Professor, Internal Medicine, 2000 (2003); BA 1973 St. Thomas; MD 1977 Minnesota

**DOERING, JOHN VAL**, Professor, Family Dentistry, 1974 (1989); BA 1966 Regis; DDS 1970 Iowa; MA 1976 Iowa

**DOERN, GARY V.**, Emeritus Professor, Pathology/Epidemiology, 1997 (1997); BS 1972 Northwestern; MS 1974 Medical College of Wisconsin; PHD 1977 Medical College of Wisconsin

**DOERSCHUG, KEVIN CLARKE**, Clinical Associate Professor, Internal Medicine, 2002 (2008); BA 1990 Grinnell; MD 1994 Iowa

**DOERSHUK, JOHN F.**, Adjunct Assistant Professor, Anthropology, 1995 (1995); BA 1980 Carleton; MA 1982 Northwestern; PHD 1989 Northwestern

**DOGAN, AHMET UMRAN**, Adjunct Professor, Chemical & Biomedical Engineering, 1995 (2006); PHD 1984 Iowa

**DOHERTY, CORNELIUS**, Emeritus Associate Professor, Surgery, 1991 (1997); BS 1959 San Francisco; MD 1963 St Louis



**DOHRN, ASHLEY CATHERINE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BA 2001 Colorado College; PHARM 2006 Iowa

**DOHRN CHIARAVALLE, LINDA K.**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1987 Iowa

**DOLAN JR, PATRICK ANTHONY**, Lecturer, Rhetoric, 1993 (2001); PHD 1994 Iowa

**DOMANN JR, FREDERICK E.**, Professor, Radiation Oncology, 1993 (2006); BS 1983 Wisconsin-Platteville; PHD 1991 Wisconsin-Madison

**DOMRIN, ALEXANDER**, Adjunct Lecturer, Law-Faculty, 1999 (2005); SJD 1977 Pennsylvania Law School; BA 1985 Moscow; PHD 1991 Inst. of Legislation & Comp La

**DONAHUE, JAMES**, Clinical Adjunct Assistant Professor, Internal Medicine, 2003 (2003); BS 1981 Rensselaer Polytechnic, NY; MD 1981 Albany Medical, NY

**DONAHUE, MARY PATRICIA**, Emeritus Professor, Nursing, 1976 (1993); BSN 1962 Ohio State; MSN 1971 Ohio State; PHD 1981 Iowa

**DONALD, JOY**, Adjunct Lecturer, Management & Organizations, 2006 (2004); BA 1995 Cal. State; MBA 2002 Iowa

**DONEGAN, MELISSA MICHELLE**, Adjunct Assistant Professor, English, 2009 (2009); BAS 1995 Bates; MA 2001 Iowa; PHD 2008 Iowa

**DONELSON, JOHN E.**, Professor, Biochemistry, 1974 (1981); BS 1965 Iowa State; PHD 1971 Cornell

**DONHAM, KELLEY J.**, Professor, Occupational & Environmental Health/Nursing, 1973 (1985); BS 1966 Iowa; MS 1970 Iowa; DVM 1971 Iowa State

**DONNELL-RANDALL, STEFANIE COLLEEN**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DDS 2005 Iowa

**DONNELLY, PETER**, Adjunct Lecturer, Management & Organizations, 2009 (2009); MA 1994 Michigan; MBA 2007 Johns Hopkins

**DONNELLY, TERRANCE J.**, Adjunct Assistant Professor, Operative Dentistry, 1999 (2000); DDS 1981 Iowa

**DONNER-TIERNAN, CHRISTINE S.**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); PHARM 2000 Creighton; MBA 2001 Creighton

**DONOVAN, MAUREEN D.**, Professor, Pharmacy, 1989 (2008); BSPH 1983 Minnesota; PHD 1989 Michigan

**DOORENBOS, DARYL E.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); MD 1970 Iowa

**DOORENBOS, ROY ALLEN**, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2002); MD 1983 Iowa

**DOORN, JONATHAN A.**, Associate Professor, Pharmacy, 2004 (2010); BS 1996 Calvin; MS 1998 Michigan; PHD 2001 Michigan

**DOORNBOS, J FRED**, Emeritus Associate Professor, Radiology, 1986 (1993); BED 1950 Kansas; MD 1957 Kansas

**DORALE, JEFFREY**, Assistant Professor, Geoscience, 2003 (2003); BS 1988 Iowa; MS 1992 Iowa; PHD 2001 Minnesota

**DORFMAN, LORRAINE T.**, Emeritus Professor, Social Work, 1969 (1988); BS 1957 Temple; MA 1959 Michigan; PHD 1978 Iowa

**DORMAN, JANE M.**, Adjunct Lecturer, College Transition, 2002 (2002); BS 1982 Wisconsin-LaCrosse; MSED 1987 Northern Illinois

**DORNER, DOUGLAS B.**, Clinical Adjunct Professor, Surgery, 1973 (2001); MD 1967 Harvard

**DORR, GLORIA GRAHAM**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1974 University of Iowa; MA 1979 Iowa

**DOUCETTE, WILLIAM R.**, Professor, Pharmacy, 1996 (2007); BS 1983 Wisconsin; MS 1988 Wisconsin; PHD 1993 Wisconsin

**DOUGLASS, R THOMAS**, Emeritus Associate Professor, Spanish & Portuguese, 1970 (1970);

**DOVE, EDWIN L.**, Associate Professor, Biomedical Engineering, 1985 (1992); BS 1973 Virginia Polytechnic Institute; MS 1974 Virginia Polytechnic Institute; PHD 1984 Case Western Reserve

**DOWDEN, AMY MELINDA YODER**, Clinical Assistant Professor, Internal Medicine, 2007 (2008); BA 2000 Missouri-Kansas; MD 2000 Missouri-Kansas

**DOWLING, DAVID O.**, Lecturer, English, 2006 (2006); PHD 1995 Boulder

**DOWNEY, DEBORA ANN**, Adjunct Instructor, Communication Sciences and Disorders, 1993 (1996); BA 1984 Northern Colorado; MA 1986 Northern Colorado

**DOWNING, DONALD T.**, Emeritus Professor, Dermatology, 1978 (1978); BSC 1951 Western Australia; PHD 1955 Western Australia

**DOYLE, JENNIFER R.**, Adjunct Assistant Professor, Nursing, 2006 (2004); BSN 1993 Iowa; MSN 1999 Mount Marty, SD

**DOYLE, JOHN R.**, Emeritus Professor, Chemistry, 1955 (1965); BS 1949 MIT; PHD 1955 Tulane; MS MIT

**DOYLE, MATTHEW RICHARD**, Adjunct Instructor, Pharmacy, 2001 (2001); BS 1991 Iowa; MS 1996 Western Illinois

**DRACK, ARLENE V.**, Associate Professor, Ophthalmology & Visual Science/Pediatrics, 2008 (2008); BS 1981 Scranton; MD 1986 Penn State

**DRAKE, DAVID R.**, Professor, Endodontics, 1988 (2003); BS 1977 Purdue; MS 1982 Purdue; PHD 1986 Tennessee

**DRAKE, LON D.**, Emeritus Professor, Geoscience, 1968 (1979); BA 1961 Buffalo; MA 1965 California-Los Angeles; PHD 1968 Ohio State

**DREHER, MELANIE**, Emeritus Professor, Nursing/Community & Behavioral Health/Anthropology, 1997 (1997); BSN 1967 Long Island; MA 1974 Teachers College; MPHIL 1976 Columbia; PHD 1977 Columbia

**DREIER, JAMES**, Lecturer, Music, 2000 (2006); BA 1985 Berklee; MA 2000 Iowa

**DRESSER, CRAIG**, Lecturer, English as Second Language, 2010 (2010); MA 2004 Iowa

**DREYANKO, TIMOTHY**, Clinical Adjunct Assistant Professor, Pathology, 2004 (2004); BS 1975 Marycrest College; MD 1980 Iowa; MS 2002 Wisconsin

**DREXLER, FREDERICK R.**, Adjunct Instructor, Prosthodontics, 1980 (1982); BA 1972 Earlham; DDS 1975 Iowa

**DRIESSNACK, MARTHA**, Assistant Professor, Nursing, 2007 (2007); BSN 1977 Ohio State; MSN 1979 Yale; PHD 2005 Oregon Health & Science

**DRILLING, WILLIAM MICHAEL**, Adjunct Instructor, Pharmacy, 2005 (2005); BSPH Iowa

**DROCKTON, DAVID A.**, Adjunct Instructor, Preventive & Community Dentistry, 2000 (2000); DDS 1984 Case Western

**DROHAN, DAVID**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); DDS 1976 Columbia

**DUARTE, ARMANDO S.**, Professor, Dance, 1993 (2006); BS 1978 Univ de Sao Paulo-Brazil; MFA 1992 Tisch School of Arts-NY

**DUARTE, MARIA A.**, Associate Professor, International Programs/Spanish & Portuguese, 1982 (1989); BA 1971 Vanderbilt; MA 1974 Texas; PHD 1980 Minnesota

**DUBA, VERN**, Clinical Assistant Professor, Pharmacy, 1993 (1999); BA 1983 Doane College; MA 1987 MO, Columbia

**DUCK, STEVE**, Professor, Psychology/Communication Studies/General University College, 1986 (1986); BA 1968 Oxford-England; PHD 1971 Sheffield-England; MA 1972 Oxford-England

**DUERLINGER, JAMES P.**, Professor, Philosophy, 1971 (1989); BA 1961 Wisconsin; MA 1963 Washington; PHD 1966 Wisconsin

**DUFF, MELISSA C.**, Assistant Professor, Neurology/Communication Sciences and Disorders, 2009 (2009); BS 1997 So IL U; MS 1999 North Carolina; PHD 2005 Illinois

**DUFFEL, MICHAEL W.**, Professor, Pharmacy, 1981 (1993); BS 1975 Texas-Austin; PHD 1979 Texas-Austin

**DUFFY, PAMELA A.**, Adjunct Assistant Professor, Physical Therapy, 2008 (2008); BSPT 1978 Pennsylvania; MED 2001 Iowa State; PHD 2008 Iowa State

**DUGGAN, ANNE M.**, Adjunct Instructor, Journalism & Mass Communication, 2010 (2010); BA 1977 California, Berkeley

**DUNBAR, STEPHEN B.**, Professor, Psych & Quant Foundations, 1982 (1994); BA 1975 Wisconsin; MA 1978 Illinois; PHD 1982 Illinois

**DUNGY, CLAIBOURNE I.**, Emeritus Professor, Pediatrics/Epidemiology, 1988 (1993); BS 1962 Eastern Illinois; MD 1967 Illinois; MPH 1971 Johns Hopkins

**DUNKELBERG, JEFFREY**, Clinical Professor, Internal Medicine, 2009 (2009); MD 1981 Texas Southwestern

**DUNKHASE, JOHN A.**, Clinical Associate Professor, Teaching and Learning, 1976 (2006); PHD 1980 Colorado School of Mines

**DUNLAP, DAVID O.**, Associate Professor, Art & Art History, 1977 (1994); BA 1962 Colorado College; BFA 1963 Yale; MFA 1967 Yale

**DUNLAP, LESLIE W.**, Emeritus Professor, Library & Information Science, (1982);

**DUNN, SUZANNE MARIE**, Adjunct Instructor, Communication Sciences and Disorders, 2006 (2006); BA 1996 Iowa; MA 2002 Iowa

**DUNNWALD, MARTINE**, Adjunct Assistant Professor, Pediatrics, 2001 (2001); MS 1990 Pasteur; PHARM D 1991 Pasteur; PHD 1995 Laval

**DUPIC, CAROL RAE TATE**, Lecturer, Nursing, 2005 (2005); BSN 1977 Mankato State; MSN 1996 Mankato State

**DUPUY, ADAM J.**, Assistant Professor, Anatomy & Cell Biology/Pathology, 2006 (2006); PHD 2001 Minnesota

**DURAIRAJ, LAKSHMI**, Assistant Professor, Internal Medicine, 2003 (2004); MBBS 1991 Kilpauk, India; MS 2004 Iowa

**DURAN, EYUP HAKAN**, Clinical Assistant Professor, Obstetrics & Gynecology, 2010 (2010); MD 1991 Hacettepe

**DURBIN, WILLIAM ERNEST**, Clinical Adjunct Assistant Professor, Family Medicine, 1997 (2002); BS 1982 Iowa; MD 1987 Iowa

**DURGEMPUDI TRIPURA, SUNDARA REDDY**, Clinical Assistant Professor, Anesthesia, 2008 (2008); MBBS 1998 Andhra Medical College

**DURHAM, FRANK DALLAS**, Associate Professor, Journalism & Mass Communication, 2000 (2007); BA 1982 Tulane; MA 1987 Florida; PHD 1993 Wisconsin-Madison

**DURHAM, MEENAKSHI GIGI**, Associate Professor, Journalism & Mass Communication, 2000 (2001); BS 1981 Women's Christian-India; BA 1984 West Florida; PHD 1990 Florida

**DUROVICOVA, NATASA**, Adjunct Assistant Professor, Cinema & Comparative Literature, 2000 (2000); BA 1979 Lund-Sweden; MA 1982 California-Santa Barbara

**DURUMERIC, OGUZ C.**, Associate Professor, Mathematics, 1987 (1989); BS 1976 Middle East Technical - Turkey; MA 1980 State Univ of NY - Stony Brook; PHD 1982 State Univ of NY - Stony Brook

**DUSDIEKER, LOIS BOHLKEN**, Associate Professor, Pediatrics, 1977 (1985); BA 1970 Iowa; MD 1974 Iowa; MS 1979 Iowa

**DUSDIEKER, NILE S.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1974 Iowa

**DUSTIN, E RICHARD**, Emeritus Professor, Counseling, Rehab & Stu Dev, 1972 (1976); BA 1958 Grinnell; MA 1962 Iowa; PHD 1968 Minnesota

**DUTKAY, DORIN ERVIN**, Adjunct Assistant Professor, Mathematics, 2006 (2006); BS 1997 Transylvania Univ, Romania; MS 1998 Transylvania Univ, Romania; PHD 2004 Iowa

**DUTTON, GARY R.**, Emeritus Professor, Pharmacology, 1980 (1984); BS 1961 Washington; MS 1965 Indiana; PHD 1967 Indiana

**DUYS, DAVID K.**, Assistant Professor, Counseling, Rehab & Stu Dev, 2005 (2005); BS 1986 Northern Illinois; MSED 1989 Northern Illinois; PHD 1998 Western Michigan

**DVORAK, GLENDA D.**, Adjunct Lecturer, Epidemiology, 2009 (2009); BS 1995 Iowa State; MS 1997 Iowa State; DVM 2001 Iowa State

**DVORAK, LAINE DOUGLAS**, Clinical Adjunct Assistant Professor, Family Medicine, 1991 (2002); MD 1978 Iowa

**DWYER, DAVID S.**, Clinical Adjunct Instructor, Ophthalmology & Visual Science, 1992 (1992); MD 1979 Illinois

**DYBEVIK, HEIDI JO**, Lecturer, Finance, 2004 (2004); BA 1991 Northeast Missouri State; PHD 1997 Purdue

**DYCK, MARY J.**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1974 Goshen; MSN 1982 Virginia; PHD 2004 Iowa

**DYER, CAROLYN S.**, Emeritus Professor, Journalism & Mass Communication, 1978 (1995); BA 1965 Beloit; MA 1973 Wisconsin; PHD 1978 Wisconsin

**DYKE, GREGORY PETER**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2010 (2010); BSPH 1983 Illinois

**DYKEN, MARK E.**, Professor, Neurology, 1990 (2010); BA 1979 Indiana; MD 1984 Indiana

**DYKSTRA, RICHARD L.**, Professor, Statistics & Actuarial Science, 1981 (1982); BA 1965 Central; PHD 1968 Iowa

**EADY, DANIEL DAVID**, Assistant Professor, Military Science, 2009 (2009); BA 2003 Northern Michigan

**EASTMAN, DIANE LYNN**, Clinical Adjunct Instructor, Nursing, 1990 (1990); BSN 1973 Iowa; MA 1983 Iowa

**EBACH, DAWN RENAE**, Clinical Assistant Professor, Pediatrics, 2005 (2005); BS 1994 Creighton, Omaha; MD 1998 Washington, St. Louis

**EBERL, DANIEL F.**, Professor, Department of Biology, 1998 (2010); BS 1983 Alberta-Edmonton; MS 1987 Guelph, Canada; PHD 1991 Guelph, Canada

**EBERLE FINK, KATHERINE ANN**, Professor, Music, 1991 (2002); BME 1976 Baldwin-Wallace; MM 1978 Cincinnati; DMA 1986 Michigan

**ECKERT, MICHAEL S.**, Associate Professor, Music, 1985 (1988); BA 1972 Antioch; MA 1975 Chicago; PHD 1977 Chicago

**ECKERT, ROBERT W.**, Emeritus Professor, Music, 1964 (1968); BA 1948 Midland; MA 1949 Wisconsin; MFA 1951 Iowa

**ECKHARDT, RICHARD**, Emeritus Professor, Internal Medicine, 1949 (1960);

**ECKLER, PETYA**, Assistant Professor, Journalism & Mass Communication, 2010 (2010); BA 2001 Bulgari; MA 2005 Missouri; PHD 2010 Missouri

**ECKSTEIN, BARBARA J.**, Professor, English, 1990 (2006); BA 1973 Ohio Northern; MA 1975 Cincinnati; PHD 1980 Cincinnati

**ECKSTEIN, JOHN W.**, Emeritus Professor, Internal Medicine, 1954 (1965); BS 1946 Loras; MD 1950 Iowa

**EDBERG, TARA L.**, Adjunct Lecturer, General University College, 2009 (2009); BS 2002 Wisconsin; MS 2006 Oklahoma State

**EDDY, HELEN E.**, Adjunct Associate Professor, Pharmacy, 2004 (2004); BSPH 1982 Iowa; MBA 1984 Drake

**EDELSTEIN, BURTON L.**, Adjunct Assistant Professor, Pediatric Dentistry, 1999 (1999); MPH 1977 Harvard

**EDEN, WILLIAM C.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2001 Kansas

**EDENS, R ERIK**, Clinical Associate Professor, Pediatrics, 2000 (2006); BS 1987 Saint Ambrose; PHD 1993 Iowa; MD 1994 Iowa

**EDLUND, MARK B.**, Adjunct Assistant Professor, General University College, 2010 (2010); BS 1987 Minnesota; MS 1992 Michigan; PHD 1998 Michigan

**EDWARDS, KATHLEEN A.**, Adjunct Assistant Professor, Cinema & Comparative Literature, 2004 (2004); BA 1979 Richmond, Virgin; MA 1985 Philadelphia College of Art

**EDWARDS, MATTHEW CHRISTOPHER**, Adjunct Lecturer, College Transition, 2009 (2009); MED 2007 Georgia

**EGESDAL, TRAVIS**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); BS 1994 Iowa State; DDS 2002 Iowa

**EGGE, JASON ALAN**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 2002 Iowa

**EGGE, JESSICA LEA**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BA 1999 Iowa; MA 2001 Iowa; DAUD 2004 PA College of Optometry/Audiol

**EHLY, STEWART W.**, Professor, Psych & Quant Foundations, 1979 (1996); BA 1971 Massachusetts; PHD 1975 Texas-Austin

**EHRHARDT, JAMES C.**, Emeritus Professor, Radiology, 1970 (1981); BA 1964 Iowa; MA 1968 California-Berkeley; PHD 1970 California-Berkeley

**EHRSTINE, GLENN**, Associate Professor, German/International Programs, 1994 (2001); BA 1985 Michigan; MA 1990 Texas-Austin; PHD 1995 Texas-Austin

**EICHENBERGER GILMORE, JULIE MAE**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2004 (2004); BA 1981 Iowa; MS 1987 Iowa; PHD 2001 Iowa

**EICHINGER, LEANNE MARIE**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 2000 (2000); BS 1976 Wisconsin @ Eau Claire; MED 1988 Long Island

**EICHINGER, WILLIAM E.**, Professor, Civil-Environmental Engineering, 1997 (2002); BS 1976 West Point; MS 1985 Air Force Inst of Technology; PHD 1990 California-Davis

**EICHMANN, DAVID A.**, Associate Professor, Computer Science/Library & Information Science, 1986 (2000); BS 1978 Iowa; MS 1983 Iowa; PHD 1989 Iowa

**EJNAVARZALA, HARIBABU**, Adjunct Professor, International Programs, 2006 (2006); PHD 1980 Indian Inst of Technology

**EKO, LYOMBE S.**, Associate Professor, Journalism & Mass Communication, 2003 (2006); BA 1980 Sioux Falls; MA 1982 Wheaton College; PHD 1997 Southern Illinois

**EL ABIAD, RAMI GHASSAN**, Clinical Assistant Professor, Internal Medicine, 2009 (2009); BS 1998 American UNIV - Beirut; MD 2002 American UNIV, Beirut

**EL-HATTAB, YASSER**, Clinical Assistant Professor, Anesthesia, 2002 (2002); MBCHB 1985 Alexandria; MSC 1990 Alexandria

**EL-KHOURY, GEORGE Y.**, Professor, Orthopaedics and Rehabilitation/Radiology, 1975 (1984); BS 1965 American university of Beirut; MD 1969 American University of Beirut

**EL-SHANTI, HATEM**, Adjunct Associate Professor, Pediatrics, 2003 (2006); MBBCH 1983 Cairo, Egypt

**EL-SHEIKH, AYMAN A.**, Clinical Assistant Professor, Pediatrics, 2009 (2009); MD 1989 Tanta University Egypt

**ELAND, JOANN MARIE**, Associate Professor, Nursing, 1975 (1986); BSN 1970 Iowa; MA 1974 Iowa; PHD 1980 Iowa

**ELAND, JOYCE ELLEN FRANK**, Adjunct Instructor, Nursing, 1998 (1998); BSN 1971 Iowa

**ELARDO, RICHARD**, Emeritus Associate Professor, Teaching and Learning, 1978 (1978); BA 1965 Arizona State; MA 1969 Arizona State; PHD 1971 Arizona State

**ELAS, DIANE ELAINE**, Clinical Adjunct Instructor, Nursing, 1985 (1985); BS 1981 Iowa State; BSN 1984 Iowa; MSN 2002 Iowa

**ELCOCK, ADRIAN H.**, Associate Professor, Biochemistry, 2000 (2006); BS 1989 East Anglia; PHD 1994 Oxford

**ELKAMHI, REDOUANE**, Assistant Professor, Finance, 2008 (2008); BE 1998 Ecole Hassania, Morocco; MBA 2000 Ecole Nationale, France; PHD 2008 Montreal, Canada

**ELKIN, RANI**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2005 Iowa

**ELLERMEIER, CRAIG D.**, Assistant Professor, Microbiology, 2007 (2007); BS 1998 Iowa State; MS 2000 Illinois - C/U; PHD 2003 Illinois C/U

**ELLIOTT, DAVID E.**, Professor, Internal Medicine, 1993 (2006); BS 1979 Wheaton; PHD 1985 Wayne State; MD 1988 Wayne State

**ELLIOTT, STEPHEN C.**, Clinical Adjunct Associate Professor, Pediatrics, 1977 (1977); DO 1974 Coll of Osteopathic Med

**ELLIS, MARK**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2010 (2010); BS 2005 Brigham Young; DDS 2009 Texas San Antonio

**ELLSBURY, DANNY LYNN**, Clinical Adjunct Assistant Professor, Pediatrics, 2006 (2006); MD 1994 Iowa

**ELMBORG, JAMES K.**, Associate Professor, Library & Information Science, 2000 (2006); BA 1976 Washburn; MA 1984 Kansas; PHD 1994 Kansas

**ELSER, CAROLINE**, Lecturer, Teaching and Learning, 2010 (2010); BA 1996 Northern Iowa; MA 2008 Northern Iowa

**ELSON, MARYGRACE**, Clinical Professor, Obstetrics & Gynecology, 2000 (2010); AB 1978 Vassar; MD 1982 Illinois-Rockford

**ELVERS, RONALD DALE**, Clinical Associate Professor, Oral Path, Radiology & Medicine, 1996 (2000); BS 1971 Iowa; DDS 1974 Iowa; MS 1980 Southern California

**ELY, JOHN WILLIAM**, Professor, Family Medicine, 1979 (2007); BS 1968 Hiram; MD 1972 SUNY

**EMBREE, ROBERT W.**, Emeritus Associate Professor, Department of Biology, 1968 (1968); BA 1954 Simpson; MS 1956 Nebraska; PHD 1962 California-Berkeley

**EMERY, MARY LOU**, Professor, English, 1983 (2008); BA 1972 Oklahoma; MA 1980 Stanford; PHD 1981 Stanford

**EMRICH, JEFFREY LEE**, Adjunct Lecturer, College Transition, 2002 (2004); BBA 1982 Iowa; MS 1988 Notre Dame

**EMRY, RHONDA SUE**, Adjunct Instructor, Pharmacy, 2002 (2002); BSPH 1983 Iowa

**ENDRES, JILL**, Clinical Associate Professor, Family Medicine, 2002 (2008); BA 1993 Iowa; MD 1997 Iowa

**ENGEL, ROBERT E.**, Emeritus Associate Professor, Educ Policy & Leadership Studies, 1968 (1978); AB 1955 Cornell; BD 1958 Drew; PHD 1969 Iowa

**ENGEL, SCHAELE ANN MATHEWS**, Adjunct Instructor, Social Work, 2002 (2002); BA 1990 Grinnell; PHD 1990 Arkansas

**ENGELDINGER, JANE**, Clinical Professor, Obstetrics & Gynecology, 1980 (2001); BA 1972 DePauw; MD 1976 Iowa

**ENGELHARDT, JOHN F.**, Professor, Internal Medicine/Anatomy & Cell Biology, 1997 (2001); BS 1981 Iowa State; PHD 1990 Johns Hopkins

**ENGLAND, SARAH K.**, Professor, Physiology/Inst for Clinical and Translational Science/Obstetrics & Gynecology, 1997 (2009); BA 1988 Carleton College; PHD 1993 Medical College of Wisconsin

**ENGLE, HUALING NIEH**, Emeritus Professor, Research Administration, 1965 (1988); BA 1948 National Central-China; MFA 1966 Iowa; LHD 1981 Coe

**ENGLEKA, RICHARD MATTHEW**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARM D 2004 Pittsburgh

**ENLOE, JAMES GORDON**, Associate Professor, Anthropology, 1990 (1996); BA 1979 Pennsylvania; MA 1981 New Mexico; PHD 1991 New Mexico

**ENRIQUEZ, AMERLON**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BS 1987 U of Santo Tomas, Philippines; MD 1991 U of Santo Tomas, Philippines

**ENSRUD, HAL**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 1979 North Dakota State

**EPHGRAVE, KIMBERLY SUE**, Professor, Surgery, 1986 (1995); BA 1977 Calif-Santa Cruz; MD 1980 Loyola-Stritch

**EPLEY, DONALD L.**, Emeritus Professor, Computer Science, 1963 (1967); BS 1956 Illinois; MS 1957 Illinois; PHD 1960 Illinois

**EPPING, ERIC ALAN**, Assistant Professor, Psychiatry, 2009 (2009); BS 1994 Iowa; MD 2003 Iowa; PHD 2003 Iowa

**ERBE, CARL F.**, Emeritus Assistant Professor, Operative Dentistry, 1962 (1963);

**ERCOLINI-BHATIA, LISA MICHELLE**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BA 1993 St. Mary's of CA; MD 2002 Iowa

**ERICKSON, BRADLEY ALLAN**, Assistant Professor, Urology, 2010 (2010); BS 1999 Creighton; MD 2003 Iowa

**ERICKSON, JOHN E.**, Emeritus Associate Professor, Journalism & Mass Communication, 1976 (1976); BA 1962 Barrington; MS 1967 Illinois; PHD 1973 Illinois

**ERICKSON, TY ERIC**, Adjunct Assistant Professor, Endodontics, 1999 (1999); BS 1989 Illinois; DDS 1995 Iowa; MS 1998 Iowa

**ERICKSON, YASUKO**, Clinical Assistant Professor, Pathology, 2008 (2008); MD 2003 Utah

**ERICSON, THOMAS A.**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 1997 (1997); MD 1967 Kansas Medical School

**ERKONEN, WILLIAM E.**, Emeritus Associate Professor, Radiology, 1988 (1995); BA 1955 Iowa; MD 1958 Iowa

**ERNST, ERIKA JEAN**, Associate Professor, Pharmacy, 1995 (2002); PHARM D 1992 Southern California

**ERNST, MICHAEL EDWIN**, Clinical Professor, Pharmacy/Family Medicine, 1998 (2009); PHARM D 1997 Iowa

**ERPELDING, ERIN M.**, Adjunct Instructor, Pharmacy, 2004 (2004); PHARM D 2004 Iowa

**ERTL, WOLFGANG**, Emeritus Professor, German, 1977 (1988); BA 1969 Marburg; MA 1970 New Hampshire; PHD 1975 Pennsylvania

**ERVIN, THOMAS H.**, Adjunct Associate Professor, Family Dentistry, 1969 (1981); BS 1961 Iowa; DDS 1965 Iowa

**ESCALADA, LAWRENCE**, Lecturer, Teaching and Learning, 2010 (2010); BS 1989 Kansas State; MS 1995 Kansas State; PHD 1997 Kansas State

**ESPE-PFEIFER, PATRICIA BETH**, Clinical Associate Professor, Psychiatry, 2004 (2010); BA 1994 Jamestown College; MA 1997 Austin Peay State; PHD 2002 Nova Southeastern

**ESPELAND, SUSAN L.**, Clinical Adjunct Associate Professor, Internal Medicine, 1995 (2001); MD 1988 Iowa

**ESPOSITO, NICOLE M.**, Assistant Professor, Music, 2007 (2007); BFA 2001 Cargegie Mellon; MM 2003 Michigan Ann Arbor

**ESTAFANOUS, EMAD**, Assistant Professor, Prosthodontics, 2006 (2006); BDS 1999 Tanta, Egypt; CER 2004 Indiana University; MSD 2007 Indiana University

**ESTIN, ANN L.**, Professor, International Programs/Law-Faculty, 1999 (1999); BA 1979 Dartmouth; JD 1983 Pennsylvania

**ESTRADA-HERNANDEZ, NOEL**, Assistant Professor, Counseling,Rehab & Stu Dev, 2006 (2006); BSW 1996 Puerto Rico; MA 2000 Puerto Rico; PHD 2004 Iowa

**ETTINGER, RONALD**, Professor, Prosthodontics, 1973 (1980); BDS 1966 Sydney-Australia; MDS 1970 Sydney-Australia; DDS 1992 Sydney

**EUSTICE, NICOLE MARIE**, Adjunct Instructor, Linguistics/College Transition, 2006 (2006); MA 2004 Iowa

**EVANS, KAREN KAY SLADEK**, Clinical Adjunct Instructor, Nursing, 1985 (1985); BSN 1974 Iowa; MA 1978 Iowa

**EVANS, THOMAS C.**, Adjunct Associate Professor, Health Management & Policy, 2007 (2007); MD 1983 Iowa

**EVEN, JOHN**, Clinical Adjunct Instructor, Internal Medicine, 2007 (2007); BS 1999 Iowa State; MD 2003 Iowa

**EVERS, CATHERINE ANN**, Clinical Adjunct Instructor, Nursing, 1993 (1993); BSN 1975 Coe; MA 1990 Iowa

**EVERSON, MICHAEL E.**, Associate Professor, International Programs/Teaching and Learning, 1994 (1999); BA 1969 Wisconsin; MA 1971 Hawaii; PHD 1986 Ohio State

**EVINK, MICHELE MARIE**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); BSPH 1989 South Dakota; MS 1995 South Dakota; PHARMD 2006 University of Kansas; PHAR 2006 Kansas

**EWING, ROGER JOE**, Clinical Adjunct Instructor, Internal Medicine, 1992 (1992); MD 1983 Iowa

**EYANSON, STEVEN**, Clinical Adjunct Assistant Professor, Internal Medicine, 1986 (1986); MD 1974 Iowa

**EYMAN, DARRELL P.**, Associate Professor, Chemistry, 1964 (1969); BS 1959 Eureka; PHD 1964 Illinois

**EYMAN, EARL D.**, Emeritus Professor, Electrical-Computer Engineering, 1966 (1969); BA 1949 Illinois; PHD 1966 Colorado; MS Illinois

**EYMAN, EARL**, Emeritus Associate Professor, Electrical-Computer Engineering, 1955 (1967); BA 1939 Iowa State Teachers; MSEE 1955 Iowa

**FABER, LUKE C.**, Emeritus Associate Professor, Surgery, 1984 (1988); BS 1951 Massachusetts; MD 1955 Iowa

**FAGAN, SARAH**, Professor, German, 1994 (2005); BA 1977 Hawaii; MA 1979 Hawaii; PHD 1985 Cornell

**FAGENBAUM, RAY ALAN**, Lecturer, Integrative Physiology, 2005 (2006); BS 1999 Iowa; MS 2000 Iowa; PHD 2005 Iowa

**FAINE, BRETT ANTHONY**, Adjunct Assistant Professor, Pharmacy, 2007 (2008); PHARMD 2007 Iowa

**FAIRLEY, JANET A.**, Professor, Dermatology, 2006 (2006); BS 1973 Michigan State; MD 1977 Michigan

**FAJARDO, LAURIE LEE**, Professor, Radiology, 2002 (2002); AB 1980 Washington; MD 1984 Chicago

**FALES, EVAN**, Associate Professor, Philosophy, 1974 (1979); BA 1964 Haveford; MA 1971 Temple; PHD 1974 Temple

**FALKOFF, MICHELLE SUSAN**, Lecturer, Law-Faculty, 2005 (2005); BA 1995 Pennsylvania; JD 1998 Columbia

**FALLON, BERNARD**, Emeritus Professor, Urology, 1975 (1990); BS 1968 University College Dublin; MBBCH 1970 University of Dublin

**FANG, HAO**, Assistant Professor, Mathematics, 2005 (2005); BS 1995 Nankai; MA 1998 California; PHD 2001 Princeton

**FANG, MICHELE**, Clinical Assistant Professor, Internal Medicine, 2008 (2008); MD 2002 Indiana

**FANG, WEI HAN**, Clinical Assistant Professor, Radiology, 2008 (2008); MD 2002 Iowa

**FARACI, FRANK M.**, Professor, Pharmacology/Internal Medicine, 1989 (2000); BS 1978 Kansas; MA 1980 Kansas; PHD 1984 Kansas State

**FARIVAR, ROBERT SAEID**, Assistant Professor, Cardiothoracic Surgery, 2008 (2008); BA 1990 Yale; MD 1998

Boston School of Med; PHD 1998 Boston School of Med

**FARLAND, JOHN EVAN**, Lecturer, Integrative Physiology, 2010 (2010); MA 1976 Central Michigan State; MPA 1994 Oklaland; EDD 2010 University of Northern Iowa

**FARLEY, YVONNE RENE**, Clinical Assistant Professor, Social Work, 1998 (2000); BA 1976 Drake; MSW 1994 Iowa

**FARNHAM, TRACY**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); PHAR 2001 Iowa

**FAROOQI, A'AMER**, Adjunct Associate Professor, Economics, 1999 (1999); BA 1976 Denison; MA 1977 Ohio State; MA 1986 Pittsburgh; PHD 1987 Pittsburgh

**FARRELL, BRIAN RICHARD**, Adjunct Lecturer, International Programs, 2009 (2009); BA 1995 St. Ambrose; JD 1998 Iowa; LLM 2002 Ireland, Galway

**FARRELL, MICHELLE**, Adjunct Instructor, Pharmacy, 2003 (2003); PHARMD 2000 Wisconsin

**FARRIN, LAUREL**, Associate Professor, Art & Art History, 1997 (2004); BFA 1987 Ohio University; MFA 1993 Maryland

**FARRIS, KAREN BELL**, Professor, Community & Behavioral Health/Pharmacy, 2000 (2008); BS 1986 Tennessee; MPA 1990 Memphis; PHD 1993 Michigan

**FASANO, MARY BETH**, Clinical Professor, Internal Medicine/Pediatrics, 2004 (2009); BA 1978 John Hopkins; MPH 1981 North Carolina; MD 1985 Texas Tech

**FASSE, JANALEEN PHILLIPS**, Adjunct Lecturer, Management & Organizations, 2009 (2009); BBA 1993 Iowa; MBA 2000 Iowa

**FASSLER, JAN S.**, Professor, Department of Biology, 1987 (2002); BS 1976 Cornell-New York; PHD 1983 Purdue

**FATH, MELISSA ANN**, Adjunct Assistant Professor, Radiation Research Laboratory, 2001 (2001); BSPH 2000 Iowa; PHD 2001 Iowa

**FATTAL, DEEMA A.**, Clinical Associate Professor, Neurology, 1999 (2008); BS 1989 Amer Univ of Beirut-Lebanon; MD 1993 Amer Univ of Beirut-Lebanon

**FAUST, CHRISTOPHER ALLAN**, Clinical Assistant Professor, Anesthesia, 2010 (2010); DO 1999 Des Moines COM

**FAUST, ETHEL FELICIA**, Clinical Adjunct Instructor, Internal Medicine, 1997 (1997); MD 1992 Iowa

**FEAR, KATHLEEN MARIE TENHUNDFELD**, Adjunct Instructor, Nursing, 2002 (2002); BSN 1994 Iowa; MSN 2000 Iowa

**FEDORCHAK, VIRGINIA LYNN**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2002 Iowa

**FEELEY, JAMES E.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1987 (1987); MD 1982 Illinois @ Chicago

**FEELEY, JENNIFER LEIGH**, Assistant Professor, Asian & Slavic Languages & Literature, 2008 (2008); BA 1998 Oberlin College; MA 2003 Yale; MPHIL 2004 Yale; PHD 2008 Yale

**FEENEY, SUZANNE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2004 Pittsburgh

**FEHELEY, LISA MARIA**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); DDS 1990 Iowa; BS 1992 Vermont

**FEHN, BRUCE RAYSON**, Associate Professor, Teaching and Learning, 1994 (2000); BA 1970 Iowa; MA 1971 Iowa; PHD 1991 Wisconsin

**FEISS, MICHAEL**, Emeritus Professor, Microbiology, 1972 (1982); BS 1963 Utah; MS 1965 Illinois; PHD 1969 Washington

**FELD, RONALD D.**, Emeritus Associate Professor, Pathology, 1976 (1980); BS 1968 Massachusetts; PHD 1974 Wisconsin

**FELDER, ROBERT B.**, Professor, Internal Medicine, 1980 (1995); BA 1968 North Carolina; MD 1972 North Carolina

**FELDICK, MARK D.**, Lecturer, Pharmaceutics/Pharmacy, 1980 (2001); BS 1974 Iowa; BSPH 1978 Iowa

**FELDMANN, JOSHUA DAVID**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1997 Iowa

**FELDSTEIN, PETER**, Emeritus Professor, Art & Art History, 1973 (1989); BA 1965 Iowa; MA 1968 Iowa; MFA 1975 Iowa

**FELDT, LEONARD S.**, Emeritus Professor, Statistics & Actuarial Science/Psych & Quant Foundations, 1954 (1964); BS 1950 Rutgers; MED 1951 Rutgers; PHD 1954 University of Iowa



**FELKER, KEVIN**, Lecturer, Management Sciences, 2001 (2001); MS 1998 Arizona State

**FELLOWS, ROBERT E.**, Emeritus Professor, Physiology, 1976 (1976); BA 1955 Hamilton; MD 1959 McGill; PHD 1969 Duke

**FELTON, GERALDENE**, Emeritus Professor, Nursing, 1981 (1981); BSN 1960 Wayne State; MS 1962 Wayne State; EDD 1969 New York

**FEMINO, JOHN**, Clinical Associate Professor, Orthopaedics and Rehabilitation, 2005 (2009); BA 1988 SUNY at Stony Brook; MD 1992 North Dakota

**FENNELL, ANN M.**, Clinical Associate Professor, Communication Sciences and Disorders, 2000 (2004); BA 1982 Michigan State; MA 1985 Michigan

**FERGUSON, KRISTI J.**, Professor, Internal Medicine/Community & Behavioral Health, 1984 (2009); BA 1971 Concordia; MSW 1973 Michigan; PHD 1982 Minnesota

**FERGUSON, POLLY**, Assistant Professor, Pediatrics, 2002 (2002); BS 1986 Iowa; MD 1990 Iowa

**FERGUSON, RICHARD L.**, Adjunct Assistant Professor, Psych & Quant Foundations, 1975 (1975); PHD 1969 Pittsburgh

**FERNANDEZ, ANA ESTHER**, Adjunct Instructor, Spanish & Portuguese, 2000 (2000); MA 1992 Illinois; MA 1996 Illinois-Chicago

**FERRER, HUGH GORMAN**, Adjunct Lecturer, General University College, 2006 (2006); AB 1990 Princeton; MFA 2001 Iowa

**FETHKE, CAROL C.**, Emeritus Professor, Marketing, 1975 (1990); BA 1964 Wellesley; MA 1966 Iowa; PHD 1971 Iowa

**FETHKE, GARY CRAIG**, Professor, Management Sciences, 1974 (1985); BA 1964 Iowa; PHD 1968 Iowa

**FETHKE, NATHAN B.**, Assistant Professor, Occupational & Environmental Health, 2009 (2009); BSE 1996 Iowa; MSE 2000 Iowa; PHD 2006 Iowa

**FETT, SUE ANN THOMAS**, Adjunct Instructor, Teaching and Learning, 2000 (2000); BA 1977 Iowa; MA 1993 Iowa

**FI, COS DABIRI**, Assistant Professor, Teaching and Learning, 2007 (2007); PHD 2003 Iowa

**FICK, DANIEL SCOTT**, Clinical Professor, Family Medicine, 1993 (2003); BA 1960 Northern Iowa; MD 1989 Iowa

**FIEDOROWICZ, JESS G.**, Assistant Professor, Psychiatry/Epidemiology, 2007 (2009); BA 1997 Marquette; MD 2001 Wisconsin; MS 2007 Iowa

**FIEGEL, JENNIFER**, Assistant Professor, Chemical & Biomedical Engineering/Pharmacy, 2006 (2006); BS 1998 Massachusetts Amherst; BCHE 1998 Massachusetts; PHD 2003 Johns Hopkins Baltimore; PHE 2003 Johns Hopkins

**FIELD, ELIZABETH H.**, Professor, Internal Medicine, 1986 (1999); BA 1974 Millersville; MD 1978 Pennsylvania State

**FIELD, F JEFFREY**, Professor, Internal Medicine, 1980 (1991); BS 1970 Wisconsin; MD 1974 Wisconsin

**FIELD, HOWARD**, Emeritus Associate Professor, Preventive & Community Dentistry, 1973 (1973); DDS 1964 Marquette University

**FIELD, R WILLIAM**, Professor, Occupational & Environmental Health/Epidemiology, 1998 (2007); BA 1977 Pennsylvania; MS 1985 Pennsylvania; PHD 1994 Iowa

**FIELDING, LINDA G.**, Associate Professor, Teaching and Learning, 1989 (1994); BA 1972 Florida; MED 1975 Florida; PHD 1988 Illinois Urbana

**FIELDS, MITCHELL ANDREW**, Adjunct Associate Professor, Finance, 2010 (2010); MBA 1977 Virginia Polytechnic; MAC 1980 Virginia Polytechnic; PHD 1982 Virginia Polytechnic

**FIELDS, SANDRA M.**, Adjunct Lecturer, Marketing, 2013 (2013); BS 1976 James Madison; MS 1980 Radford

**FIESELMANN, JOHN F.**, Clinical Professor, Internal Medicine, 1975 (2002); BS 1968 Iowa; MD 1972 Iowa

**FIGDOR, CARRIE**, Assistant Professor, Philosophy, 2007 (2007); BA 1981 Swarthmore; MA 1997 City Univ of New York; PHD 2005 City Univ of New York

**FIGGE, PAUL KARL HENRY**, Clinical Assistant Professor, Obstetrics & Gynecology, 2009 (2009); MD 1970 Iowa

**FIKUART, J R.**, Adjunct Instructor, Pharmacy, 2002 (2002); BA 1975 Illinois State; BS 1983 St Louis

**FILEAN, ERIK PAUL**, Adjunct Assistant Professor, Anthropology, 2006 (2006); BA 1990 Iowa; MA 1997 Iowa; PHD

2006 Iowa

**FILI, JAMES M.**, Adjunct Assistant Professor, Periodontics, 2003 (2003); DDS 1990 New York University; MSCD 1997 U of Iowa

**FILIOS, DENISE K.**, Associate Professor, International Programs/Spanish & Portuguese, 1999 (2005); BA 1985 Massachusetts-Amherst; PHD 1997 California-Berkeley; MA 1998 Massachusetts-Amherst

**FINAMORE, JOHN F.**, Professor, Classics, 1983 (2003); BA 1972 Maryland; MA 1975 Tufts; PHD 1983 Rutgers

**FINAN, MICHAEL J.**, Clinical Adjunct Instructor, Internal Medicine, 2005 (2005); MD 1981 Illinois

**FINDLATER, JANET LOUISE**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1978 Iowa; MA 1988 St Thomas

**FINE, PERRY G.**, Adjunct Associate Professor, Nursing, 2004 (2004); BA 1973 California, Santa Cruz; MD 1981 Virginia Commonwealth

**FINERAN, SHIRLEY**, Adjunct Instructor, Social Work, 2002 (2002); BA 1971 Briar Cliff; MSW 1976 Illinois@Chicago

**FINGERT, JOHN HARRISON**, Associate Professor, Neurology, 2005 (2010); BSE 1991 Dartmouth; PHD 2000 Iowa; MD 2000 Iowa

**FINK, LINDA REED**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MS 1971 Iowa

**FINKELSTEIN, MICHAEL WILLIAM**, Professor, Oral Path,Radiology&Medicine/Anatomy & Cell Biology, 1982 (1994); BS 1972 Illinois; DDS 1976 Iowa; MS 1982 Iowa

**FINNEGAN, EILEEN MARGUERITE**, Associate Professor, Communication Sciences and Disorders, 1999 (2005); MA 1992 Iowa; PHD 1998 Iowa

**FINNERTY, DIANE LEE**, Adjunct Instructor, Social Work, 2000 (2005); BA 1983 Northern Iowa; MS 1988 Minnesota State

**FIRCHAU, DENNIS**, Clinical Assistant Professor, Pathology, 2010 (2010); BS 2000 Michigan State; MD 2004 Wayne State

**FISCHER, GARY W.**, Emeritus Associate Professor, Industrial Engineering, 1985 (1985); BSME 1964 Iowa; BA 1964 Iowa; MS 1966 Iowa; PHD 1969 Iowa

**FISCHER, LANCE JOHN**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2010 (2010); PHARMD 1997 Iowa

**FISHER, KEN L.**, Adjunct Associate Professor, Health Management & Policy, 2008 (2008); MBA 1986 North Carolina-Charlot

**FISHER, PETER S.**, Emeritus Professor, Urban & Regional Planning, 1977 (1997); BA 1968 Harvard; MA 1972 Missouri; PHD 1978 Wisconsin

**FISHER, RORY A.**, Professor, Pharmacology, 1987 (2004); BS 1976 Rockford; PHD 1983 Iowa State

**FISHER, SCOTT RANDALL**, Adjunct Lecturer, Finance, 1999 (1999); JD 1987 Iowa

**FISHER, WILLIAM SCOTT**, Adjunct Associate Professor, Pharmacy, 1988 (2003); BSPH 1979 Iowa; MS 1985 Iowa

**FITZGERALD, JACQUIE**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMD 2000 Iowa

**FITZGERALD, VERA J.**, Lecturer, Department of Biology, 1987 (1997); PHD 1980 Chicago

**FITZPATRICK, LAURA LEE**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1990 Iowa

**FITZPATRICK, LYNN RAE**, Adjunct Assistant Professor, Nursing, 2004 (2004); BSN 1989 Iowa; MSN 1998 Iowa

**FLAHERTY, DAWN MARIE**, Clinical Assistant Professor, Internal Medicine, 1999 (2002); BA 1985 New College, South Florida; MS 1987 Michigan; MD 1992 Wayne State

**FLAMME, GREGORY A.**, Adjunct Assistant Professor, Occupational & Environmental Health, 2001 (2001); BA 1991 Doane; MA 1996 Memphis; PHD 2000 Memphis

**FLANAGAN, DOUGLAS R.**, Professor, Chemical & Biomedical Engineering/Pharmacy, 1978 (1995); BS 1967 Michigan; MS 1969 Michigan; PHD 1971 Michigan

**FLANAGAN, JAMES R.**, Emeritus Associate Professor, Internal Medicine, 1990 (1996); BS 1974 Marquette; PHD 1979 Washington; MD 1983 Washington

**FLANAGAN, SHAWN WHITNEY**, Adjunct Assistant Professor, Integrative Physiology, 1997 (2005); BA 1988 Northern Iowa; MED 1990 Virginia; PHD 1996 Iowa

**FLANIGAN, MICHAEL J.**, Emeritus Professor, Internal Medicine, 1980 (2003); BS 1971 Wisconsin-Milwaukee; MD 1975 Wisconsin-Madison

**FLATTE, JENNIFER**, Adjunct Instructor, Religion, 1999 (1999); AB 1987 Harvard; MA 1990 Hebrew Union; MA 1993 California-Santa Barbara

**FLATTE, MICHAEL E.**, Professor, Electrical-Computer Engineering/Physics & Astronomy, 1995 (2005); AB 1988 Harvard; PHD 1992 Calif-Santa Barbara

**FLAUM, MICHAEL ALAN**, Clinical Professor, Psychiatry, 1990 (2009); BS 1978 Columbia; MD 1982 State U of NY-Stony Brook

**FLECK, ARTHUR C.**, Emeritus Professor, Computer Science, 1965 (1972); BS 1959 Western Michigan; MA 1960 Michigan State; PHD 1964 Michigan State

**FLECKENSTEIN, BARB E S**, Clinical Adjunct Instructor, Nursing, 2006 (2006); BSN 1972 Pennsylvania; MS 1973 Univ of California-San Francis

**FLECKENSTEIN, L L.**, Professor, Pharmacy, 1991 (1991); BA 1968 California-Berkeley; PHARM D 1972 California-San Francisco

**FLECKENSTEIN, STEPHANIE M.**, Clinical Assistant Professor, Communication Sciences and Disorders, 2003 (2003); BS 1994 Iowa; MA 1996 Iowa

**FLEMMING, MATTHEW**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); BA 1987 McGill , Canada; MD 1991 Albany Medical College

**FLETCHER, STEVEN LLOYD**, Clinical Assistant Professor, Oral & Maxillofacial Surgery, 2010 (2010); BS 1998 Brigham Young; DDS 2006 Iowa

**FLOOD, MICHAEL T.**, Clinical Adjunct Associate Professor, Internal Medicine, 1992 (2005); BA 1972 Holy Cross; DO 1977 Osteopathic-Des Moines

**FLORES, RICARDO**, Clinical Adjunct Assistant Professor, Pediatrics, 2001 (2001); MD 1984 California-Los Angeles

**FLYNN, RYAN THOMAS**, Clinical Assistant Professor, Radiation Oncology, 2007 (2007); BA 2002 Luther; MS 2004 Madison- Wis.; PHD 2007 Madison-Wis

**FLYNN, TIFFANY A.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); BSPH 2002 North Dakota State; PHARM D 2004 North Dakota State

**FOBIAN-WILLHAM, CYNTHIA**, Adjunct Assistant Professor, Management & Organizations, 1994 (1994); BBA 1983 Iowa; PHD 1990 Iowa

**FOEGE, ROMAINE H.**, Adjunct Instructor, Community & Behavioral Health/Social Work, 2003 (2008); BA 1960 Wartburg; MSW 1963 Iowa

**FOLDES, PETER JOHN**, Clinical Assistant Professor, Anesthesia, 2008 (2008); MD 1982 Pennsylvania

**FOLEY, WALTER J.**, Emeritus Professor, Educ Policy & Leadership Studies, 1965 (1970); BED 1957 Chicago State; MED 1961 Chicago State; EDD 1964 Illinois

**FOLEY NICPON, MEGAN**, Assistant Professor, Psych & Quant Foundations, 2005 (2005); BA 1995 Arizona State; MED 2000 Arizona State; PHD 2003 Arizona State

**FOLK, G EDGAR JR**, Emeritus Professor, Physiology, 1953 (1965); AB 1937 Harvard; MA 1940 Harvard; PHD 1947 Harvard

**FOLK, JAMES C.**, Professor, Ophthalmology & Visual Science, 1980 (1989); BS 1974 Pennsylvania State; MD 1977 Thomas Jefferson

**FOLSOM, LOWELL E.**, Professor, English/Interdisciplinary Programs, 1976 (1987); BA 1969 Ohio Wesleyan; MA 1972 Rochester; PHD 1976 Rochester

**FOLSOM, PAT J.**, Adjunct Lecturer, College Transition, 2002 (2002); BA 1969 Ohio Wesleyan; MS 1973 New York-Geneseo

**FORBES, ANDREW A.**, Assistant Professor, Department of Biology, 2010 (2010); BA 2003 Colgate; PHD 2008 Notre Dame

**FORBES, CORY**, Assistant Professor, Teaching and Learning, 2009 (2009); BS 1999 Kansas; MS 2002 Kansas; PHD 2009 Michigan

**FORBES, CYNTHIA SUZANNE**, Clinical Adjunct Instructor, Nursing, 2006 (2006); MSN 1998 Iowa

**FORBES, LANCE PAUL**, Clinical Assistant Professor, Hospital Dentistry, 1999 (1999); BS 1993 Iowa; DDS 1997 Iowa

**FORBES, ROBERT B.**, Professor, Anesthesia, 1983 (1994); BA 1971 Alberta-Canada; MD 1975 Alberta-Canada

**FORBES, TORI Z.**, Assistant Professor, Chemistry, 2010 (2010); BS 2001 Beloit; PHD 2008 Notre Dame

**FORD, DONALD LEHMAN**, Adjunct Lecturer, Law-Faculty, 2007 (2007); BA 1980 American; JD 1985 Virginia; AMLS 2002 Pittsburgh

**FORELL, GEORGE W.**, Emeritus Professor, Religion, 1954 (1961); BD 1942 Lutheran Theological Seminary; MA 1943 Princeton; PHD 1949 Union Theological Seminary; PHD 1967 Wartburg

**FOREST, PAULA K.**, Clinical Adjunct Assistant Professor, Nursing, 2000 (2001); BSN 1975 Marycrest; MS 1997 Iowa

**FORS, CECELIA**, Adjunct Instructor, Preventive & Community Dentistry, 1997 (1997); DDS 1995 Northwestern

**FORSBERG, ERIC J.**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); DDS 2004 Iowa

**FORSYTH, ROBERT A.**, Emeritus Professor, Psych & Quant Foundations, 1965 (1974); BS 1959 St. Vincent; MA 1963 Kent State; PHD 1967 Iowa

**FORSYTHE, ERIC**, Professor, Theatre Arts, 1986 (1994); BA 1969 Dartmouth; MFA 1971 Carnegie Mellon; PHD 1973 Carnegie Mellon

**FORSYTHE, ROBERT**, Emeritus Professor, Economics, 1981 (1986); BS 1970 Penn State; MS 1972 Carnegie Institute of Technolo; MS 1974 Carnegie-Mellon; PHD 1975 Carnegie Mellon

**FOSTER, DANNY TERRAL**, Lecturer, Integrative Physiology/Orthopaedics and Rehabilitation, 1976 (1999); BS 1974 Iowa; MA 1977 Iowa; PHD 1996 Iowa

**FOSTER, PATRICIA ANN**, Professor, English, 1994 (2006); BA 1970 Vanderbilt; MFA 1980 UCLA; MFA 1986 Iowa; PHD 1993 Florida State

**FOSTER, STEPHEN C.**, Emeritus Professor, Art & Art History, 1974 (1987); BA 1967 Northern Illinois; MA 1969 Illinois; PHD 1973 Pennsylvania

**FOSTER JR, CHARLES T.**, Professor, Geoscience, 1978 (2001); BA 1971 California-Santa Barbara; MA 1974 Johns Hopkins; PHD 1975 Johns Hopkins

**FOULDS, LESLIE RICHARD**, Adjunct Professor, Management Sciences, 2009 (2009); BSC 1970 Auckland, New Zealand; MSC 1972 Auckland, New Zealand; PHD 1975 Virginia Polytechnic

**FOUND, ERNEST M.**, Associate Professor, Orthopaedics and Rehabilitation, 1987 (1992); BA 1974 Hamilton; MD 1980 State Univ-NY-Upstate Med Cntr

**FOUNTAIN, ANN M.**, Adjunct Instructor, Nursing, 2000 (2000); BSN 1992 Viterbo

**FOUTS, ANGELA A.**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2003 South Dakota State

**FOWLER, JILL A.**, Clinical Assistant Professor, Pharmacy, 2008 (2008); BS 2002 N. Carolina-Chapel Hill; PHARMD 2006 N. Carolina-Chapel Hill; MPHAR 2009 University of Texas Austin

**FOWLES, DON C.**, Emeritus Professor, Psychology, 1970 (1982); BS 1961 Massachusetts Inst of Technolo; MA 1965 Harvard; PHD 1967 Harvard

**FOX, CLAIRE**, Associate Professor, English/International Programs, 2001 (2001); BA 1986 Yale; MA 1988 Iowa; PHD 1995 Iowa

**FOX, MARGARET G.**, Emeritus Professor, Health, & Sport Studies, 1949 (1958);

**FOX, MATTHEW G.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1988 Appalachian State; MD 1994 South Dakota

**FRAER, MONY**, Clinical Assistant Professor, Internal Medicine, 2009 (2009); MD 1992 Grigore T Popa, Romania

**FRAIZER, MICHAEL CHRISTOPHER**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); BS 1993 Notre Dame; MD 1997 Iowa

**FRANCE, NONA JANETTE**, Clinical Adjunct Instructor, Nursing, 1989 (1989); BSN 1982 Iowa; MSN 2001 Iowa

**FRANCISCUS, ROBERT**, Associate Professor, Orthodontics/Anthropology, 1998 (2004); BA 1985 Texas A & M; MA 1987 New Mexico; PHD 1995 New Mexico

**FRANK, ALAN RAYMOND**, Emeritus Professor, Teaching and Learning, 1970 (1985); BA 1963 UCLA; MA 1965

California State-LA; PHD 1970 Iowa

**FRANK, CARL ANDREW**, Assistant Professor, Anatomy & Cell Biology, 2010 (2010); BS 1997 Mass Institute of Tech; PHD 2003 UC Berkley

**FRANK, COREEN AGNES AMETER**, Adjunct Lecturer, Educ Policy & Leadership Studies, 2009 (2009); DIP 1993 Hopkins High School; BA 1997 Luther; MS 1998 Wisconsin; MSED 1998 Univ of Wisconsin - La Crosse

**FRANK, JESSICA MARIE**, Adjunct Assistant Professor, Pharmacy, 2007 (2008); PHARMD 2007 Iowa

**FRANK, JOHN A.**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 1993 (1993); DDS 1982 Iowa

**FRANK, LOUIS A.**, Emeritus Professor, Physics & Astronomy, 1963 (1971); BA 1960 Iowa; MS 1961 Iowa; PHD 1964 Iowa

**FRANK, ROSLYN M.**, Emeritus Professor, Spanish & Portuguese, 1968 (1988); BA 1961 Iowa; MA 1963 Iowa; PHD 1972 Iowa

**FRANK, SARAH ROSEN**, Adjunct Assistant Professor, Economics, 2010 (2010); BA 1999 Wellesley; PHD 2009 UC Berkeley

**FRANKEL, JOSEPH**, Professor, Department of Biology, 1962 (1971); BA 1956 Cornell; PHD 1960 Yale

**FRANKEN JR, EDMUND A.**, Emeritus Professor, Radiology, 1979 (1979); MD 1961 Oklahoma

**FRANTZ, RITA ANN FARREN**, Professor, Nursing, 1972 (1996); BSN 1970 Marycrest; MA 1973 Iowa; PHD 1978 Iowa

**FRANZEN, KEEVIN J.**, Clinical Adjunct Associate Professor, Pediatrics, 1980 (2010); MD 1976 Iowa

**FRANZMAN, CARRIE ANN**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); AS 1995 NE Wisconsin Tech

**FRANZMAN, MICHAEL R.**, Adjunct Assistant Professor, Periodontics, 2008 (2008); BA 2000 Wartburg; DDS 2004 Iowa; MS 2007 Iowa

**FRASER, JOHN HOWDEN III**, Adjunct Lecturer, Management & Organizations, 1999 (1999); MBA 2000 Iowa

**FRAUENHOLTZ, DANETTE FAY**, Adjunct Instructor, Nursing, 1999 (1999); MBA 1995 Iowa

**FRAVEL, MICHELLE A.**, Clinical Assistant Professor, Pharmacy, 2006 (2006); PHARMD 2006 Iowa

**FRAZIER, FONDA A.**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 1995 (1995); BA 1981 Iowa; MA 1983 Iowa

**FREDERICKSON, THEODORE P.**, Adjunct Professor, Journalism & Mass Communication, 2009 (2009); BA 1970 North Dakota; JD 1975 North Dakota

**FREE, JOSHUA L.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2005 Iowa

**FREEL, MILDRED INES**, Emeritus Associate Professor, Nursing, 1962 (1977); BSN 1961 Minnesota; MED 1962 Minnesota

**FREEMAN, ANDREW T.**, Adjunct Lecturer, College Transition, 2003 (2003); BS 1986 North Dakota; MA 1992 North Dakota

**FREEMAN, EDYE MICHELLE**, Adjunct Instructor, Linguistics, 2009 (2009); BA 1997 Florida Southern; MA 1999 Central Florida

**FREEMAN, JANET H.**, Adjunct Associate Professor, English, 1975 (2001); MA 1951 Smith

**FREEMAN, JOHN H.**, Professor, Psychology, 1998 (2007); BA 1989 Calif-Berkeley; PHD 1994 North Carolina-Chapel Hill

**FREY, KIRSTEN HAGEDORN**, Adjunct Assistant Professor, Management & Organizations, 1997 (1997); BBA 1991 Iowa; MBA 1995 Iowa; JD 1995 Iowa

**FREY, SUSAN M.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); BSPH 1975 Neb. Med. Ctr.

**FREY LAW, LAURA**, Assistant Professor, Physical Therapy, 2003 (2005); MPT 1993 Iowa; MS 1994 Michigan; PHD 2004 Iowa

**FREYENBERGER, BARBARA JO**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MSN 1998 Iowa

**FREYER, JOHN DAVERN**, Assistant Professor, Art & Art History, 2005 (2005); MA 2002 Iowa; MFA 2003 Iowa

**FRIDLINGTON, EMILY**, Clinical Assistant Professor, Dermatology, 2010 (2010); BSC 2001 Truman State; MD 2006

UT Galveston

**FRIDRICH, KIRK LEE**, Professor, Oral & Maxillofacial Surgery, 1988 (1997); BS 1979 Nebraska; DDS 1983 Nebraska; MS 1987 Iowa

**FRIEDMAN, ROBERT L.**, Clinical Adjunct Associate Professor, Family Medicine, 1980 (1991); MD 1974 Pennsylvania

**FRIEDRICH, H BRUCE**, Emeritus Professor, Chemistry, 1966 (1976); BA 1958 Wartburg; MS 1961 Iowa; PHD 1963 Iowa

**FRIEDRICH, ROSE MARIE WALK**, Emeritus Associate Professor, Nursing, 1973 (1980); BSN 1961 Iowa; MA 1973 Iowa

**FRIESTAD, GREGORY KIRK**, Associate Professor, Chemistry, 2005 (2005); BS 1990 Bradley, Illinois; PHD 1995 Oregon

**FRISBIE, DAVID A.**, Emeritus Professor, Psych & Quant Foundations, 1981 (1992); BA 1966 Wisconsin-LaCrosse; MS 1969 Michigan State; PHD 1971 Michigan State

**FRITTS, LAWRENCE NEIL**, Associate Professor, Music, 1994 (2002); BS 1983 Portland State; PHD 1995 Chicago

**FRITZ, DAVID RALPH**, Adjunct Assistant Professor, Prosthodontics, 1980 (1986); DDS 1980 Iowa

**FRITZSCH, BERND**, Professor, Department of Biology, 2008 (2008); PHD 1978 Tech Univ Darmstadt

**FROHMAN, CHARLES D.**, Professor, Mathematics, 1990 (1998); MA 1978 Kalamazoo; MA 1981 Indiana; PHD 1984 Indiana

**FROM, ROBERT P.**, Associate Professor, Anesthesia, 1983 (1990); BA 1971 Drake; DO 1974 Drake

**FROST, GARY**, Adjunct Assistant Professor, Library & Information Science/Interdisciplinary Programs, 2000 (2000); BFA 1969 Art Institute - Chicago; MFA 1969 Art Institute - Chicago

**FRUHLING, RHONDA MAE**, Clinical Adjunct Instructor, Nursing, 2009 (2009); ADN 1983 Iowa; BSN 1993 Parkland College; MS 2003 Illinois-Chicago

**FRY, N JOEL**, Adjunct Instructor, Social Work, 2003 (2003); BA 1997 Simpson; MSW 1999 Iowa

**FUDGE, JONATHAN L.**, Clinical Adjunct Instructor, Internal Medicine, 2001 (2001); MD 1992 Iowa

**FUENTES, ANA MARCELA**, Adjunct Assistant Professor, Creative Writing, 2009 (2009); BA 1998 Texas-Austin; MA 2003 Central Michigan; MFA 2009 Iowa

**FUENTES, ERNESTO J.**, Assistant Professor, Biochemistry, 2006 (2006); PHD 1999 Illinois-Champaign

**FUHR, WILLIAM V.**, Adjunct Instructor, Library & Information Science, 2009 (2009); BA 1998 Western Illinois; MA 2003 Iowa

**FUHRMAN, JENNIFER LYN**, Lecturer, Economics, 2008 (2008); MA 1998 Miami Oxford, Ohio

**FUHRMAN, MARY SIDONIA**, Lecturer, Nursing, 2008 (2008); BSN 1995 Clarke; MSN 2000 Clarke

**FUHRMAN, ROBERT MICHAEL**, Adjunct Assistant Professor, Orthodontics, 2009 (2009); BA 1995 Loras; DDS 2004 Iowa

**FULL, CLEMENS A.**, Emeritus Professor, Pediatric Dentistry, 1963 (1975); BS 1958 Loras; DDS 1963 Iowa; MS 1965 Iowa

**FULLER, JAMES L.**, Emeritus Professor, Operative Dentistry, 1967 (1980); BA 1958 Grinnell; DDS 1962 Iowa; MS 1972 Iowa

**FULLER, JOHN W.**, Professor, Urban & Regional Planning/Public Policy Center/Geography/Economics, 1979 (1979); AB 1962 San Diego State; PHD 1968 Washington State

**FULLER, KENT R.**, Emeritus Professor, Mathematics, 1967 (1975); BS 1960 Mankato State; MS 1962 Mankato State; MA 1965 Oregon; PHD 1967 Oregon

**FULLER, MICHAEL G.**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); PHARM D 1997 Iowa

**FUMERTON, RICHARD**, Professor, Philosophy, 1974 (1985); BA 1971 Toronto-Canada; MA 1973 Brown; PHD 1974 Brown

**FUNDERBURG, RICHARD**, Assistant Professor, Urban & Regional Planning, 2005 (2005); MPA 1998 California St @ Sacramento; PHD 2006 California, Irvine

**FUNG, EDWARD L.**, Adjunct Instructor, Operative Dentistry, 2002 (2002); BS 1988 Creighton; JD 1993 Iowa; DDS

1998 Iowa

**FUNK, GERRY F.**, Professor, Radiation Oncology/Otolaryngology-Head & Neck Surgery, 1992 (2004); BS 1982 Oregon; MD 1986 Chicago-Pritzker School of Med

**FUORTES, LAURENCE JULIUS**, Professor, Occupational & Environmental Health/Epidemiology/International Programs, 1987 (2002); BS 1976 Northern Illinois; MD 1980 Illinois; MS 1987 Iowa

**FURNER, BEATRICE A.**, Emeritus Professor, Teaching and Learning, 1964 (1975); BS 1960 SUNY; MA 1963 Iowa; PHD 1967 Iowa

**GABEL, JOAN THERESE ALEXANDER**, Adjunct Professor, Management & Organizations, 2009 (2009); JD 1993 Georgia

**GAETH, GARY J.**, Professor, Marketing/Psychology, 1983 (1996); BS 1974 Northern Michigan; MS 1977 Wyoming; MS 1980 Kansas State; PHD 1984 Kansas State

**GAFFNEY, GARY ROBERT**, Associate Professor, Psychiatry, 1993 (1993); BS 1977 Iowa; MD 1981 Iowa

**GAGLIOTI, ANNE HAZEN**, Clinical Assistant Professor, Family Medicine, 2010 (2010); BA 2001 Wm & Mary Virginia; MD 2005 Case Western Reserve

**GAINER, KATE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2004 Wisconsin

**GALASK, RUDOLPH P.**, Emeritus Professor, Obstetrics & Gynecology/Dermatology, 1970 (1978); BA 1959 Drake; MD 1964 Iowa; MS 1967 Iowa

**GALBRAITH, WILLIAM B.**, Emeritus Professor, Internal Medicine, 1994 (1995); BS 1953 Arizona State; MD 1957 George Washington

**GALEHOUSE, LEON**, Adjunct Instructor, Pharmacy, 2007 (2007); BS 1970 North Dakota State Univ.

**GALES, CHRISTIE ANNE**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); AASC 2002 Kirwood Community

**GALLANIS, THOMAS P.**, Professor, Law-Faculty/History, 2008 (2008); JD 1990 Chicago; LLM 1993 Cambridge; PHD 1997 Cambridge

**GALLO, JOHN GREGORY**, Lecturer, Finance, 2008 (2010); BGS 1978 Iowa; MBA 1983 Texas, Arlington; PHD 1992 Texas, Arlington

**GALLUP, WILLIAM GEORGE**, Adjunct Assistant Professor, History, 1999 (1999); BA 1975 Queens College; MA 1977 Iowa; PHD 1983 Iowa

**GALUSHA, YVONNE**, Lecturer, Management Sciences, 2003 (2003); BS 1981 Graceland; MBA 1991 Wichita State

**GALVAO, ANTONIO FIALHO**, Assistant Professor, Economics, 2010 (2010); MA 2003 Getulio Vargas Foundation; MS 2007 Illinois; PHD 2009 Illinois

**GALVIN, JAMES A.**, Professor, English/Creative Writing, 1983 (1992); BA 1974 Antioch; MFA 1977 Iowa

**GAMBRALL, MELISSA A.**, Clinical Adjunct Instructor, Nursing, 2001 (2008); BSN 1991 IOWA; MSN 2006 University of Iowa

**GANGA, HARSHA**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); MD 2002 Kasturba

**GANNAWAY, ANNE MARIE**, Adjunct Lecturer, College Transition, 2008 (2008); BA 1997 Saint Thomas, MN; MA 2005 Missouri

**GANNON-PALMER, JOAN**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); DDS 1992 Iowa

**GANSKE, CORRINE M.**, Clinical Adjunct Assistant Professor, Family Medicine, 1985 (1985); MD 1977 Iowa

**GANTZ, BRUCE JAY**, Professor, Otolaryngology-Head & Neck Surgery, 1980 (1987); BS 1968 Iowa; MD 1974 Iowa; MS 1980 Iowa

**GARDENER, TAWNYA**, Adjunct Instructor, Pharmacy, 2006 (2006); BSPH 1983 Minnesota

**GARDINIER, MINNETTA V.**, Associate Professor, Pharmacology, 1998 (1998); BS 1975 Le Moyne College; PHD 1988 Louisiana St Univ -New Orleans

**GARDNER, MARTIN R.**, Adjunct Professor, Law-Faculty, 2005 (2005); BS 1969 Utah; JD 1972 Utah

**GARDNER, SUE ELLEN**, Associate Professor, Nursing, 2000 (2008); BSN 1981 Iowa; MA 1990 Iowa; PHD 1999 Iowa

**GARDNER, THOMAS V.**, Emeritus Professor, Oral & Maxillofacial Surgery/Family Dentistry, 1974 (1982);

**GARFINKEL, JON A.**, Associate Professor, Finance, 1999 (2006); BA 1988 Virginia Tech; PHD 1994 Florida

**GARNER, CORY**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2010 (2010); DDS 2009 Iowa

**GARNER, LISA DAWN**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2000 Iowa

**GARR, VALERIE SUSANNE**, Adjunct Lecturer, College Transition/Counseling, Rehab & Stu Dev, 2002 (2004); BA 1987 Iowa; MA 1995 Iowa

**GARRETT, ROBERT E.**, Clinical Associate Professor, Family Medicine, 1997 (1997); BA 1971 Trinity; MA 1974 Johns Hopkins; MD 1981 Calif-San Diego; MS 1986 Case Western Reserve

**GARVEY, MICHAEL J.**, Emeritus Professor, Psychiatry, 1985 (1992); BA 1968 Stanford; MD 1971 Stanford

**GARVIN, GREGORY L.**, Clinical Adjunct Associate Professor, Pediatrics, 1989 (2010); DO 1975 Kirksville

**GARVIN, JUSTIN WAYNE**, Adjunct Assistant Professor, Engineering Administration, 2010 (2010); BSE 2001 Iowa; MS 2003 Iowa; PHD 2006 Iowa

**GARVIN, MONA KATHRYN**, Assistant Professor, Electrical-Computer Engineering, 2008 (2008); BSE 2003 Iowa; MS 2004 Iowa; PHD 2008 Iowa

**GATES, RUSTIN B.**, Adjunct Assistant Professor, Sociology, 2009 (2009); BA 1996 Occidental College; AB 1996 Occidental College, CA; MA 2000 Harvard university; AM 2000 East Asia; PHD 2007 Harvard

**GATICA, JUAN A.**, Professor, Mathematics, 1975 (1990); PHD 1972 Iowa

**GAVRUSEVA, ELENA**, Associate Professor, Linguistics, 1998 (2005); BS 1991 Moscow Linguistic; MA 1993 Georgetown; PHD 1998 Georgetown

**GAYLEY, KENNETH**, Associate Professor, Physics & Astronomy, 1997 (2003); AB 1983 Princeton; PHD 1990 San Diego

**GAZSI, DENES**, Lecturer, French & Italian, 2009 (2009); MA 2004 Eotvos Lorand Univ; PHD 2010

**GEBHART, GERALD FRANCIS**, Emeritus Professor, Pharmacology, 1973 (1981); BS 1967 Illinois; MS 1969 Iowa; PHD 1971 Iowa

**GEERLINGS, TIMOTHY J R**, Adjunct Assistant Professor, Art & Art History, 2000 (2000); BFA 1986 Iowa; MFA 1990 Iowa

**GEHRING, DAVID CHARLES**, Adjunct Assistant Professor, Orthodontics, 2009 (2009); BA 1989 Coe; DDS 1993 Iowa; MS 1995 Iowa

**GEISINGER, BRENDA SUE**, Adjunct Instructor, Social Work, 2006 (2006); MSW 2005 Iowa

**GEIST, LOIS J.**, Professor, Internal Medicine, 1990 (2009); BS 1978 Trinity; MS 1980 Case Western Reserve; MD 1984 Case Western Reserve

**GELFAND, LAWRENCE E.**, Emeritus Professor, History, 1962 (1966);

**GELFAND, MIRIAM J.**, Emeritus Assistant Professor, Russian, 1962 (1986); BA 1946 St Johns-China

**GELLHAUS, THOMAS M.**, Clinical Lecturer, Obstetrics & Gynecology, 1991 (1991); BA 1979 Augustana College, Sioux Falls; MD 1983 Oklahoma

**GENESER, MATTHEW K.**, Adjunct Assistant Professor, Preventive & Community Dentistry/Pediatric Dentistry, 2009 (2009); BA 2002 Iowa; DDS 2006 Iowa

**GENG, MAXWELL LEI**, Professor, Chemistry, 1995 (2008); BS 1986 Science and Technology-China; PHD 1994 Duke

**GENTIL-ARCHER, ANNE CHRISTINE**, Adjunct Lecturer, Nursing, 2010 (2010); BSN 2002 Iowa

**GENTSCH, DAWN KRISTINE**, Adjunct Lecturer, Community & Behavioral Health, 2001 (2001); MPH 1996 Indiana

**GEORGAKAKOS, K P.**, Adjunct Professor, Civil-Environmental Engineering, 1986 (1997); BS 1977 National Technical-Athens; MS 1980 MIT; SCD 1982 MIT

**GEORGE, JOSEPH P.**, Lecturer, Management & Organizations, 2007 (2007); BA 1970 Mississippi

**GEORGE, MICHELLE M.**, Adjunct Instructor, Pharmacy, 2003 (2003); BA 1997 Wartburg; PHARMD 2000 Creighton

**GERAETS, DOUGLAS R.**, Adjunct Professor, Pharmacy, 1988 (2004); PHARMD 1980 Tennessee

**GERAGHTY, JEAN S.**, Adjunct Instructor, Mathematics, 1987 (1987); MS 1957 SUNY-Potsdam



**GERAGHTY, MICHAEL A.**, Emeritus Associate Professor, Mathematics, 1964 (1965); BS 1952 Nortre Dame; PHD 1959 Nortre Dame

**GERBYSHAK, JENNIFER ERIN**, Lecturer, Linguistics/English as Second Language, 2004 (2010); MA 2004 Iowa

**GERDNER, LINDA ANN**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1980 Iowa Wesleyan; MA 1992 Iowa; PHD 1998 Iowa

**GERHARD, PETER**, Adjunct Lecturer, College Transition, 2002 (2002); MA 1985 Phillips; PHD 2000 Iowa

**GERHOLD, LINDA SUSAN**, Lecturer, Department of Biology, 1988 (2003); PHD 1987 Iowa

**GERKE, HENNING**, Clinical Associate Professor, Internal Medicine, 2004 (2009); MD 1996 Hamburg, Germany

**GERKEN, KATHRYN C.**, Associate Professor, Psych & Quant Foundations, 1973 (1978); BS 1962 Southern Illinois; MA 1967 Bradley; PHD 1974 Southern Illinois

**GERKING, MICHAEL TODD**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1986 Iowa

**GERLEMAN, BRENT F.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1990 (1990); MD 1978 Kansas

**GERR, FREDRIC E.**, Professor, Epidemiology/Internal Medicine/Occupational & Environmental Health, 2002 (2002); BA 1978 Clark; MD 1978 New York-Stony Brook

**GERWIN, DANIEL JACOB**, Adjunct Assistant Professor, Art & Art History, 2008 (2008); MS 1994 Columbia; MFA 2008 Pennsylvania

**GETTEMY, ROBERT E.**, Adjunct Lecturer, Management & Organizations, 2008 (2008); BA 1987 Northern Iowa; MBA 1989 Drake

**GETZ, CHRISTINE**, Associate Professor, Music, 1999 (2005); BM 1979 Evansville; MM 1982 Southern Illinois; PHD 1991 Texas

**GEWEKE, JOHN F.**, Emeritus Professor, Statistics & Actuarial Science/Economics, 1999 (1999); BS 1970 Michigan State; PHD 1975 Minnesota

**GEYER, PAMELA**, Professor, Biochemistry, 1989 (2000); BSC 1978 McGill; PHD 1983 Ohio State

**GFELLER, KAY E.**, Professor, Music/Communication Sciences and Disorders, 1985 (1993); BM 1971 Drake; MM 1974 Northwestern; PHD 1982 Michigan State

**GHALI, MAGDI G.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1986 (1986); MBBCH 1975 Cairo, Egypt

**GHONEIM, MOHAMED M.**, Emeritus Professor, Anesthesia, 1967 (1976); MBBCH 1957 Ein Shams-Egypt; MD 1957 Cairo-Egypt; FFARCS 1963 London -England

**GHOSH, JOYEE**, Assistant Professor, Statistics & Actuarial Science, 2010 (2010); PHD 2008 Duke

**GHOSH, SUKUMAR**, Professor, Computer Science, 1984 (1996); BSC 1964 Calcutta; BTECH 1966 Calcutta-India; PHD 1971 Calcutta

**GHOSHEH, NATALIE JANA**, Adjunct Assistant Professor, Pediatric Dentistry, 2008 (2008); BA 2002 Iowa; DDS 2006 Iowa

**GIANGRANDE, PALOMA HOBAN**, Assistant Professor, Radiation Oncology/Internal Medicine, 2007 (2007); BA 1994 Wheaton; PHD 1999 Duke

**GIBBONS, HEATHER JUNE**, Adjunct Assistant Professor, Creative Writing, 2007 (2007); MFA 2007 Iowa

**GIBBS, DANETTE CARLA**, Adjunct Instructor, Pharmacy, 2004 (2004); PHARMD 2002 Iowa

**GIBLIN, BLANDINA KADUMA**, Lecturer, French & Italian, 2001 (2006);

**GIBLIN, JAMES L.**, Professor, History, 1986 (2001); BA 1975 McGill; MA 1978 McGill; PHD 1986 Wisconsin-Madison

**GIBSON, CRAIG A.**, Associate Professor, Classics, 1999 (2004); BA 1990 Rhodes; PHD 1995 Duke

**GIBSON, DARLENE J.**, Lecturer, Nursing, 1987 (2010); ADN 1985 Kirkwood; BSN 1990 Iowa; MSN 2004 Phoenix

**GIBSON, DAVID T.**, Emeritus Professor, Microbiology, 1988 (1988); BSC 1961 Leeds-United Kingdom; PHD 1964 Leeds-United Kingdom

**GIDAL, ERIC**, Associate Professor, English, 1996 (2002); BA 1988 Brandeis; MA 1992 Michigan; PHD 1995 Michigan

**GIENAPP, BARBARA ANN BRADY**, Adjunct Instructor, Communication Sciences and Disorders, 1989 (1996); BS 1982 South Dakota; MA 1984 South Dakota

**GIER, DAVID**, Professor, Music, 1995 (2008); BM 1983 Michigan; MM 1985 Yale; MA 1986 Yale; DMA 1992 Yale

**GIESEY, RALPH E.**, Emeritus Professor, History, 1966 (1966); AB 1944 Wayne State; MA 1947 Wayne State; PHD 1954 California-Berkeley

**GIESWEIN, KIRK R.**, Clinical Adjunct Assistant Professor, Family Medicine, 2001 (2001); MD 1985 Kansas

**GILBERT, MIRIAM**, Professor, English, 1969 (1982); BA 1965 Brandeis; MA 1967 Indiana; PHD 1969 Indiana

**GILG, JOSEPH**, Adjunct Instructor, Internal Medicine, 2005 (2005); BS 1983 Nebraska; MD 1987 Nebraska Med

**GILLAN, EDWARD G.**, Associate Professor, Chemistry, 1997 (2003); BS 1989 California-Berkeley; PHD 1994 California-Los Angeles

**GILOTTI, JANE A.**, Associate Professor, Geoscience, 1999 (2005); BA 1978 Maine; MA 1984 Johns Hopkins; PHD 1987 Johns Hopkins

**GILSENAN, THOMAS P.**, Adjunct Instructor, Social Work, 2010 (2010);

**GINGRICH, ROGER D.**, Professor, Internal Medicine, 1981 (1993); BA 1970 Macalaster; MD 1974 Cornell; PHD 1981 Oxford

**GIOANNINI, THERESA LEE**, Adjunct Professor, Biochemistry, 1999 (1999); BS 1971 Mary-of-the-Woods; MS 1976 New York University; PHD 1978 New York University

**GIRDLER, CAROL ELLEN**, Clinical Instructor, Teaching and Learning, 1982 (2009); MA 1980 Iowa

**GITTLER, JOSEPHINE**, Professor, Pediatrics/Law-Faculty/Nursing/Health Management & Policy, 1973 (1977); BA 1965 Barnard; JD 1968 Northwestern

**GIUDICE, GEORGE J.**, Professor, Biochemistry/Dermatology, 2007 (2007); BS 1977 Illinois; MA 1979 Princeton; PHD 1984 Princeton

**GLANVILLE, JENNIFER**, Associate Professor, Sociology, 2001 (2007); BA 1992 New College; MA 1997 North Carolina; PHD 2001 North Carolina

**GLASGOW, ROBERT O.**, Professor, Interdisciplinary Programs/Art & Art History, 1985 (2006); BFA 1967 Wittenberg; MA 1968 Wisconsin; MFA 1969 Wisconsin

**GLASS, BEAUMONT JR**, Emeritus Professor, Music, 1980 (1984); BS 1949 U.S. Naval Academy

**GLASS, JENNIFER**, Professor, Sociology/Public Policy Center/Women's Studies, 1994 (1996); BA 1977 New College; MS 1979 Wisconsin; PHD 1983 Wisconsin

**GLASS, LOREN DANIEL**, Associate Professor, English, 2004 (2007); BA 1988 California @ Berkeley; MA 1990 California @ Davis; PHD 1997 Duke

**GLASSER, JAMES E.**, Clinical Adjunct Instructor, Internal Medicine, 1982 (1988); MD 1964 Johns Hopkins

**GLAZIER, ADAM J JR**, Clinical Adjunct Assistant Professor, Internal Medicine, 1987 (1987); MD 1979 Iowa

**GLEASON, CRISTI A.**, Associate Professor, Accounting, 2003 (2009); BS 1990 Brigham Young; MAC 1992 Brigham Young; PHD 1998 Cornell

**GLENISTER, BRIAN F.**, Emeritus Professor, Geoscience, 1959 (1966); MSC 1953 Melbourne; PHD 1956 Iowa

**GLENN, KEVIN A.**, Assistant Professor, Internal Medicine, 2002 (2006); MD 1998 Illinois

**GLICK, ORPHA J.**, Emeritus Associate Professor, Nursing, 1967 (1995); BS 1960 Eastern Mennonite; BS 1965 Iowa; MA 1967 Iowa; PHD 1982 Iowa

**GLOER, JAMES B.**, Professor, Chemistry, 1984 (1994); BS 1978 Florida; PHD 1983 Illinois

**GLOOR, EILEEN MARGARET**, Adjunct Assistant Professor, Nursing, 2005 (2005); BSN 1969 Georgetown; MSN 1971 Yale

**GMUREK, MICHAEL**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); BS 1977 Marquette; DDS 1981 Maryland

**GOBAT, MICHEL**, Associate Professor, History, 1999 (2005); LIC 1989 Zurich; MA 1991 Chicago; PHD 1998 Chicago

**GODFREY, ANTHONY R.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 1996 North Dakota State

**GODWIN, ROBERT F.**, Clinical Adjunct Associate Professor, Dermatology, 1976 (2004); MD 1966 Iowa

**GOEKEN, JAMES**, Emeritus Professor, Pathology, 1976 (1990); AB 1967 Chicago; MD 1972 Missouri

**GOEKEN, NANCY SMITH**, Emeritus Professor, Internal Medicine, 1983 (1993); BA 1968 Missouri; PHD 1972 Missouri

**GOEL, APOLLINA**, Assistant Professor, Radiation Oncology, 2008 (2008); BS 1987 Kanpur; MS 1992 Poona; PHD 1998 Microbial Technology

**GOELDNER, LINDA K.**, Adjunct Assistant Professor, Nursing, 1994 (1994); BA 1972 Iowa; MA 1981 Iowa

**GOEPFERD, STEPHEN J.**, Emeritus Professor, Pediatric Dentistry, 1978 (1989); BS 1973 Minnesota; DDS 1973 Minnesota; MS 1978 Minnesota

**GOERBIG, JENNIFER**, Clinical Assistant Professor, Internal Medicine, 2009 (2009); BS 1996 Michigan; MD 2002 Michigan

**GOERDT, CHRISTOPHER JOHN**, Clinical Professor, Internal Medicine, 1994 (2007); BA 1983 Iowa; MD 1988 Iowa; MPH 1994 Minnesota

**GOETTSCH, CRAIG ALAN**, Adjunct Lecturer, Law-Faculty, 2009 (2009); BA 1972 Iowa; JD 1975 Iowa

**GOETTSCH, GORDON FREDERICK**, Adjunct Instructor, Family Dentistry, 2007 (2007); DDS 1976 Iowa

**GOETZ, DEVON D.**, Clinical Adjunct Associate Professor, Orthopaedics and Rehabilitation, 2000 (2000); MD 1987 Iowa

**GOETZ, JESSICA**, Adjunct Assistant Professor, Biomedical Engineering, 2009 (2009); BSE 2003 Iowa; PHD 2008 Iowa

**GOFF, HAROLD M.**, Emeritus Professor, Chemistry, 1976 (1985); BS 1969 Missouri; MA 1971 Missouri; PHD 1976 Texas

**GOGERTY, MEGAN ELLEN**, Adjunct Assistant Professor, Theatre Arts, 2008 (2008); BA 1997 Iowa; MFA 2004 Texas at Austin

**GOINS, KENNETH M.**, Clinical Professor, Ophthalmology & Visual Science, 2003 (2007); BA 1982 Tennessee; MD 1986 Kentucky

**GOINS, SHEILA T.**, Assistant Professor, Marketing, 2003 (2003); MS 1986 HARVARD; MBA 1990 Chicago; PHD 2000 CHICAGO

**GOLDSTEIN, HELEN T.**, Emeritus Associate Professor, Religion, 1968 (1980); BA 1948 Chicago; AM 1951 Radcliffe; PHD 1956 Radcliffe

**GOLLNICK, BRIAN**, Associate Professor, Cinema & Comparative Literature/International Programs/Spanish & Portuguese, 1999 (2006); BA 1992 Washington; MA 1996 California-San Diego; PHD 1998 California-San Diego

**GOLZ, SABINE I.**, Associate Professor, Cinema & Comparative Literature, 1987 (1994); MA 1984 Cornell; PHD 1987 Cornell

**GOMEZ, MANUEL**, Clinical Assistant Professor, Endodontics, 2000 (2005); DDS 1977 Javeriana University-Columbia; CER 2005 University of Iowa

**GOMEZ, OSCAR G.**, Assistant Professor, Pediatrics, 2006 (2006); BS 1979 Camilo Torres National; MD 1987 National Univ. of Colombi; PHD 1993 Maryland

**GOMPPER, DAVID KARL**, Professor, International Programs/Music, 1991 (2001); BM 1978 San Diego State; MM 1980 Royal College of Music-London; DMA 1988 Michigan

**GONZALEZ, NORA M.**, Emeritus Associate Professor, Spanish & Portuguese, 1985 (1990);

**GONZALEZ, RICHARD**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BS 1975 Northwestern; JD 1978 Ohio State

**GONZALEZ, RUTH CHRISTINE**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine, 2006 (2006); DDS 2005 Iowa

**GONZALEZ-ALEGRE, PEDRO**, Assistant Professor, Neurology, 2004 (2004); MD 1996 Uni Malaga Spain

**GOODHEART, MICHAEL JOSEPH**, Assistant Professor, Anatomy & Cell Biology/Obstetrics & Gynecology, 2005 (2009); BA 1990 North Carolina State; BS 1990 North Carolina State; MD 1995 East Carolina SOM

**GOODIN, JULIA C.**, Clinical Adjunct Associate Professor, Pathology, 1999 (1999); MD 1983 Kentucky

**GOODLOVE, JOHN ALLAN**, Adjunct Instructor, Journalism & Mass Communication, 2009 (2009); BA 1982 Iowa State; MA 2009 Iowa

**GOODMAN, FREDERICK M.**, Emeritus Professor, Mathematics, 1984 (1990); AB 1971 Harvard; AM 1971 Harvard; PHD 1979 California-Berkeley

**GOODMAN, SHAWN S.**, Assistant Professor, Communication Sciences and Disorders, 2006 (2006); BS 1996 Brigham Young; MS 1998 Brigham Young; PHD 2003 Indiana

**GOODSON, ANGIE R.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2001); MD 1996 Iowa

**GORDON, COLIN**, Professor, History, 1994 (2004); BA 1985 Alberta-Edmonton; MA 1986 York-Toronto; PHD 1990 Wisconsin-Madison

**GORDON, DAVID F.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1973 (1973); MD 1962 New York

**GORDON, DONAL K.**, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); MFA 1996 Notre Dame; MD 2004 Iowa

**GORDON, ELLEN ELIZABETH ISOM**, Clinical Professor, Internal Medicine, 1985 (2004); MD 1979 Med Univ of South Carolina

**GORDON, JEAN K.**, Associate Professor, Communication Sciences and Disorders, 2000 (2007); BA 1985 Bishop's; MS 1992 McGill; PHD 2001 McGill

**GORDON, JOEL A.**, Professor, Internal Medicine, 1985 (2004); BA 1972 Colorado-Boulder; MD 1976 Colorado-Denver

**GORDON, KIMBERLY JO**, Clinical Adjunct Instructor, Nursing, 1988 (1988); BSN 1986 Iowa; MA 1990 Iowa; MSN 2007 Iowa

**GORDON, PAUL H.**, Clinical Adjunct Assistant Professor, Family Medicine, 1990 (2002); BA 1971 Iowa; MD 1975 Iowa

**GOREE, JOHN A.**, Professor, Physics & Astronomy, 1985 (1996); BS 1980 California Inst of Technology; MA 1982 Princeton; PHD 1985 Princeton

**GORMEZANO, ISIDORE**, Emeritus Professor, Psychology, 1966 (1966); AB 1952 New York; AM 1957 Wisconsin; PHD 1958 Wisconsin

**GORNEY, CAROL S.**, Clinical Assistant Professor, Physician Assistant, 2008 (2008); BA 1990 Iowa; BS 1990 University of Iowa; MPAS 2005 Nebraska

**GORVIN, MELANIE MARIE**, Adjunct Instructor, Pharmacy, 2008 (2008); BS 1997 Drake

**GOSWAMI, PRABHAT**, Associate Professor, Radiation Oncology, 2000 (2000); BS 1974 St Anthony's; MS 1976 Guahati; PHD 1983 Guahati

**GOTKOWITZ, LAURA**, Associate Professor, History, 2000 (2007); BA 1985 Brown; MA 1991 Chicago; PHD 1998 Chicago

**GOTTLOB, DIAN M.**, Adjunct Assistant Professor, Occupational & Environmental Health, 2007 (2004); MA 1982 Iowa; PHD 1985 Iowa; JD 1995 Drake

**GOULD, DAVID L.**, Adjunct Lecturer, Division of Interdisciplinary Program, 2001 (2001); BA 1982 Northern Illinois; MA 1992 Iowa

**GOULD, RENEE MARIE**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MS 1985 Northern Illinois

**GOVINDAN, SRIHARI**, Professor, Economics, 2003 (2003); BA 1988 Loyola; PHD 1993 State UNI NY

**GRABER, MARK A.**, Clinical Professor, Emergency Medicine/Family Medicine, 1994 (2005); BS 1978 William and Mary; MD 1981 Eastern Virginia

**GRACHEV, MIKHAIL VLADIMIROVICH**, Adjunct Professor, Management & Organizations, 2005 (2005); BS 1976 Moscow State; MAE 1982 Moscow State; PHD 1998 Russian Academy of Science

**GRADY, DAVID L.**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 1993 (1993); AA 1980 Southwest Mississippi CC; BBA 1981 Mississippi State; MED 1984 Harvard University; PHD 1992 Texas

**GRADY, MILA**, Lecturer, Nursing, 2001 (2001); BSN 1978 Iowa; MSN 1981 Texas-Austin

**GRAFF, CURT G.**, Adjunct Lecturer, Management & Organizations, 2008 (2008); MA 1997 Iowa

**GRAHAM, LAURA R.**, Associate Professor, Anthropology/International Programs, 1990 (1996); BA 1979 Stanford; MA 1983 Texas-Austin; PHD 1990 Texas-Austin

**GRAHAM, MICHAEL**, Professor, Radiation Oncology/Radiology, 1999 (1999); BSEE 1965 Mass Inst of Technology;

MSEE 1966 Calif-Berkeley; MS 1969 Calif-Berkeley; PHD 1973 Calif-Berkeley; MD 1976 Calif-San Francisco

**GRAHAM, MICHELLE LYNN**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2006); BA 1994 Simpson; MD 2000 Iowa

**GRAHAM, SCOTT M.**, Professor, Otolaryngology-Head & Neck Surgery, 1990 (2004); MBBS 1981 Adelaide; FRACS 1988 Royal Australia C of Surgeons

**GRANNER, DARYL K.**, Emeritus Professor, Physiology, 2005 (2006); BA 1958 Iowa; MD 1962 Iowa; MS 1962 Iowa

**GRANNER, MARK A.**, Clinical Professor, Neurology, 1993 (2005); BA 1983 Grinnell; MD 1987 Iowa

**GRANT, CHRISTINE**, Emeritus Associate Professor, Health, & Sport Studies, 1971 (1979); BA 1970 Iowa; PHD 1974 Iowa

**GRANT, JOHN E.**, Emeritus Professor, English, 1965 (1965); AB 1951 Harvard; AM 1954 Harvard; PHD 1954 Harvard

**GRANT, STANLEY S.**, Clinical Adjunct Instructor, Nursing, 1985 (1985); BSN 1976 Coe; MSN 1997 Iowa

**GRASSIAN, VICKI H.**, Professor, Chemistry/Chemical & Biomedical Engineering/Occupational & Environmental Health/Education, 1990 (2002); BS 1981 New York-Albany; MS 1982 Rensselaer Polytechnic; PHD 1987 California-Berkeley

**GRATAMA, JAN ALBERT WILLINGE**, Professor, International Programs/Art & Art History, 1987 (2000);

**GRATTON, DAVID G.**, Assistant Professor, Prosthodontics, 2001 (2001); BS 1990 Western Ontario; DDS 1994 Michigan; MS 1997 Iowa

**GRAU, SCOTT R.**, Adjunct Assistant Professor, History, 2003 (2003); BA 1978 Iowa; MA 1993 Iowa; PHD 2003 Iowa

**GRAY, JON R.**, Adjunct Lecturer, Marketing, 2002 (2002); BS 1985 COLORADO STATE; MBA 2000 IOWA

**GRAYZEL, JONATHAN S.**, Clinical Adjunct Professor, Emergency Medicine, 2005 (2005); MD 1995 Harvard

**GRECO, ROBERT LOUIS**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1980 Iowa

**GREEN, CARIN M.**, Professor, Classics, 1991 (2006); BA 1971 San Jose State; MA 1975 Texas-Austin; PHD 1991 Virginia

**GREEN, DENNIS C.**, Adjunct Instructor, Pharmacy, 2003 (2003); BS 1975 Creighton; BS 1980 Nebraska

**GREEN, PETER**, Adjunct Professor, Classics, 1997 (1997); PHD 1954 Trinity College England

**GREEN, STEVEN H.**, Professor, Otolaryngology-Head & Neck Surgery/Department of Biology, 1987 (2006); BS 1975 Wisconsin; PHD 1982 Calif Inst of Tech (Pasadena)

**GREENE, BARRY**, Emeritus Professor, Health Management & Policy, 1999 (1999); BA 1963 Wartburg; MA 1967 Northern Illinois; PHD 1971 St Louis

**GREENHOE, DAVID S.**, Emeritus Professor, Music, 1979 (1989); BM 1964 Eastman School of Music; MM 1969 Ball State

**GREENLEE, JEREMY D.**, Assistant Professor, Neurosurgery, 2005 (2005); BS 1993 Michigan; MD 1998 Indiana

**GREENOUGH, PAUL R.**, Professor, Community & Behavioral Health/International Programs/History, 1974 (1987); BS 1968 Columbia; MA 1970 Chicago; PHD 1977 Chicago

**GREENWOOD, ROBERT J.**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1977 Creighton

**GREER, MARTHA C.**, Adjunct Lecturer, International Programs, 2003 (2003); BLS 1995 Iowa; MA 1997 Iowa

**GREGORY, DANIEL J.**, Adjunct Assistant Professor, Epidemiology, 2010 (2010); BS 2002 Iowa; MS 2003 Iowa; PHD 2007 Iowa

**GREINER, ANDREA LYNN**, Clinical Assistant Professor, Obstetrics & Gynecology, 2006 (2006); BS 1992 Missouri, Columbia; MD 1998 Missouri, Columbia

**GRESSANG, JANE E.**, Adjunct Lecturer, College Transition, 2009 (2009); MA 2001 Iowa

**GRETEMAN, BLAINE**, Assistant Professor, English, 2009 (2009); BA 1998 Oklahoma State; MPHIL 2001 Oxford; PHD 2008 California - Berkeley

**GREYSER, NAOMI**, Assistant Professor, English/Rhetoric, 2006 (2008); BA 1995 Wesleyan; MA 1998 California @Irvine; PHD 2004 California @ Irvine

**GRIEBAHN, LYNN R.**, Adjunct Assistant Professor, Operative Dentistry, 2004 (2005); DDS 1984 Iowa

**GRIER, MEGAN LYNN**, Adjunct Instructor, Family Dentistry, 2005 (2005); DDS 2005 Iowa

**GRIEVES, MICHAEL WILLIAM**, Adjunct Associate Professor, Management Sciences, 2009 (2009); MBA 1979 Oakland, MI; EDM 2000 Case Western Reserve

**GRIFFITH, THOMAS S.**, Associate Professor, Urology, 1999 (2006); BA 1990 Illinois Wesleyan; MS 1992 Illinois State; PHD 1996 Washington

**GRIFFITHS, TIMOTHY**, Adjunct Professor, Neurosurgery, 2009 (2009); MD 1998 Oxford, England

**GRIGNON, CONSTANCE**, Clinical Adjunct Associate Professor, Ophthalmology & Visual Science, 1988 (2004); BSC 1969 McGill; MD 1973 McGill

**GRIGSBY, WILLIAM R.**, Emeritus Professor, Periodontics, 1973 (1993); BA 1956 Dartmouth; DDS 1960 Missouri; PHD 1970 Virginia Commonwealth

**GRIMLUND, RICHARD A.**, Emeritus Associate Professor, Accounting, 1978 (1983); BS 1959 Washington; MBA 1974 Washington; PHD 1977 Washington

**GRINSTEAD, DAN M.**, Adjunct Instructor, General University College/Psychiatry, 1979 (1979); BA 1972 Wartburg; MSW 1975 Minnesota-Duluth

**GRISMORE, STEVEN DEAN**, Lecturer, Music, 2000 (2006); MA 1990 Iowa

**GROBE, CONNIE LYNN**, Adjunct Assistant Professor, Psychology, 2008 (2008); PHD 2006 Miami

**GROESCHL, LEE ROBERT**, Adjunct Lecturer, Management & Organizations, 2010 (2010); BBA 2009 North Dakota; MBA 2009 North Dakota

**GRONBECK, BRUCE E.**, Emeritus Professor, Communication Studies, 1973 (1979); BA 1963 Concordia; MA 1966 Iowa; PHD 1970 Iowa

**GROOS, JENNIFER A.**, Clinical Adjunct Assistant Professor, Pediatrics, 2005 (2005); BS 1997 Loras College; MD 2001 Iowa

**GROOTERS, RONALD KEITH**, Clinical Adjunct Assistant Professor, Surgery, 2005 (2005); BS 1963 Iowa State; MD 1967 Iowa

**GROS-LOUIS, JULIE J.**, Assistant Professor, Psychology, 2008 (2008); BS 1992 Michigan; MA 1995 University of Pennsylvania; MA 1996 pennsylvania; PHD 2001 Pennsylvania

**GROSE, CHARLES**, Professor, Pediatrics, 1984 (1987); BA 1963 Beloit; MD 1967 Chicago

**GROSKREUTZ, DAYNA JOY**, Assistant Professor, Internal Medicine, 2006 (2007); BA 1996 Augustana, SD; MD 2000 Minnesota

**GROSLAND, NICOLE MARIE**, Associate Professor, Orthopaedics and Rehabilitation/Biomedical Engineering, 1998 (2007); BSE 1994 Iowa; PHD 1998 Iowa

**GROSS, THOMAS J.**, Associate Professor, Internal Medicine, 1991 (1997); BS 1980 Michigan; MD 1983 Michigan

**GRUBER, GWENDOLYN MAE**, Adjunct Assistant Professor, Classics, 2009 (2009); BA 1998 Creighton; MA 2001 Iowa; PHD 2009 Iowa

**GRUCA, THOMAS S.**, Professor, Marketing, 1991 (2006); BS 1983 Illinois; MBA 1985 Illinois; PHD 1989 Illinois

**GRUMBACH, ISABELLA**, Assistant Professor, Internal Medicine, 2006 (2006); MD 1992 Ruhr Univ Germany

**GRUNDER, RICHARD W.**, Adjunct Assistant Professor, Operative Dentistry, 1995 (2000); DDS 1984 Iowa

**GUAYARA, CONSUELO**, Lecturer, Geography, 2007 (2009); MA 1994 Iowa; PHD 2007 Iowa

**GUCKERT, DONALD J.**, Adjunct Lecturer, Civil-Environmental Engineering, 2004 (2004); BS 1978 Penn State; BA 1978 Penn State; ME 1986 Penn State

**GUDAVALLI, M RAM**, Adjunct Assistant Professor, Biomedical Engineering, 2001 (2001); BS 1970 Andhra, India; MS 1980 McMaster, Canada; PHD 1989 Cincinnati

**GUENTNER, WENDELIN**, Professor, French & Italian/International Programs, 1985 (1998); BA 1972 St. Teresa; MA 1974 Magistere-Paris; MA 1975 Delaware; PHD 1982 Chicago

**GUERIN, LEANA ARLEEN**, Clinical Assistant Professor, Pathology, 2010 (2010); MD 2006 Iowa

**GUERRA, MELINDA BETH**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARMMD 2008 Drake

**GUEST, KATRINA A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1995 (2001); MD 1986 SUNY-Buffalo

**GUILLORY, J KEITH**, Emeritus Professor, Pharmacy, 1964 (1971); BS 1956 Loyola-Louisiana; MS 1960 Wisconsin; PHD 1961 Wisconsin

**GULICK, KRIS G.**, Adjunct Lecturer, Accounting, 2008 (2008); BA 1980 Northern Iowa; MA 1982 Iowa; BA 1986 Coe

**GULLICKSON, GREGORY LEO**, Adjunct Assistant Professor, Psychology, 2000 (2001); BA 1979 Notre Dame; MA 1983 Iowa; PHD 1993 Iowa

**GUNSTREAM, ADRIENNE**, Adjunct Assistant Professor, Periodontics, 2009 (2009); DDS 2004 Pacific; MS 2007 California

**GUNTER, TRACY DIANE**, Clinical Adjunct Associate Professor, Psychiatry/IA Consortium Substance Abuse, 2003 (2009); BS 1985 Southern Carolina; MD 1990 Southern Carolina

**GUO, JUNFENG**, Adjunct Associate Professor, Radiology, 2010 (2010); BS 1988 Xi'an Jiaotong, China; MS 1991 Xi'an Jiaotong, China; PHD 1995 Xi'an Jiaotong China

**GUPTA, PRAHLAD**, Associate Professor, Psychology, 1999 (2005); BA 1980 Delhi; MBA 1982 Delhi; MS 1991 Carnegie Mellon; PHD 1995 Carnegie Mellon

**GURLL, NELSON J.**, Emeritus Professor, Surgery, 1976 (1983); AB 1963 Calif-Berkeley; MD 1967 Calif-San Francisco

**GURNETT, DONALD A.**, Professor, Physics & Astronomy, 1965 (1972); BSEE 1962 Iowa; MS 1963 Iowa; PHD 1965 Iowa

**GURWELL, ADELAIDE MARIA**, Clinical Assistant Professor, Family Medicine, 1997 (1997); BSN 1980 Iowa Methodist; BGS 1986 Drake; MD 1991 Iowa

**GUSSIN, GARY N.**, Emeritus Professor, Department of Biology, 1969 (1980); BS 1961 Michigan; PHD 1966 Harvard

**GUYMON, C ALLAN**, Professor, Chemical & Biomedical Engineering, 2002 (2009); BS 1993 Weber State; MS 1995 Colorado; PHD 1997 Colorado

**GUZMAN, ELIZABETH EUNICE**, Adjunct Instructor, Spanish & Portuguese, 2007 (2007); BA 1977 Santiago; MA 1985 West Virginia

**GUZMAN, VICTORIA MARIE**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1974 Iowa; MSN 1997 Clarkson

**GUZMAN-ARMSTRONG, SANDRA**, Clinical Associate Professor, Operative Dentistry, 2001 (2008); DDS 1994 Iowa; MS 1999 Iowa

**HAACK, MARCUS J.**, Clinical Associate Professor, Educ Policy & Leadership Studies, 2002 (2002); BA 1973 Northern Iowa; MA 1978 Northern Iowa; EDD 1991 Northern Iowa

**HAAK, LAUREN ELIZABETH**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARM D 2010 Minnesota

**HAAS, THOMAS J.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1979 Iowa

**HABELHAH, HASEM**, Assistant Professor, Pathology, 2005 (2005); BS 1987 Beijing Normal; MS 1990 Beijing Normal; PHD 1998 Hokkaido

**HABIB, SHAHID**, Clinical Adjunct Instructor, Internal Medicine, 2005 (2005); MBBS 1987 Quaid-e-Azam

**HACKBARTH, STANLEY A.**, Clinical Adjunct Assistant Professor, Pediatrics, 1981 (1981); MD 1977 Iowa

**HADANY, LILACH**, Adjunct Assistant Professor, Department of Biology, 2005 (2005); BS 1996 Tel Aviv; MS 1997 Tel Aviv; PHD 2001 Tel Aviv

**HADE, JOEL EDWARD**, Clinical Adjunct Assistant Professor, Internal Medicine, 1995 (1995); MD 1983 Iowa

**HAES, AMANDA J.**, Assistant Professor, Chemistry, 2006 (2006); BA 1999 Wartburg; MS 2001 Northwestern; PHD 2004 Northwestern

**HAGARTY, BRADLEY TYLER**, Adjunct Instructor, Preventive & Community Dentistry, 1998 (1998); DDS 1994 Iowa

**HAGLE, TIMOTHY M.**, Associate Professor, Political Science, 1988 (1994); BA 1978 Michigan State; BS 1978 Michigan State; JD 1982 J D Cooley Law School; MA 1985 Michigan State; PHD 1988 Michigan State

**HAHN, OSCAR A.**, Emeritus Professor, Spanish & Portuguese, 1977 (1983); PHD 1963 Chile; MA 1972 Iowa; PHD 1977 Maryland

**HAINES, DON R.**, Emeritus Associate Professor, Music, 1974 (1978); BM 1959 Illinois Wesleyan; MM 1961 Eastman School of Music; DMA 1973 Rochester

**HAKES, THOMAS E.**, Clinical Adjunct Instructor, Internal Medicine, 1990 (1990); MD 1978 Iowa

**HALFDANARSON, THORVARDUR RAGNAR**, Clinical Assistant Professor, Internal Medicine, 2007 (2007); MD 1995

**HALL, DANIEL L.**, Emeritus Professor, Oral Path,Radiology&Medicine, (1997); DDS 1959 Iowa; MS 1974 Iowa

**HALL, DAVID MARK**, Adjunct Assistant Professor, Women's Studies, 2008 (2008); PHD 1997 Iowa

**HALL, DUANE D.**, Assistant Professor, Internal Medicine, 2009 (2009); PHD 2000 Wisconsin @Madison

**HALL, GERALDINE R.**, Adjunct Professor, Nursing, 1999 (2004); BS 1970 Temple; MA 1988 Iowa; PHD 1998 Iowa

**HALL, MARGARET S.**, Emeritus Associate Professor, Theatre Arts, 1951 (1974);

**HALL, MICHAEL**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations/Psychiatry, 2008 (2008); BS 1993 Guilford College; MA 1998 Kent State

**HALL, PENELOPE J.**, Emeritus Associate Professor, Communication Sciences and Disorders, 1968 (1991); BA 1965 Iowa; MA 1967 Iowa

**HALLISSEY, BRENDAN**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); AB 2002 Bowdoin College; BA 2002 Bowdoin; DMD 2006 Connecticut

**HALLMARK, SHAUNA**, Adjunct Associate Professor, Civil-Environmental Engineering, 2007 (2007); BS 1991 Brigham Young; MS 1996 Utah State; PHD 1999 Georgia Institute of Tech

**HALLORAN, CAROL ANNE**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); DDS 1989 Minnesota

**HALLORAN, VIVIEN JANIS OLSON**, Adjunct Assistant Professor, Nursing, 2008 (2008); BN 1987 Iowa; BSN 1987 University of Iowa; MA 1991 Iowa

**HALSTED, KELLY ANN**, Adjunct Lecturer, Marketing, 2009 (2009); MBA 2003 Nebraska

**HALTERMAN, TOM**, Adjunct Assistant Professor, Pharmacy, 2002 (2003); BS 1989 Iowa

**HAMBLY, BRYNN SARA**, Adjunct Instructor, Theatre Arts, 2008 (2008); BA 2002 Puget Sound

**HAMIEL, JOHN N.**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); BS 1985 Iowa; PHARM 1997 Iowa

**HAMILTON, DAVID B.**, Professor, English, 1975 (1982); AB 1961 Amherst; MA 1964 Virginia; PHD 1968 Virginia

**HAMILTON, GRANT**, Clinical Associate Professor, Otolaryngology-Head & Neck Surgery, 2005 (2010); MD 1999 Illinois

**HAMMOND, DONNA L.**, Professor, Anesthesia/Pharmacology, 2000 (2000); BS 1975 New York-Buffalo; PHD 1980 Illinois-Chicago

**HAMMOND, HAROLD L.**, Emeritus Professor, Oral Path,Radiology&Medicine, 1967 (1983); DDS 1962 Loyola; MS 1967 Chicago

**HAMOT, GREGORY EDWARD**, Professor, Teaching and Learning/International Programs, 1995 (2007); BA 1975 Northwestern; MA 1976 Ohio State; PHD 1995 Ohio State

**HAMRE-NIETUPSKI, S M.**, Emeritus Professor, Teaching and Learning, 1990 (1995); BS 1972 Wisconsin-Madison; MS 1974 Wisconsin-Madison; PHD 1978 Wisconsin-Madison

**HAN, ANTHONY TAE HYUNG**, Associate Professor, Anesthesia, 2006 (2006); MD 1985 Seoul National; PHD 2001 Catholic University

**HAN, WEIMIN**, Professor, Mathematics, 1991 (1999); BS 1983 Fudan-Shanghai; MS 1986 Academia Sinica-Beijing; PHD 1991 Maryland-College Park

**HAND, BRIAN**, Professor, Teaching and Learning, 2005 (2005); BS 1975 Flinders Univ; MS 1986 Curtin Univ; PHD 1993 Curtin Univ

**HAND, GREGORY**, Assistant Professor, Music, 2008 (2008); BM 1995 Northwestern; MM 2002 Univ of Michigan; DMA 2005 Michigan

**HAND, JED STEPHEN**, Professor, Preventive & Community Dentistry, 1982 (1994); BS 1967 Bowling Green; DDS 1970 Michigan; MHA 1980 Michigan

**HANISH, LYNN**, Adjunct Instructor, Pharmacy, 2007 (2007); BSPH 1980 North Dakota State



**HANLEY, PAUL F.**, Associate Professor, Civil-Environmental Engineering/Urban & Regional Planning/Public Policy Center, 1999 (2006); BSC 1988 Rutgers; MSE 1990 New Jersey Technology; MUP 1994 Illinois-Urbana; PHD 1999 Illinois-Urbana

**HANLEY, SARAH**, Emeritus Professor, International Programs/History/Law-Faculty, 1976 (1987); BA 1967 Pittsburgh; MA 1970 Iowa; PHD 1975 Iowa

**HANNA, EYAD MICHAEL**, Clinical Assistant Professor, Pediatrics, 2007 (2007); MD 2000 Washington

**HANNEMAN, CHAD RAYMOND**, Adjunct Assistant Professor, Family Dentistry, 2000 (2000); BA 1984 Iowa; DDS 1999 Iowa; CER 2000 Iowa

**HANNON, BARBARA JANE**, Clinical Adjunct Instructor, Nursing, 1999 (1999); BSN 1973 Iowa; MSN 1999 Iowa

**HANSDOTTIR, SIF**, Clinical Assistant Professor, Internal Medicine, 2008 (2010); MD 1998 Iceland

**HANSEL, JASON DANIEL**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2000 Iowa

**HANSELL, SVEN H.**, Emeritus Professor, Music, 1973 (1981); BFA 1956 Pennsylvania; MA 1958 Harvard; PHD 1966 Illinois

**HANSEN, CALVIN**, Clinical Adjunct Assistant Professor, Neurology, 2007 (2007); MD 1988 Nebraska Medical

**HANSEN, DANIEL L.**, Adjunct Instructor, Communication Sciences and Disorders, 2002 (2002); BS 1985 Northwest Missouri State; MS 1986 Nebraska-Lincoln

**HANSEN, DAVID CHRISTIAN**, Adjunct Assistant Professor, Endodontics, 2007 (2007); BS 1982 Iowa; DDS 1986 Iowa; MS 1996 Minnesota

**HANSEN, GARY F.**, Emeritus Associate Professor, Health, & Sport Studies/Teaching and Learning, 1962 (1969); BA 1957 Iowa; MA 1959 Iowa; PHD 1964 Iowa

**HANSEN, JOHN HUNTING**, Adjunct Assistant Professor, Art & Art History, 2008 (2008); BFA 2005 Utah State; MFA 2008 Iowa

**HANSEN, MARLAN REX**, Associate Professor, Otolaryngology-Head & Neck Surgery, 2003 (2009); BS 1990 Brigham Young; MD 1994 Chicago, Pritzker

**HANSEN, MARY MINCER**, Adjunct Associate Professor, Nursing, 2004 (2004); BSN 1970 Creighton; MS 1981 Texas Women's UNI; PHD 1993 Iowa State

**HANSEN, SARAH LUX**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 2001 (2008); BA 1990 Iowa; MA 1992 Iowa

**HANSING, MARK**, Adjunct Lecturer, Law-Faculty, 2003 (2003); BA 1978 LUTHER COLLEGE, IOWA; JD 1981 IOWA

**HANSON, DANIEL HERBERT**, Adjunct Assistant Professor, Mechanical Engineering, 2005 (2005); BS 1979 Illinois; MS 1998 Iowa; PHD 2004 Iowa

**HANSON, DAVID H.**, Clinical Adjunct Assistant Professor, Family Medicine, 1990 (1990); MD 1978 Iowa

**HANSON, DIANA O.**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BS 1988 Iowa; MS 1990 Madison

**HANSON, DOUGLAS LEE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); MD 1997 Iowa

**HANSON, JAMES W.**, Emeritus Professor, Epidemiology/Pediatrics, 1976 (1984);

**HANSON, KATHLEEN**, Adjunct Associate Professor, Nursing, 2002 (2002); BSN 1970 St. Teresa; MA 1971 Washington; PHD 1988 Iowa

**HARATA, NOBUTOSHI CHARLES**, Assistant Professor, Physiology, 2007 (2007); MD 1987 Tohoku, Sendai Japan; PHD 1991 Tohoku, Sendai, Japan

**HARB, NIDAL H.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1991 (2002); MD 1980 Leningrad

**HARDIN, RICHARD A.**, Adjunct Associate Professor, Mechanical Engineering, 1994 (2003); BS 1986 Kansas; MS 1988 Kansas; PHD 1994 Kansas

**HARDT, HANNO R.**, Emeritus Professor, Communication Studies/Journalism & Mass Communication, 1968 (1974); MA 1963 Southern Illinois; PHD 1967 Southern Illinois

**HARDY-FAIRBANKS, ABBEY JOY**, Clinical Assistant Professor, Obstetrics & Gynecology, 2010 (2010); BA 2002 Colorado; MD 2006 Creighton

**HARET, DENISA M.**, Clinical Assistant Professor, Anesthesia, 2009 (2009); DMS 1992 Gr. T. Popa Univ of Med

**HARMS, BETH ELAINE**, Adjunct Instructor, Social Work, 2007 (2007); BSW 1973 Northern Iowa; MSW 1997 Nebraska-Omaha

**HARMS, DIXIE LEE**, Clinical Adjunct Instructor, Nursing, 2010 (2010); BSN 1986 Drake; MSN 1993 Drake; DNP 2009 Iowa

**HARMS, LUCINDA M.**, Adjunct Assistant Professor, Pharmacy, 1996 (1996); BS 1983 Iowa

**HARPER, DENNIS CARLIN**, Professor, Teaching and Learning/Health Management & Policy/Pediatrics/Counseling, Rehab & Stu Dev, 1972 (1985); BA 1964 Augustana; MA 1966 Iowa; PHD 1972 Iowa

**HARPER, FREEMAN J.**, Lecturer, Communication Sciences and Disorders, 2001 (2001); MA 1984 New York

**HARPER, JOHN BRAMMER**, Emeritus Assistant Professor, English, 1976 (1982); BA 1962 Stanford; MBA 1966 Iowa

**HARRELL, SUSAN**, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); MD 1984 Texas

**HARRINGTON, JEANETTE**, Clinical Assistant Professor, Anesthesia, 1990 (1997); BS 1975 Minnesota-Duluth; MD 1983 Minnesota-Minneapolis

**HARRIS, ANN**, Adjunct Instructor, Preventive & Community Dentistry, 2003 (2003); BS 1977 Iowa; DDS 1984 Iowa

**HARRIS, DEBORAH J.**, Adjunct Assistant Professor, Psych & Quant Foundations, 1987 (1987); BS 1977 Central Michigan; MA 1979 Central Michigan; PHD 1983 Wisconsin-Madison

**HARRIS, ERIN LEAH**, Adjunct Assistant Professor, Division of Interdisciplinary Program, 2009 (2009); BA 1996 Waterloo; MFA 2009 Iowa

**HARRIS, JAMES M.**, Adjunct Assistant Professor, Family Dentistry, 2004 (2007); BS 1976 Iowa; DDS 1979 Iowa

**HARRIS, KATHERINE IRENE**, Clinical Assistant Professor, Internal Medicine, 2010 (2010); MD 2007 Iowa

**HARRIS, MARK M.**, Adjunct Lecturer, College Transition, 2010 (2010); MS 1985 Ohio State; PHD 1987 Ohio State

**HARRIS, MARK JAMES**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1997 Creighton

**HARRIS, WYND DESHAW**, Adjunct Assistant Professor, Marketing, 2010 (2010); PHD 1989 Oklahoma

**HART, AMY LOUISE**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARM D 2010 Creighton

**HART, EMILY ANNE**, Adjunct Instructor, Communication Sciences and Disorders, 1996 (1996); MA 1991 Iowa

**HART, KEVIN M.**, Adjunct Instructor, Family Dentistry, 2005 (2005); DDS 2005 Iowa

**HART, LAURA K.**, Emeritus Associate Professor, Nursing, 1972 (1972);

**HART, ROY ALDEN**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 2009 (2009); AA 1973 Grand View; BA 1975 Drake; DO 1978 Des Moines

**HART, TIMOTHY T.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1981 Iowa

**HARTLEY, CAROLYN**, Associate Professor, Social Work, 1993 (2003); BS 1986 Loyola; MA 1988 Chicago; PHD 1995 Chicago

**HARTLEY, PATRICK GERARD**, Clinical Professor, Internal Medicine/Occupational & Environmental Health, 1994 (2006); MBBS 1985 University College-Dublin; MPH 2000 Iowa

**HARTMAN, ROBERT JOHN**, Lecturer, Accounting, 1999 (1999); BS 1975 Pennsylvania State; MAC 1998 Iowa

**HARTMAN, SALLY ANN**, Adjunct Assistant Professor, Psych & Quant Foundations, 2008 (2008); MSW 1975 Wisconsin; SCB 1975 Wisconsin; PHD 2002 Iowa

**HARTS, KRISTIN L.**, Clinical Adjunct Instructor, Internal Medicine, 2005 (2005); MD 1997 Nebraska

**HARTSON, JOHN NAMON**, Adjunct Assistant Professor, Psychiatry, 1996 (1996); PHD 1983 Iowa

**HARTWIG, AMY CHRISTINA**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1999 Iowa

**HARTY, JOHN**, Professor, Pathology/Microbiology, 1993 (2003); BS 1980 Minnesota; PHD 1989 Minnesota

**HARTZ, ARTHUR J.**, Emeritus Professor, Family Medicine, 1997 (1997); BA 1966 Swathmore College; PHD 1974 Johns Hopkins; MD 1982 Medical Col of Wisconsin

**HARVEY, BRIEN V.**, Adjunct Assistant Professor, Periodontics, 1983 (1983); DDS 1981 Iowa

**HARVEY, HAYLEY L.**, Adjunct Instructor, Preventive & Community Dentistry, 2001 (2001); DDS 1994 Iowa

**HARVEY, JOHN H.**, Emeritus Professor, Psychology, 1986 (1986); BS 1968 South Carolina; MA 1970 Missouri; PHD 1971 Missouri

**HARVEY, ROGER LEE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2006 (2006); BS 1979 Iowa; DO 1983 Osteopathic Medicine

**HASAN, ALI MAJED**, Assistant Professor, Philosophy, 2008 (2008); BA 2001 Washington; MA 2005 Washington; PHD 2008 Washington

**HASAN, DAVID**, Assistant Professor, Neurosurgery, 2008 (2009); BS 1995 Dallas Baptist, Texas; MD 2000 Texas Tech

**HASKINS, MOTIER FREDRICK**, Clinical Assistant Professor, College Transition/Social Work, 2008 (2008); MSW 1983 Syracuse

**HATA, JOHN STEVEN**, Clinical Professor, Anesthesia, 1987 (2007); MD 1980 Missouri-Columbia

**HATA, TARA MYERLY**, Clinical Associate Professor, Anesthesia, 1991 (2003); BS 1982 Iowa; MD 1987 Iowa

**HATCHER, WILLIAM B.**, Emeritus Professor, Music, 1987 (1987); BME 1957 Nebraska-Lincoln; MMUS 1960 Nebraska-Lincoln

**HATEMI, PETER**, Assistant Professor, Political Science, 2009 (2009); BS 1999 West Virginia; MA 2004 Nebraska; PHD 2007 Nebraska

**HAUG, EDWARD J.**, Emeritus Professor, Mechanical Engineering, 1968 (1976); BS 1962 Missouri; MS 1964 Kansas State; PHD 1966 Kansas State

**HAUGEN, ALICE BORDWELL FULTON**, Emeritus Professor, Biochemistry, 1981 (1993); BS 1973 Brown; PHD 1977 Brown

**HAUGEN, DOUGLAS ALLEN**, Assistant Professor, Military Science, 2010 (2010); BA 1990 Mass

**HAUGEN, ERIC**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); BS 1995 Drake; MD 2000 North Dakota

**HAUGEN, THOMAS H.**, Associate Professor, Pathology, 1990 (1997); BA 1971 California-Berkeley; PHD 1976 California-Davis; MD 1983 Iowa

**HAUGLAND, ANN BERET**, Lecturer, Journalism & Mass Communication, 2002 (2005); BA 1974 Carleton; MA 1986 Minnesota; PHD 1992 Iowa

**HAUGLAND, FRANK N.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2001); BS 1980 Iowa; MD 1987 Iowa; PHD 1987 Iowa

**HAUPERT, CHRISTOPHER L.**, Clinical Adjunct Assistant Professor, Ophthalmology & Visual Science, 2005 (2005); BA 1989 Luther College; MD 1994 Iowa

**HAUSER, DIANE MARIE**, Adjunct Lecturer, College Transition, 2003 (2003); BA 1982 Iowa; MED 1993 Towson State

**HAUSER, JAMES P.**, Adjunct Associate Professor, Industrial Engineering, 2007 (2007); PHD 1974 Colorado

**HAUSER, SCOTT RICHARD**, Adjunct Lecturer, Management & Organizations, 2005 (2005); MBA 1993 Northern Iowa

**HAUSERMAN, NANCY RUSSELL**, Professor, Law-Faculty/Management & Organizations, 1977 (1995); BA 1971 Rhode Island; JD 1976 Iowa

**HAUSLER, WILLIAM J.**, Emeritus Professor, Occupational & Environmental Health/Oral Path,Radiology&Medicine, 1958 (1990); BA 1951 Kansas; MA 1953 Kansas; PHD 1958 Kansas

**HAUSMAN-MILLER, BRENDA**, Adjunct Instructor, Preventive & Community Dentistry, 2006 (2006); DDS 2002 Iowa

**HAVENS, TIMOTHY JOHN**, Associate Professor, Communication Studies/African-American Studies, 2003 (2008); BA 1990 Wisconsin; MA 1994 George Mason; DPHIL 2000 Indiana

**HAWKINS, BENNY F.**, Emeritus Associate Professor, Periodontics, 1978 (1978); BS 1952 Morehouse; DDS 1958 Meharry; MS 1972 Iowa

**HAWKINS, RONNIE**, Clinical Adjunct Assistant Professor, Family Medicine, 1990 (2002); MD 1980 Iowa

**HAWLEY, CLIFFORD B.**, Adjunct Professor, Accounting, 2009 (2009); PHD 1977 Duke

**HAWLEY, ELLIS W.**, Emeritus Professor, History, 1969 (1969);

**HAWTREY, CHARLES E.**, Emeritus Professor, Urology, 1969 (1977); BA 1957 Grinnell; MD 1961 Iowa

**HAYAKAWA, MINAKO**, Clinical Assistant Professor, Radiology/Neurology, 2003 (2003); MD 1990 ST MARIANNA, JAPAN

**HAYCRAFT, EDWIN J.**, Adjunct Instructor, Social Work, 2007 (2007); BSW 2001 Iowa; MSW 2003 Iowa

**HAYES, GREG W.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1989 Baylor; MD 1993 Texas-Galveston

**HAYES, JOY**, Associate Professor, Communication Studies, 1994 (2000); BA 1987 Reed; MA 1988 California-San Diego; PHD 1994 California-San Diego

**HAYNES, MELISSA JEAN**, Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); BA 2002 Coe College; PHD 2009 Iowa

**HAYNES, WILLIAM G.**, Professor, Internal Medicine/Inst for Clinical and Translational Science, 1995 (2000); BSC 1981 Sheffield - UK; MBCHB 1984 Sheffield - UK

**HAYREH, SOHAN S.**, Emeritus Professor, Ophthalmology & Visual Science, 1973 (1973); MBBS 1951 Punjab-India; MS 1959 Punjab-India; PHD 1965 London-England; DSC 1987 London-England

**HAZELTINE, RICHARD ELIOT**, Associate Professor, Psychology, 2003 (2009); BA 1990 Harvard; PHD 1997 California

**HAZELTON, LISA M.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1987 Louisville Medical

**HEALD, WILLIAM SMITH**, Adjunct Assistant Professor, Philosophy, 1980 (1990); PHD 1984 Iowa

**HEALY, ALFRED**, Emeritus Professor, Teaching and Learning/Pediatrics, 1967 (1980); BS 1956 Nortre Dame; MA 1957 Iowa; MD 1963 Iowa

**HEBL, LISA MARIE**, Adjunct Instructor, Preventive & Community Dentistry, 1999 (1999); BS 1982 Iowa

**HECKEL, PHILIP H.**, Professor, Geoscience, 1971 (1978); BA 1960 Amherst; PHD 1966 RICE

**HEDDENS, HEATHER B.**, Adjunct Associate Professor, Family Dentistry, 1987 (2000); DDS 1980 Iowa

**HEDDINGER, STEVEN P.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2004 (2004); BS 1991 Notre Dame; MD 1995 Iowa

**HEDGCOCK, WILLIAM MCCASKILL**, Assistant Professor, Marketing, 2008 (2008); BA 1996 Macalester; PHD 2008 Minnesota

**HEFFNER, RAY L.**, Emeritus Professor, English, 1963 (1963); AB 1948 Yale; PHD 1953 Yale; PHD 1966 Franklin; DBA 1967 Bryant; PHD 1967 Rhode Island

**HEGEMAN, REBECCA LEA**, Clinical Associate Professor, Internal Medicine, 1993 (1999); BSN 1977 Iowa; MD 1986 Iowa

**HEGMANN, JOSEPH P.**, Emeritus Professor, Department of Biology, 1968 (1977); BS 1962 Illinois; MS 1965 Illinois; PHD 1968 Illinois

**HEGMANN, THERESA ELAINE**, Clinical Associate Professor, Physician Assistant, 2001 (2007); BS 1987 Iowa; BS 1991 Iowa; MPAS 1999 Nebraska

**HEHR, NATHAN J.**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); DDS 1993 Iowa

**HEIDEL, RICHARD M.**, Associate Professor, Music, 2008 (2008); BME 1986 Texas Tech; MM 1989 Texas Tech; EDD 1999 Illinois

**HEIDGER, PAUL M.**, Professor, Anatomy & Cell Biology, 1974 (1979); BA 1963 Northern Colorado; PHD 1967 Tulane

**HEIMER, KAREN**, Professor, Sociology/Women's Studies/Public Policy Center, 1991 (2006); BA 1981 Florida Atlantic; MA 1984 Wisconsin-Madison; PHD 1989 Wisconsin-Madison

**HEIN, HERMAN A.**, Emeritus Professor, Epidemiology/Pediatrics, 1973 (1981); BA 1959 Wartburg; MD 1963 Iowa

**HEINEMAN, ELIZABETH DIAN**, Associate Professor, History/International Programs, 1999 (1999); BA 1985 Oberlin; MA 1988 North Carolina; PHD 1993 North Carolina

**HEINER, ANNELIESE D.**, Adjunct Assistant Professor, Biomedical Engineering, 2001 (2001); BS 1990 Michigan; MS 1992 Case Western Reserve; PHD 1995 Case Western Reserve

**HEINICHEN, TERESA**, Adjunct Lecturer, Marketing, 2004 (2004); BS 1976 Cornell; MBA 1983 Cornell

**HEISTAD, DONALD**, Professor, Pharmacology/Internal Medicine, 1970 (1976); BS 1959 Chicago; MD 1963 Chicago

**HELL, JOHANNES W.**, Adjunct Professor, Pharmacology, 2001 (2007); MS 1987 Tubingen; PHD 1991 Munich

**HELLSTEIN, JOHN W.**, Clinical Professor, Oral Path,Radiology&Medicine, 2002 (2002); BA 1977 Missouri-Kansas City; DDS 1991 Missouri-Kansas City; MS 1991 Iowa

**HELMAN, DAVID NATHAN**, Assistant Professor, Cardiothoracic Surgery, 2006 (2006); BS 1988 Illinois @ Champaign; MS 1990 California @ Berkeley; MD 1995 Harvard

**HELMS, CHARLES M.**, Professor, Health Management & Policy/Internal Medicine, 1976 (1991); BA 1964 Cornell; PHD 1969 Rochester; MD 1971 Rochester

**HELMS, LELIA BIGGS**, Professor, Educ Policy & Leadership Studies, 1979 (1993); BA 1964 Sarah Lawrence; MA 1966 Tufts; PHD 1968 Tufts; JD 1984 Iowa

**HEMANN, LYNDA LORRAINE**, Adjunct Assistant Professor, Internal Medicine, 2009 (2009); MD 1998 Iowa Carver COM

**HEMERSON, PHYLLIS I.**, Clinical Assistant Professor, Pharmacy, 2007 (2008); PHARMD 2007 Iowa

**HEMLEY, ROBIN**, Professor, English, 2004 (2004); BA 1980 Bloomington, IN; MFA 1982 Iowa

**HENDERSON, SALLY JEAN**, Adjunct Assistant Professor, Counseling,Rehab & Stu Dev, 2000 (2000); BA 1971 North Dakota; MA 1973 North Dakota; PHD 1999 Iowa

**HENDERSON, SCOTT THOMAS**, Clinical Adjunct Associate Professor, Family Medicine, 2003 (2003); BA 1983 Missouri; MD 1984 Missouri

**HENDRICKS, JANIE C.**, Clinical Adjunct Instructor, Internal Medicine, 2000 (2000); DO 1992 Osteopathic-Des Moines

**HENDRICKSON, JO M.**, Professor, Teaching and Learning, 1989 (1996); BA 1969 Wisconsin-Madison; MA 1971 Wisconsin-Madison; PHD 1977 George Peabody

**HENDRIX, JAMES ALTON**, Clinical Adjunct Assistant Professor, Pediatrics, 1977 (1980); MD 1974 Iowa

**HENDRIX, MARY**, Adjunct Professor, Anatomy & Cell Biology, 1996 (1996); BS 1974 Shepherd; PHD 1977 George Washington

**HENDRIX, STEPHEN D.**, Professor, Department of Biology, 1975 (1994); BS 1969 Florida State; PHD 1975 California-Berkeley

**HENFIELD, MALIK S.**, Assistant Professor, Counseling,Rehab & Stu Dev, 2005 (2006); BS 1998 Francis Marion; MED 2002 South Carolina; EDS 2002 South Carolina; PHD 2006 Ohio State

**HENGST, JOAN M.**, Clinical Adjunct Instructor, Nursing, 2009 (2009); BSN 1983 Oklahoma; MN 2001 Rush

**HENKIN, ALAN B.**, Professor, Educ Policy & Leadership Studies, 1975 (1985); BS 1962 Alabama; MA 1963 Alabama; PHD 1967 Alabama; PHD 1972 Wisconsin

**HENNING, CHRISTOPHER LEE**, Instructor, Military Science, 2009 (2009);

**HENRY, KATHRYN**, Adjunct Associate Professor, International Programs, 2006 (2006); PHD 1990 Stanford

**HENRY, MICHAEL DARRIN**, Associate Professor, Physiology/Pathology, 2003 (2003); BS 1989 Georgia; PHD 1995 M.I.T.

**HENRY, PATRICK H.**, Clinical Adjunct Professor, Internal Medicine, 2005 (2005); MD 1958 Kansas

**HENRY, SUZANNE**, Clinical Adjunct Assistant Professor, Pediatrics, 2009 (2009); MD 1962 Duke

**HENSLEY, DAVID KEITH**, Clinical Professor, Management & Organizations, 2000 (2006); BS 1986 Iowa; MBA 1992 Missouri-Kansas City

**HENSLEY, MARY L FLOYD**, Adjunct Lecturer, Health Management & Policy, 1994 (1994); AS 1983 State of New York; BBA 1985 Iowa; MAC 1998 Iowa

**HERING, ROBERT G.**, Emeritus Professor, Mechanical Engineering, 1971 (1971); BSME 1956 Illinois; MSME 1958 Southern California; PHD 1961 Purdue

**HERLITZKA, ALFRED J.**, Emeritus Associate Professor, Surgery, 1974 (1985);

**HERMAN, ELLEN**, Clinical Professor, Teaching and Learning, 2000 (2010); BS 1972 Northern Illinois; MS 1976 Western Illinois; PHD 1990 Iowa

**HERMAN, RONALD ALTON**, Clinical Professor, Pharmacy, 1990 (2010); BSPH 1976 Iowa; MS 1978 Iowa; PHD 1992 Iowa

**HERMAN, TED**, Professor, Computer Science, 1991 (2008); BS 1975 Nebraska; PHD 1991 Texas-Austin

**HERMANSON, PAUL**, Adjunct Assistant Professor, Orthodontics, 2002 (2002); DDS 1971 Iowa; MS 1975 Iowa

**HERNANDEZ, MARIA MARCELA**, Clinical Assistant Professor, Operative Dentistry, 2003 (2003); DIP 1983 Gimnasio Femenino; DDS 1988 Javeriana; MS 2001 Iowa

**HEROLD, DAVID ANDREW**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BSPH 1992 Iowa

**HERR, CHERYL T.**, Professor, Cinema & Comparative Literature/International Programs/English, 1985 (1994); BA 1971 Duke; MA 1974 North Carolina; PHD 1978 North Carolina

**HERR, KEELA**, Professor, Nursing, 1987 (2001); BSN 1976 Northeast Missouri; MSN 1977 Texas-Austin; PHD 1986 Texas-Austin

**HERSHBERGER, LARRY**, Lecturer, Finance, 2003 (2003); BBA 1966 Iowa

**HERVIG, RICHARD B.**, Emeritus Professor, Music, 1947 (1963); BA 1939 Augustana; MA 1941 Iowa; PHD 1947 Iowa

**HERWALDT, LOREEN A.**, Professor, Internal Medicine/Epidemiology, 1987 (2002); BA 1973 Grinnell; MD 1977 Wisconsin

**HERWIG, STEVEN R.**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 1997 (1997); DO 1976 Des Moines Osteopathic

**HERZFELDT, RICHARD R.**, Adjunct Assistant Professor, Family Dentistry, 2009 (2009); BA 1971 Augustana; BS 1973 Illinois; DDS 1975 Illinois

**HESLER, SEAN**, Adjunct Lecturer, College Transition, 2004 (2004); AA 1991 Southeastern Community; BS 1993 Western Illinois; MS 1996 Central Missouri State

**HESLI, VICKI LYNN JOHNSON**, Professor, Political Science/International Programs, 1989 (2002); BA 1974 Minnesota; PHD 1985 Minnesota

**HESSON, WILLIAM WAYNE**, Adjunct Professor, Health Management & Policy, 1984 (2005); BS 1971 Iowa; BA 1971 Iowa; JD 1979 Iowa

**HESTER, DAVID J.**, Adjunct Instructor, Pharmacy, 2005 (2005); BSPH 1998 Drake

**HETHCOTE, HERBERT W.**, Emeritus Professor, Mathematics, 1969 (1979); BS 1964 Colorado; MA 1965 Michigan; PHD 1968 Michigan

**HETRICK, AMY SUE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2001 Iowa

**HETTMANSPERGER, SUE E.**, Professor, Art & Art History, 1977 (1994); BFA 1972 New Mexico; MFA 1974 New Mexico

**HEUSEL, JONATHAN W.**, Assistant Professor, Pathology, 2002 (2002); BS 1987 Nebraska; PHD 1995 Washington; MD 1995 Washington

**HEYING, JAMIE JOHN**, Adjunct Assistant Professor, Family Dentistry, 2010 (2010); DDS 2005 Iowa

**HEYEN, JAMES**, Adjunct Associate Professor, General University College, 2010 (2010); BED 1961 Calvin College; MA 1965 University of Iowa; MFA 1972 University of Oregon

**HICHWA, RICHARD DANIEL**, Professor, Physics & Astronomy/Radiation Oncology/Radiology, 1988 (2003); BS 1975 Notre Dame; MS 1977 Wisconsin-Madison; PHD 1981 Wisconsin-Madison

**HICKLIN, GREGORY A.**, Clinical Adjunct Associate Professor, Internal Medicine, 1986 (2001); MD 1976 Iowa

**HIEBER, ROBIN**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BA 2000 Michigan; PHARMD 2005 Michigan

**HIGHLAND, PATRICK J.**, Adjunct Lecturer, Management & Organizations, 2004 (2004); MS 1980 Illinois State; MS 1986 Illinois State; PHD 1993 Iowa

**HILAND, KIRK SWEITZER**, Adjunct Lecturer, Management & Organizations, 2006 (2006); BBA 1976 Iowa

**HILGERSON, ALAN DEAN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); BA 1994 Iowa; DO 1998 Osteopathic Med DM, IA

**HILL, ELIZABETH ANN**, Adjunct Assistant Professor, Teaching and Learning, 1995 (1995); PHD 1990 Iowa

**HILL, LENA MICHELLE**, Assistant Professor, English/African-American Studies, 2006 (2006); BA 1997 Howard; AB 1997 Howard; PHD 2005 Yale

**HILL, MATTHEW LARRY**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); BA 1994 Northern

Iowa; DO 2000 Des Moines, IA

**HILL, MATTHEW E.**, Assistant Professor, Anthropology, 2007 (2008); BA 1990 Boston; MA 1994 Kansas; PHD 2007 Arizona

**HILL, MICHAEL**, Assistant Professor, English/African-American Studies, 2006 (2006); BA 1993 Howard; MA 1995 Harvard; PHD 2004 Harvard

**HILL, TRACY ANN**, Adjunct Instructor, Preventive & Community Dentistry, 2000 (2000); BS 1983 Iowa

**HILLIS, STEPHEN LAWRENCE**, Adjunct Assistant Professor, Biostatistics, 1995 (1995); BA 1972 Iowa; MFA 1978 Iowa; MS 1982 Iowa; PHD 1987 Iowa

**HIMMELREICH, LYNNE D.**, Clinical Assistant Professor, Obstetrics & Gynecology, 2007 (2009); MPH 1995 Boston

**HINDE, TIMOTHY ROBERT**, Adjunct Assistant Professor, Family Dentistry, 2006 (2006); DDS 1976 Illinois

**HINDES, CHARLES A.**, Emeritus Professor, Art & Art History, 1973 (1985); BFA 1966 Illinois; MFA 1968 Rhode Island School of Design

**HINDMAN, BRADLEY J.**, Professor, Anesthesia, 1988 (2002); BA 1978 Oregon; MD 1982 Oregon Health Sciences

**HINE, BEVERLY KITTRELL**, Adjunct Instructor, Nursing, 2004 (2004); BSN 1980 New York@Albany; MPH 1993 Loma Linda

**HINES, JOHN DAVID**, Clinical Adjunct Assistant Professor, Internal Medicine, 2006 (2006); BA 1980 Simpson; DO 1989 Des Moines

**HINES, N WILLIAM**, Professor, Law-Faculty, 1962 (1967); AB 1958 Baker; LLB 1961 Kansas

**HINGSTMAN, DAVID**, Associate Professor, Communication Studies, 1995 (2002); BA 1975 Princeton; JD 1978 Harvard; PHD 1990 Northwestern

**HINGTGEN, RICHARD J.**, Adjunct Associate Professor, Family Dentistry, 1978 (1983); BS 1953 Loras; DDS 1957 Iowa

**HINKHOUSE, JAY JAMES**, Clinical Adjunct Assistant Professor, Pediatrics, 2008 (2008); MD 1989 Nebraska

**HINTON, CAROL**, Adjunct Instructor, Nursing, 1999 (1999); MS 1994 St Francis

**HIRSCH, NORMA J.**, Clinical Adjunct Assistant Professor, Pediatrics, 1980 (1980); MD 1970 Iowa

**HIRSCH-GILLER, BARBARA**, Adjunct Instructor, Social Work, 2003 (2003); BA 1998 Simpson; MSW 2001 Iowa

**HITCHON, PATRICK**, Professor, Biomedical Engineering/Neurosurgery, 1980 (1989); BS 1969 American University of Beirut; MD 1974 American University of Beirut

**HITLIN, STEVEN**, Assistant Professor, Sociology, 2005 (2005); BA 1996 William and Mary; MA 1999 Wisconsin; PHD 2003 Wisconsin

**HLEBOWITSH, PETER S.**, Professor, Teaching and Learning, 1993 (2001); BA 1981 Rutgers; MED 1983 Rutgers; EDD 1987 Rutgers

**HO, BENG CHOON**, Associate Professor, Psychiatry, 1999 (2005); MD 1989 Singapore

**HOAG, SHYRL ANN**, Lecturer, Nursing, 2007 (2007); MSN 2008 Clarke College

**HOBALLAH, JAMAL JAWAD**, Professor, Surgery, 1991 (2002); BS 1976 Amer Univ of Beirut-Lebanon; MD 1981 Amer Univ of Beirut-Lebanon

**HOBBS, JACOB WARREN**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARM D 2010 South Dakota State

**HOBBS, RYAN ALAN**, Adjunct Assistant Professor, Pharmacy, 1997 (2003); BS 1990 Iowa; BSPH 1990 Iowa

**HOCHSTRASSER, JULIE B.**, Associate Professor, Art & Art History/International Programs, 1998 (2004); BA 1976 Swarthmore; MA 1984 Berkeley; PHD 1995 Berkeley

**HOCKENBERRY, JASON**, Assistant Professor, Health Management & Policy, 2008 (2008); BS 2002 Kutztown; PHD 2008 Lehigh

**HODGSON, ROBERT A.**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BA 2000 Iowa; JD 2003 Iowa

**HODGSON-ZINGMAN, DENICE**, Assistant Professor, Internal Medicine/Biomedical Engineering, 2006 (2006); BSE 1989 Johns Hopkins; MSE 1992 Johns Hopkins; MD 1996 Johns Hopkins

**HOEHNS, JAMES DEWEY**, Clinical Associate Professor, Pharmacy, 1995 (2004); BSPH 1992 Iowa; PHARMD 1994 Iowa

**HOENICKE-MOORE, MICHAELA**, Assistant Professor, History/International Programs, 2007 (2008); MA 1989 N. Carolina, Chapel Hill; PHD 1998 N. Carolina, Chapel Hill

**HOENIG, KELLY CHRISTINE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2003 Iowa

**HOEPPNER, TODD ROGER**, Adjunct Assistant Professor, Pediatric Dentistry, 2001 (2001); DDS 1999 Iowa

**HOFFMAN, ERIC**, Professor, Radiology/Biomedical Engineering/Internal Medicine, 1992 (1996); BA 1974 Antioch; PHD 1981 Minnesota

**HOFFMAN, HENRY T.**, Professor, Otolaryngology-Head & Neck Surgery/Radiation Oncology, 1990 (2000); BA 1976 South-Tennessee; MD 1980 California-San Diego

**HOFFMAN, VALERIE FORMAN**, Adjunct Assistant Professor, Internal Medicine/Epidemiology, 2004 (2004); BA 1996 Lehigh; MPH 1999 Yale; PHD 2002 John Hopkins

**HOFFMANN, DARREN SAMUEL**, Lecturer, Anatomy & Cell Biology, 2006 (2006); BA 2000 Concordia; PHD 2006 Iowa

**HOFFMANN, JEFFREY J.**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (2002); BS 1976 Loras; DO 1984 Osteopathic Medicine-Des Moines

**HOFFMANN, LOUIS G.**, Emeritus Professor, Microbiology, 1964 (1973); BA 1953 Wesleyan; MS 1958 Johns Hopkins; SCD 1960 Johns Hopkins

**HOGAN, JEAN T.**, Clinical Adjunct Instructor, Nursing, 2001 (2001); MSN 2002 Iowa

**HOGAN, MICHAEL JOSEPH**, Emeritus Professor, History, 2004 (2004); BA 1965 Northern Iowa; MA 1967 Iowa; PHD 1974 Iowa

**HOGENSON, MARK ALLEN**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1972 Iowa; MD 1976 Iowa

**HOGG, ROBERT V.**, Emeritus Professor, Statistics & Actuarial Science, 1948 (1962); BA 1947 Illinois; MS 1948 Iowa; PHD 1950 Iowa

**HOHL, RAYMOND J.**, Professor, Internal Medicine/Pharmacology, 1991 (2000); BS 1978 Illinois; MD 1984 Rush

**HOKOMOTO, AMI T.**, Adjunct Lecturer, Marketing, 2008 (2008); BBA 1998 Iowa; MBA 2004 Iowa

**HOLBROOK, MARK ANDREW**, Lecturer, Division of Interdisciplinary Program/Social Work/Department of Biology, 1999 (2002); PHD 1998 Iowa

**HOLLAND, RANDY J.**, Adjunct Lecturer, Law-Faculty, 2006 (2006); BA 1969 Swarthmore; JD 1972 Pennsylvania Law; LLM 1998 Virginia Law

**HOLLINGWORTH, ANDREW R.**, Associate Professor, Psychology, 2002 (2006); BA 1988 Chicago; MED 1992 Harvard; PHD 2000 Michigan State

**HOLLINGWORTH, LIZ**, Assistant Professor, Educ Policy & Leadership Studies, 2006 (2006); BA 1992 UCLA ; MS 1994 Northwestern; PHD 2005 Iowa

**HOLLINS, GEORGE**, Adjunct Lecturer, Management Sciences, 2010 (2010); BS 1981 Iowa State; BS 1987 Upper Iowa; MA 2007 St Ambrose

**HOLLY JR, FORREST M.**, Emeritus Professor, Civil-Environmental Engineering, 1982 (1990); BS 1968 Stanford; MS 1969 Washington; PHD 1975 Colorado State

**HOLM, ADRIAN NATHAN**, Clinical Assistant Professor, Internal Medicine, 2010 (2010); BA 1997 Luther; MD 2004 Des Moines

**HOLM, ERIC J.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); BA 1999 Central College; MD 2003 Iowa

**HOLM, LLOYD DAVID**, Clinical Adjunct Associate Professor, Obstetrics & Gynecology, 2009 (2009); BA 1975 Olivet, MI; DO 1980 Midwestern, Downers Grove

**HOLMAN, HANNAH**, Lecturer, Music, 2002 (2002); BM 1991 Michigan State; MM 1993 New England Conservatory

**HOLMES, DAVID CHARLES**, Professor, Family Dentistry, 2004 (2010); BS 1973 Iowa; DDS 1978 Iowa; MS 1991 Iowa



**HOLSTEIN, JAY A.**, Professor, Religion, 1970 (1982); BA 1960 Temple; MA 1966 Hebrew Union; PHD 1970 Hebrew Union

**HOLSTEIN, SARAH ABIGAIL**, Assistant Professor, Internal Medicine, 2010 (2010); BA 1997 IOWA

**HOLTE, LENORE ANN**, Clinical Professor, Communication Sciences and Disorders/Pediatrics, 1998 (2007); BS 1977 Minnesota; MA 1979 Minnesota; PHD 1989 Syracuse

**HOLTON, NATHAN EUGENE**, Adjunct Assistant Professor, Anthropology, 2010 (2010); MA 2002 Northern Illinois; PHD 2009 Iowa

**HOLTSMARK, ERLING BENT**, Emeritus Professor, Classics, 1963 (1982); BA 1959 California-Berkeley; PHD 1963 California-Berkeley

**HOLZAEFEL, NORMAN R.**, Emeritus Associate Professor, Integrative Physiology, 1948 (1961);

**HOMOLKA, DAVID JON**, Adjunct Lecturer, General University College, 2004 (2004); BS 1998 Minnesota State; MA 2001 South Dakota

**HONEY, REX D.**, Professor, Geography, 1974 (2001); BA 1967 Calif-Riverside; MA 1969 Minnesota; PHD 1972 Minnesota

**HONG, LIU**, Associate Professor, Prosthodontics, 2009 (2009); MD 1990 Shanghai Second Medical; MS 1993 Shanghai Second Medical; PHD 2000 Koyota

**HONG, SANDY D.**, Clinical Assistant Professor, Pediatrics, 2007 (2007); MD 2001 California

**HOOD, ALBERT B.**, Emeritus Professor, Counseling, Rehab & Stu Dev, 1965 (1965); BA 1951 New Hampshire; EDD 1957 Cornell

**HOOD, MARGIE**, Lecturer, Teaching and Learning, 2005 (2005); BS 1972 IOWA

**HOOKER, NICK ALAN**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DDS 2001 Iowa

**HOOKS, ADAM G.**, Assistant Professor, English, 2009 (2009); MA 2003 Georgetown; MPHIL 2006 Columbia, New York City; PHD 2009 Columbia, New York City

**HOOPES, BROOKE L.**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); BA 2005 Weber State

**HOOVER, HIRAM D.**, Emeritus Professor, Iowa Testing Programs, 1967 (1980); BS 1962 Missouri; MA 1964 Iowa; PHD 1969 Iowa

**HOPE, GEOFFREY R.**, Professor, International Programs/French & Italian/Teaching and Learning, 1978 (2003); BA 1969 Johns Hopkins; MED 1971 Temple; MA 1975 Pennsylvania; PHD 1979 Pennsylvania

**HOPPIN, RICHARD A.**, Emeritus Professor, Geoscience, 1951 (1961); BA 1943 Minnesota; MA 1947 Minnesota; PHD 1951 Calif Inst of Technology

**HORAN, TAMI LYNN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1998 Iowa

**HORN, MARY IRENE FREESE**, Adjunct Instructor, Nursing, 1997 (1997); MSN 1997 Iowa

**HORNBROOK, KAYLEEN BETH**, Clinical Adjunct Assistant Professor, Family Medicine, 2007 (2007); BS 1998 Winona State; DO 2003 Des Moines, Iowa

**HORNBuckle, KERI C.**, Professor, Occupational & Environmental Health/Civil-Environmental Engineering, 1998 (2007); BA 1987 Grinnell; PHD 1996 Minnesota

**HORNER, KATHLEEN ELIZABETH**, Clinical Assistant Professor, Pharmacy, 2005 (2007); BS 1999 Saint Louis; PHARM D 2004 Iowa

**HORNICK, DOUGLAS B.**, Clinical Professor, Internal Medicine, 1988 (2002); BS 1978 St. Lawrence; MD 1982 Maryland

**HORNING, ANDREW MARTIN**, Adjunct Lecturer, Management & Organizations, 2010 (2010); MBA 2007 Iowa

**HORNING, KRISTIN**, Clinical Assistant Professor, Pharmacy, 2006 (2006); PHARM D 2005 South Dakota State

**HOROWITZ, STEVEN PAUL**, Adjunct Assistant Professor, American Studies, 1995 (1995); PHD 1986 Iowa

**HORSWILL, ALEXANDER R.**, Associate Professor, Microbiology, 2005 (2010); BS 1995 Wisconsin-Madison; PHD 2001 Wisconsin-Madison

**HORTON, DIANA G.**, Emeritus Associate Professor, Department of Biology, 1983 (1989); BED 1972 Alberta-Canada; PHD 1981 Alberta-Canada

**HORTON, DOUGLAS JAMES**, Adjunct Assistant Professor, Family Dentistry, 1997 (2000); DDS 1976 Iowa

**HORTON, VIRGINIA KIM**, Clinical Adjunct Instructor, Nursing, 2001 (2001); BS 1977 Western Illinois; BS 1980 Southern Illinois; MS 1983 Illinois; MS 1993 Wisconsin

**HORWITZ, HENRY G.**, Emeritus Professor, History, 1963 (1970); BA 1959 Haverford; PHD 1963 Oxford

**HORWITZ, PHILLIP ANDREW**, Clinical Associate Professor, Internal Medicine, 2003 (2008); BA 1989 Colorado; MD 1995 Washington

**HORWITZ, RICHARD P.**, Emeritus Professor, American Studies, 1977 (1988); BA 1971 Pennsylvania; MA 1972 Pennsylvania; PHD 1975 Pennsylvania

**HOSHI, HISAKAZU**, Clinical Assistant Professor, Surgery, 2007 (2007); MD 1991 Shiga Univ. of Med Science

**HOSKINS, BRENDA LEE CARTER**, Clinical Associate Professor, Nursing, 2005 (2010); BSN 1994 Coe College; MSN 1998 Iowa; DNP 2006 Rush University

**HOSMANEK, ANDREW JOHN**, Adjunct Assistant Professor, Management & Organizations, 2006 (2006); BBA 2001 Iowa; MBA 2005 Iowa; JD 2005 Iowa

**HOSP, JOHN L.**, Associate Professor, Teaching and Learning, 2009 (2009); BA 1992 Hobart; MS 1995 Rochester Inst of Tech; PHD 2002 Vanderbilt

**HOSP, MICHELLE K.**, Lecturer, Teaching and Learning, 2010 (2010); PHD 2002 Vanderbilt

**HOSTETTER, JESSE MICHAEL**, Adjunct Assistant Professor, Epidemiology, 2007 (2007); DVM 1991 Iowa State; PHD 2000 Iowa State

**HOTH, ANGELA B.**, Adjunct Assistant Professor, Pharmacy, 1997 (1997); PHARM D 1994 Texas at Austin

**HOUGE, TODD**, Lecturer, Finance, 1998 (2009); BA 1992 Wartburg; MBA 1994 Iowa; PHD 1998 Iowa

**HOULAHAN, BETH**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1977 Mt. Mercy; MSN 1997 Iowa

**HOURCADE, JUAN PABLO**, Assistant Professor, Computer Science, 2006 (2006); BS 1996 American University; MS 2000 Maryland; PHD 2003 Maryland

**HOUSE, HANS ROBERT**, Clinical Associate Professor, Emergency Medicine, 2002 (2005); MD 1997 Southern California

**HOUSEMAN, JEFFREY A.**, Adjunct Instructor, Pharmacy, 2003 (2003); BS 1981 Iowa; BSPH 1981 Iowa

**HOUSTON, DOUGLAS W.**, Associate Professor, Department of Biology, 2004 (2010); BS 1992 Florida Inst. of Tech; PHD 1999 Miami School of Med

**HOUTMAN, JON C.**, Assistant Professor, Microbiology, 2005 (2005); BA 1994 Minnesota; PHD 1999 Wisconsin

**HOVE, HARLO DENNIS**, Clinical Assistant Professor, Emergency Medicine, 1990 (1995); BS 1970 Iowa State; BS 1972 South Dakota; MD 1974 Nebraska

**HOVE, LINDSAY MARIE**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); DDS 2006 Iowa

**HOVENKAMP, HERBERT**, Professor, Law-Faculty, 1986 (1986); MA 1971 Texas; PHD 1976 Texas; JD 1978 Texas

**HOWARD, MATTHEW A.**, Professor, Neurosurgery/Neurology, 1993 (2002); BS 1981 Tufts; MD 1985 Virginia

**HOWE, JAMES ROBINSON V**, Professor, Surgery, 1996 (2005); AB 1982 Dartmouth; MD 1987 Vermont

**HOWE, NANCY LU**, Adjunct Instructor, Nursing, 2006 (2006); BSN 1982 Coe; MSN 2005 Iowa

**HOWELL, GARY**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1972 Iowa; JD 1976 Iowa

**HOWELL, JAMES PERRY**, Adjunct Assistant Professor, Psychology, 2004 (2005); BA 1979 Swarthmore College; PSYD 1987 VA Consortium for Prof. Psych.

**HOWELL, NICHOLAS MARK**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARM D 2006 Iowa

**HOWES, GREGORY GERSHOM**, Assistant Professor, Physics & Astronomy, 2008 (2008); BS 1994 CalTech; MS 1998 UCLA; PHD 2004 UCLA

**HOWREN, MATTHEW BRYANT**, Adjunct Assistant Professor, Psychology, 2009 (2009); BA 2003 South Alabama; MA 2007 Iowa; PHD 2009 Iowa

**HOXIE, LOGAN DAVIES**, Clinical Adjunct Assistant Professor, Urology, 1999 (1999); MD 1992 Iowa

**HOY, ROBERT HUGH**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 1976 California

**HOYMAN, GREGORY CHARLES**, Adjunct Instructor, Pharmacy, 1998 (1998); MBA 1980 South Dakota

**HOYT, ROBERT HUGHES**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); MD 1983 Iowa

**HRADEK, ELIZABETH ANN**, Clinical Adjunct Instructor, Nursing, 1978 (1992); BA 1975 College of St. Catherine; MA 1991 Iowa

**HRIBAR, STEVEN PAUL**, Associate Professor, Accounting, 2006 (2006); PHD 2000 Iowa

**HSIEH, HAOWEI**, Assistant Professor, Library & Information Science, 2007 (2007); BS 1991 National Tsing-Hua; MS 1995 Georgia Institute of Tech; PHD 2001 Texas A & M

**HU, HUNG-SHU**, Emeritus Professor, Art & Art History, 1968 (1982); BSC 1959 Cheng-Kung-Taiwan; MFA 1966 Cranbrook Academy of Art

**HUA, YOUJIA**, Assistant Professor, Teaching and Learning, 2008 (2008); BA 1999 Shanghai; MS 2002 Mercyhurst; PHD 2008 Penn State

**HUANG, JIAN**, Professor, Statistics & Actuarial Science/Biostatistics, 1994 (2000); BS 1985 Anhui Institute of Education; MS 1987 Anhui Institute of Education; PHD 1994 Washington

**HUANG, YUNG-SHEN**, Clinical Assistant Professor, Prosthodontics, 2003 (2003); DDS 1992 Taipei Taiwan; MS 2003 Iowa

**HUBBARD, REBECCA ELLYN JOHNSON**, Adjunct Instructor, Communication Sciences and Disorders, 1996 (1996); MA 1984 Iowa

**HUBEL, KENNETH A.**, Emeritus Professor, Internal Medicine, 1962 (1973);

**HUBER, DIANE LYZOTTE**, Professor, Nursing/Health Management & Policy/IA Consortium Substance Abuse, 1982 (2003); BSN 1975 Iowa; MA 1982 Iowa; PHD 1986 Iowa

**HUBER, JAMES K.**, Adjunct Assistant Professor, Geoscience, 2002 (2002); BA 1979 Iowa; BS 1980 Iowa; MS 1987 Minnesota-Duluth; PHD 2001 Minnesota

**HUBER, LAWRENCE**, Clinical Assistant Professor, Prosthodontics, 1971 (1981); DDS 1960 Creighton

**HUCKLEBERRY, ALAN**, Associate Professor, Music, 2003 (2010); BM 1991 Hochschule fur Musik Germany; MM 1994 Hochschule fur Musik Germany; DMA 2003 Univ of Michigan Ann Arbor

**HUDRLIK, STEVIE**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2006 Iowa

**HUFF, MARVIN R.**, Clinical Adjunct Assistant Professor, Family Medicine, 1997 (1997); DO 1993 Osteopathic Med & Hlth

**HUGHES, EMILY**, Adjunct Lecturer, Law-Faculty, 2002 (2002); AB 1990 Michigan; MD 1997 Michigan; JD 1997 Michigan Law

**HUGHES, JENNIFER LEIGH**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 1995 Iowa

**HUGHES, JENNIFER**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHD 1995 Iowa

**HULSE, ANDREW M.**, Assistant Professor, Cinema & Comparative Literature, 2009 (2009); BA 1996 Denison; MTS 2000 Harvard; MFA 2007 New York

**HUMBERT, LEWIS ARTHUR**, Clinical Professor, Periodontics, 2004 (2004); BA 1971 Drake; DDS 1975 Iowa; MS 1986 Texas Health Science Center

**HUMBLES, NANCY JANE**, Adjunct Lecturer, College Transition, 2004 (2004); AB 1975 Northern Iowa; MED 1997 Iowa; MA 1997 Iowa

**HUMPHREY, NOREEN MCDONALD**, Adjunct Instructor, Nursing, 1998 (1998); MA 1983 West Virginia

**HUND, THOMAS J.**, Assistant Professor, Internal Medicine, 2007 (2010); BS 1996 Duke; MS 2000 Case Western Reserve; PHD 2004 Case Western Reserve

**HUNDERTMARK, CASEY**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2007 Iowa

**HUNGERFORD, FRANCES**, Adjunct Instructor, Theatre Arts, 2010 (2010); HS 1996 Walnut hill School; BA 2001 South Carolina

**HUNNICUTT, BENJAMIN K.**, Professor, Integrative Physiology, 1975 (1989); BA 1967 North Carolina; MA 1972 North Carolina; PHD 1975 North Carolina

**HUNNINGHAKE, GARY W.**, Professor, Internal Medicine, 1981 (1984); BS 1968 St Benedict's; MD 1972 Kansas

**HUNSICKER, LAWRENCE G.**, Professor, Internal Medicine, 1976 (1988); BA 1959 Yale; MD 1963 Columbia

**HUNT, SAMUEL R.**, Clinical Adjunct Assistant Professor, Family Medicine, 1987 (2002); BS 1974 Cornell; MD 1980 Iowa

**HUNTER, ERIC JAMES**, Adjunct Lecturer, Communication Sciences and Disorders, 2010 (2010); BS 1995 Brigham Young; MS 1997 Brigham Young; PHD 2001 Iowa

**HUNTER, STEPHEN KIETH**, Professor, Obstetrics & Gynecology/Biomedical Engineering/Chemical & Biomedical Engineering, 1996 (2010); BS 1982 Utah; PHD 1987 Utah; MD 1989 Utah

**HUNTER, WILLIAM CURTIS**, Professor, Finance, 2006 (2006); BS 1970 Hampton; MBA 1972 Northwestern ; PHD 1978 Northwestern

**HUNTLEY, JOHN F.**, Emeritus Professor, English, 1957 (1973);

**HURTIG, RICHARD R.**, Professor, International Programs/Communication Sciences and Disorders, 1976 (1995); BA 1965 New York; MA 1973 New York; MPHIL 1974 Columbia; PHD 1974 Columbia

**HUSS, CHARLES D.**, Clinical Adjunct Assistant Professor, Family Medicine/Emergency Medicine, 1982 (1982); MD 1976 Iowa

**HUSSEY, DAVID H.**, Emeritus Professor, Radiology, 1985 (1985); BS 1959 Beloit; MD 1964 Washington-Missouri

**HUTCHINSON, DENISE WIEWEL**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1977 Iowa

**HUTTNER, SIDNEY F.**, Adjunct Instructor, Library & Information Science, 2007 (2007); AB 1963 Chicago; MPHIL 1969 Chicago

**HWANG, JOSEPH K.**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 2009 (2009); BS 1988 Loyola; MD 1992 Stritch School Med

**HYLAND, SUSAN R.**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); BS 1977 Iowa

**IANNETTONI, MARK DAVID**, Professor, Cardiothoracic Surgery, 2004 (2004); BS 1980 Syracuse; MD 1985 Syracuse NY; MBA 2004 Michigan

**IANZINI, FIORENZA**, Assistant Professor, Pathology/Biomedical Engineering, 2001 (2004); BS 1976 Giovan Battista Morgagni; PHD 1980 University of Rome La Sapienza

**IBEN, POLLYANNE**, Adjunct Assistant Professor, Pediatric Dentistry, 2000 (2000); BA 1984 Iowa; DDS 1997 Iowa

**IBER, MARY HAMMOND**, Adjunct Instructor, Library & Information Science, 2002 (2002); BS 1971 Marquette; MA 2000 Iowa

**IBSEN, MERETE**, Clinical Assistant Professor, Anesthesia, 2002 (2002); MD 1987 Copenhagen

**ICARDI, MICHAEL S.**, Clinical Assistant Professor, Pathology, 2001 (2001); BS 1990 Miami; MD 1995 Miami

**IGUCHI, MASAKI**, Adjunct Assistant Professor, Physical Therapy, 2010 (2010); BS 2001 Benedictine; MA 2004 Iowa; PHD 2009 Iowa

**IJDO, JACOB W.**, Clinical Associate Professor, Internal Medicine, 2000 (2010); MD 1989 Leiden; PHD 1999 Heidelberg

**IMHOF, SARA LYNN BAKER**, Adjunct Assistant Professor, Health, & Sport Studies, 2000 (2000); BS 1993 Iowa; MA 1998 Iowa; PHD 2006 Iowa

**INCE, MIRAC NEDIM**, Assistant Professor, Internal Medicine, 2007 (2008); MD 1993 Istanbul

**INDIRA, RAMARAO**, Adjunct Associate Professor, International Programs, 2009 (2009); BA 1970 Mysore; MA 1972 Mysore; PHD 1982 Mysore

**INGRAM, LISA MORSE**, Adjunct Lecturer, College Transition, 2002 (2002); BA 1981 Iowa State; MA 1985 Iowa

**INGRAM, MARLYNNE BETH**, Professor, Economics, 1988 (2001); BS 1981 Iowa; PHD 1986 Minnesota

**INGRAM, PATRICK EDWARD**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BA 1981 Iowa; JD 1992 Iowa

**INGRAM, TODD NEWELL**, Clinical Assistant Professor, Nursing, 1995 (2002); BA 1974 Iowa; BSN 1980 Iowa; MA 1994 Iowa

**INMAN, LORINDA K.**, Adjunct Assistant Professor, Nursing, 1989 (1989); MSN 1976 Loyola-Chicago

**IQBAL, ADNAN**, Clinical Adjunct Assistant Professor, Psychiatry, 2010 (2010); MBBS 1990 Nishtar Medical College

**IRISH, ERIN E.**, Associate Professor, Department of Biology, 1990 (1999); BA 1980 Hiram; PHD 1984 Indiana

**IRISH, MICHAEL S.**, Clinical Adjunct Associate Professor, Surgery, 2002 (2004); BS 1986 Tulane; MD 1990 Kansas

**ISHAM, MARK**, Adjunct Lecturer, English, 1988 (1994); MA 1976 Iowa

**ISHAM, SUSAN C.**, Adjunct Instructor, Linguistics, 1980 (1997); BA 1971 Illinois; MA 1972 Iowa

**ITOH, TOSHIKI**, Assistant Professor, Pathology, 2005 (2005); PHD 1996 Kumamoto

**IVANOVIC, MARINA**, Clinical Associate Professor, Pathology, 2010 (2010); MD 1992 Zagreb

**IVERSON, JENNIFER**, Assistant Professor, Music, 2009 (2009); MM 2003 Northern Iowa; PHD 2009 Texas

**IVERSON, WILLIAM L.**, Clinical Associate Professor, Internal Medicine, 2002 (2008); BA 1990 Iowa; MD 1995 Iowa

**IZAKOVIC, MARTIN**, Clinical Adjunct Associate Professor, Internal Medicine, 2005 (2010); MD 1995 Comeniu, Slovakia

**JABBARI, GHOLAM H.**, Clinical Adjunct Instructor, Obstetrics & Gynecology, 1982 (1982); MD 1975 Pahlari Univ-Iran

**JACKMAN, BRYCE A.**, Adjunct Instructor, Pharmacy, 1997 (1997); MS 1992 Kansas

**JACKSON, AMY LYNN**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMD 1999 Drake

**JACKSON, DONALD F.**, Emeritus Associate Professor, Classics, 1967 (1973); BA 1962 Niagara; MA 1964 Indiana; PHD 1967 Indiana

**JACKSON, FRANCES M.**, Clinical Adjunct Associate Professor, Pediatrics, 2002 (2009); BS 1982 ILLINOIS; MS 1983 ILLINOIS; MD 1987 ILLINOIS

**JACKSON, NANCY E.**, Emeritus Professor, Psych & Quant Foundations, 1989 (1995); BS 1968 Washington; MS 1971 Washington; PHD 1975 Washington

**JACKSON, ROBERT A.**, Clinical Associate Professor, Social Work, 1975 (2001); BA 1963 St. Ambrose; MA 1967 Aquina Inst of Theology; MSW 1974 Iowa

**JACOBI, SUSAN MARIE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); BS 1982 Iowa State; MD 1986 Iowa

**JACOBS RAMSPOTT, ANGELA**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMD 1999 Iowa

**JACOBSEN, CHERYL DENISE**, Adjunct Assistant Professor, Interdisciplinary Programs, 1998 (2000); BS 1984 Iowa State University

**JACOBSEN, RYAN B.**, Clinical Assistant Professor, Pharmacy, 2005 (2005); BA 1998 Dana College; PHARMD 2002 Creighton

**JACOBSON, GERALDINE M.**, Clinical Professor, Radiation Oncology, 2002 (2008); BS 1972 Michigan State; MD 1981 Utah

**JAGANNATHAN, RAJ**, Emeritus Professor, Management Sciences, 1974 (1983); BA 1959 Madras; MA 1961 Madras; PHD 1969 Carnegie Mellon

**JAHLAS, ROBYN R.**, Adjunct Instructor, Pharmacy, 1998 (1998); PHARMD 1994 Iowa

**JAIN, SUBHASH C.**, Emeritus Professor, Civil-Environmental Engineering, 1971 (1982); BS 1957 Agra-India; BE 1960 Roorkee - India; ME 1966 Roorkee-India; PHD 1971 Iowa

**JAKOBSEN, JAMES F.**, Emeritus Associate Professor, Mathematics, 1959 (1964); BS 1950 SW Missouri State; MA 1952 Missouri; PHD 1959 Missouri

**JAMAL, MOHAMMAD**, Clinical Assistant Professor, Surgery, 2005 (2005); MD 1997 AGA KHAN MED, Pakistan

**JAMES, PAUL ARTHUR**, Professor, Family Medicine/Occupational & Environmental Health, 2001 (2005); BA 1980 North Carolina; MD 1984 North Carolina

**JAMESON, HELEN PARK**, Adjunct Lecturer, College Transition, 2005 (2005); BA 1983 Hamline; MA 1985 International Train; MA 1993 Iowa

**JAMIESON, KATARZYNA**, Clinical Associate Professor, Internal Medicine, 2008 (2008); MD 1987 Medical Academy Poland

**JAMROK, DIANE I.**, Adjunct Instructor, Preventive & Community Dentistry, 2000 (2000); BS 1984 Hawkeye

## Community

**JANDA, SWINDER**, Adjunct Professor, Marketing, 2009 (2009); BS 1987 Panjab University; MBA 1992 Arkansas; PHD 1996 Arkansas, Fayetteville

**JANNEY, LAUREL M.**, Adjunct Assistant Professor, Pharmacy, 1990 (1990); PHARMD 1988 Iowa

**JANZ, KATHLEEN F.**, Professor, Health, & Sport Studies/Epidemiology, 1982 (2004); BS 1978 Wisconsin-Stevens Point; MA 1982 Northern Colorado; EDD 1990 Northern Colorado

**JANZ, SIEGFRIED**, Professor, Pathology, 2007 (2007); MD 1985 Leipzig, Germany; DSC 1995 Leipzig, Germany

**JARVEY, JOHN A.**, Adjunct Lecturer, Law-Faculty, 1997 (2005); BS 1978 Akron; JD 1981 Drake University

**JASPER, DAVID**, Adjunct Professor, Religion, 2003 (2003); BA 1972 Jesus, Oxford; AM 1976 St Stephen's House-Oxford; PHD 1983 Hatfield, Durham

**JAY, LAURENT OLIVIER**, Professor, Mathematics, 1998 (2009); BSC 1989 Geneva-Switzerland; MS 1990 Geneva-Switzerland; PHD 1994 Geneva-Switzerland

**JEAN, WENNY**, Clinical Adjunct Assistant Professor, Family Medicine, 2007 (2007); MD 2000 Missouri - Kansas City; BA 2000 Missouri - Kansas City; MPH 2004 Iowa

**JEBSON, PETER**, Emeritus Professor, Anesthesia, 1980 (1980); MBCHB 1963 St Andrews

**JEFFERS, BRENDA RECCHIA**, Adjunct Associate Professor, Nursing, 2006 (2006); BSN 1979 Illinois - Urbana; MS 1984 Illinois - Peori; PHD 1995 Saint Louis ity

**JENKINS, BONNIE B.**, Adjunct Instructor, Theatre Arts, 2008 (2008); BA 1968 Iowa

**JENKINS, JOSEPH T.**, Clinical Adjunct Assistant Professor, Emergency Medicine, 2005 (2005); MD 1984 Iowa

**JENNINGS, MICHAEL ANDREW**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1972 Iowa; MD 1976 Iowa

**JENNINGS, WILL**, Lecturer, Rhetoric, 1997 (2001); MFA 1993 Iowa

**JENNISSEN, CHARLES**, Clinical Associate Professor, Pediatrics/Emergency Medicine, 1999 (2007); MD 1986 Minnesota

**JENSEN, CHRIS S.**, Clinical Professor, Pathology, 1999 (2010); BS 1985 Iowa State; MD 1989 Iowa

**JENSEN, CHRISTIAN B.**, Assistant Professor, Political Science, 2005 (2005); PHD 2004 California-Los Angeles

**JENSEN, GREGORY VERNON**, Adjunct Assistant Professor, Social Work, 1990 (2000); BA 1979 Simpson; MSW 1982 Iowa

**JENSEN, JOELLE LYN**, Clinical Adjunct Instructor, Nursing, 1995 (1995); BSN 1984 Dubuque; MSN 1988 Dubuque; CER 1993 ANCC

**JENSEN, VALERIE ELLEN**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BSPH 1990 Iowa

**JEPSEN, DAVID A.**, Emeritus Professor, Counseling, Rehab & Stu Dev, 1970 (1982); BA 1960 Northern Iowa; MS 1963 Wisconsin; PHD 1970 Wisconsin

**JEROME, GRACE E.**, Adjunct Associate Professor, Pharmacy, 1997 (2004); MBA 1989 S Illinois-Edwardsville

**JERONIMO, SELMA M.**, Adjunct Professor, Internal Medicine, 2002 (2002); PHD 1994 Paulisa DE Medicina-Sao Paulo

**JERZ, RICHARD A.**, Adjunct Assistant Professor, Industrial Engineering, 2002 (2002); BS 1978 Illinois Technology; MBA 1984 St. Ambrose; PHD 1997 Iowa

**JESKE, DIANE**, Professor, Philosophy, 1992 (2009); BA 1988 Lawrence; PHD 1992 MIT

**JESSEN, KERRY**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1977 Iowa

**JESSOP, JULIE L P**, Associate Professor, Chemical & Biomedical Engineering, 2000 (2009); BS 1994 Michigan State; PHD 1999 Michigan State

**JETTON, JENNIFER GARCIA**, Clinical Assistant Professor, Pediatrics, 2010 (2010); MD 2004 Baylor College of Medicine

**JEW, JEAN Y.**, Professor, Anatomy & Cell Biology, 1973 (1984); BS 1969 Newcomb; MD 1973 Tulane

**JIN, ZHENDONG**, Associate Professor, Pharmacy, 1997 (2003); BS 1988 East China Normal; MA 1990 State Univ of

NY-Buffalo; PHD 1995 Purdue

**JOANNING, HARVEY HERMAN**, Adjunct Professor, Counseling, Rehab & Stu Dev, 2010 (2010); BA 1969 Briar Cliff College; MA 1972 Iowa; PHD 1973 Iowa

**JOCHIMSEN, PETER R.**, Emeritus Professor, Surgery, 1974 (1983); BA 1961 Ripon; MD 1965 Marquette

**JOGERST, GERALD JOHN**, Professor, Family Medicine, 1993 (2005); BA 1969 Loras; MD 1976 Iowa

**JOHANNESSEN, ROBERT G.**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BA 1973 Central College; MD 1977 Loyola, Chicago

**JOHANNSSON, BIRGIR**, Clinical Assistant Professor, Internal Medicine, 2007 (2008); MD 1997 Iceland

**JOHLIN, FREDERICK C.**, Professor, Internal Medicine, 1986 (2004); BS 1976 Toledo; MD 1980 Toledo Medical College

**JOHNSEN, DAVID C.**, Professor, Preventive & Community Dentistry/Pediatrics/Pediatric Dentistry, 1995 (1995); BS 1965 Michigan; DDS 1970 Michigan; MS 1973 Iowa

**JOHNSON, ALAN K.**, Professor, Psychology/Integrative Physiology/Pharmacology, 1973 (1982); BS 1964 Pennsylvania State; MA 1966 Temple; PHD 1970 Pittsburgh

**JOHNSON, ARLAN T.**, Clinical Professor, Ophthalmology & Visual Science, 1988 (2003); BA 1979 Hastings College; PHD 1984 Baylor; MD 1986 Baylor

**JOHNSON, CHRIS A.**, Professor, Ophthalmology & Visual Science, 2006 (2006); BA 1970 Oregon; MS 1972 Penn State; MSC 1972 Penn State; PHD 1974 Penn State

**JOHNSON, CHRISTINA R.**, Lecturer, Integrative Physiology, 2006 (2010); BA 1999 Iowa; BS 1999 Iowa; MA 2001 Iowa; PHD 2006 Iowa

**JOHNSON, DEANNA S.**, Lecturer, Spanish & Portuguese, 2001 (2001); BA 1977 DRURY; BM 1979 DRURY; MA 1981 Iowa; PHD 1995 Iowa

**JOHNSON, DEBRA LYNN**, Adjunct Assistant Professor, Psychology, 1997 (1997); BS 1987 South Dakota; MS 1991 Utah; PHD 1993 Utah

**JOHNSON, DEREK EDWIN**, Adjunct Assistant Professor, International Programs, 2001 (2001); JD 2000 Iowa

**JOHNSON, DOROTHY**, Professor, Art & Art History, 1987 (1997); BA 1972 Cincinnati; MA 1979 Cincinnati; PHD 1986 Calif-Berkeley

**JOHNSON, ERIK**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); BA 2001 Hamilton College; AB 2001 Hamilton College; DMD 2008 Connecticut

**JOHNSON, EUGENE W.**, Emeritus Professor, Mathematics, 1966 (1975); BA 1963 Calif-Riverside; MA 1964 Calif-Riverside; PHD 1966 Calif-Riverside

**JOHNSON, FRANCES LAURI**, Clinical Associate Professor, Internal Medicine, 2006 (2006); BS 1984 Washington, Seattle; MD 1988 Washington, Seattle

**JOHNSON, GEORGE F.**, Emeritus Professor, Pathology, 1976 (1988); BA 1963 Park; PHD 1969 Iowa State; MS 1976 Johns Hopkins

**JOHNSON, GEORGIA KAY TONN**, Professor, Periodontics, 1991 (1996); BS 1975 Luther; SCB 1975 University of Iowa; DDS 1981 Iowa; MS 1983 Iowa

**JOHNSON, GREGORY M.**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); BA 1978 Luther College; MA 1984 Iowa

**JOHNSON, HANS JOSEPH**, Assistant Professor, Electrical-Computer Engineering/Biomedical Engineering/Psychiatry, 2006 (2009); BSE 1997 Iowa; MS 2000 Iowa; PHD 2002 Iowa

**JOHNSON, JACK D.**, Lecturer, French & Italian, 1999 (2001); PHD 1995 California-Berkeley

**JOHNSON, LEAH M.**, Clinical Adjunct Assistant Professor, Family Medicine, 2003 (2003); BA 1995 St. Olaf; MD 1999 Minnesota

**JOHNSON, LISA MARIE**, Adjunct Assistant Professor, Theatre Arts, 2009 (2009); BA 1997 Virginia Polytechnic

**JOHNSON, MARION RAE BIRON**, Emeritus Professor, Nursing, 1973 (1999); BSN 1958 St. Teresa; MSN 1961 Case Western Reserve; PHD 1986 Iowa

**JOHNSON, MARY E.**, Clinical Adjunct Instructor, Nursing, 2000 (2003); BSN 1978 Nebraska Medical Center, Omaha; MN

1989 University of Washington

**JOHNSON, MELINDA JANE**, Clinical Associate Professor, Internal Medicine, 2000 (2003); BS 1992 South Dakota; MD 1996 Brown-Dartmouth Medical

**JOHNSON, NORMAN L.**, Professor, Mathematics, 1969 (1978); BA 1964 Portland State; MA 1966 Washington State; PHD 1968 Washington State

**JOHNSON, SARAH JANELLE**, Clinical Assistant Professor, Pharmacy, 2000 (2000); BS 1995 Iowa; BSPH 1995 Iowa; PHARMMD 1997 Iowa

**JOHNSON, SCOTT ALAN**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2009 (2009); DDS 1999 Iowa; MD 2003 Pittsburgh

**JOHNSON, SHELLA RANAE**, Adjunct Assistant Professor, Pharmacy, 2004 (2004); PHARMMD 2002 Iowa

**JOHNSON, SUSAN RAE**, Professor, Obstetrics & Gynecology/Epidemiology, 1980 (1994); BA 1973 Iowa; MD 1976 Iowa; MS 1985 Iowa

**JOHNSON, TERRY MICHAEL**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1972 Iowa

**JOHNSON, W BRUCE**, Professor, Accounting, 1988 (1993); BS 1970 Oregon; MS 1973 Ohio State; PHD 1975 Ohio State

**JOHNSON, WAYNE A.**, Professor, Physiology, 1989 (2002); BS 1980 Wyoming; PHD 1985 Washington

**JOHNSON, WILLIAM**, Emeritus Professor, Microbiology, 1970 (1980); BS 1963 Marietta; MS 1965 Miami; PHD 1968 Rutgers

**JOHNSON, WILLIAM T.**, Professor, Endodontics, 1980 (1999); BA 1971 Drake; DDS 1975 Iowa; MS 1981 Iowa

**JOHNSTON, RICHARD C.**, Clinical Professor, Orthopaedics and Rehabilitation, 1967 (1982); MD 1958 Iowa

**JOHNSTON, SARA PFISTER**, Lecturer, Counseling, Rehab & Stu Dev, 2009 (2009); BS 1989 Wisconsin @ Madison; MS 2004 Wisconsin @ Madison

**JOHR, CHADWICK RUDOLPH**, Clinical Assistant Professor, Internal Medicine/Pediatrics, 2009 (2009); BS 1998 Pennsylvania State; MD 2002 Pennsylvania State

**JOINER, MEI-LING ANNE**, Assistant Professor, Internal Medicine, 2009 (2009); PHD 1999 Brandeis

**JOLIN, SARAH JEAN**, Adjunct Instructor, Family Medicine, 2010 (2010); BS 1996 Iowa State; MSW 1999 Washington Univ

**JOLIVETTE, DUANE M.**, Clinical Adjunct Assistant Professor, Family Medicine, 2005 (2005); AA 1981 Waldorf, IA; BA 1983 Concordia, MN; MD 1998 Minnesota, MN

**JONAHS, ANDREA V.**, Adjunct Lecturer, Management & Organizations, 2008 (2008); BS 2001 Andrews; MA 2007 Iowa

**JONES, ALEX**, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BS 2000 Iowa; DO 2005 Des Moines- Osteopathic

**JONES, BARBARA M.**, Adjunct Instructor, Library & Information Science, 2010 (2010); MAT 1970 Northwestern; MA 1986 New York; PHD 1995 Minnesota

**JONES, BRADLEY D.**, Associate Professor, Microbiology, 1994 (2000); BS 1985 Maryland; PHD 1989 Maryland

**JONES, CAROLYN C.**, Professor, Law-Faculty, 2004 (2004); BA 1976 Iowa; JD 1979 Iowa

**JONES, DOUGLAS W.**, Associate Professor, Computer Science, 1980 (1988); BS 1973 Carnegie-Mellon; MS 1976 Illinois; PHD 1980 Illinois

**JONES, ELLEN LOUISE**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1990 Iowa; JD 1993 Iowa; MA 1994 Iowa

**JONES, JODY LYNN**, Clinical Assistant Professor, Surgery, 2009 (2009); MA 1993 Richmond; PHD 1997 Alabama

**JONES, MARK E.**, Adjunct Associate Professor, Pharmacy, 1976 (1984); BS 1973 Washington State; PHARMMD 1975 Cincinnati

**JONES, MERRITT ELMER**, Adjunct Assistant Professor, Family Dentistry, 2004 (2004); BS 1976 University of Iowa; DDS 1980 University of Iowa

**JONES, MICHAEL P.**, Professor, Statistics & Actuarial Science/Public Policy Center/Biostatistics, 1986 (2000); BA 1972 Southern California; MA 1975 Calif-Los Angeles; PHD 1986 Washington



**JONES, MORGAN JOHN**, Emeritus Associate Professor, Music, 1978 (1991); BM 1960 Iowa; MA 1962 Iowa; PHD 1975 Northwestern

**JONES, NANCY LYN**, Adjunct Lecturer, Law-Faculty, 2006 (2006); BA 1969 Luther College; MAT 1970 Brown; PHD 1982 Iowa

**JONES, PATRICIA CAMILLE**, Associate Professor, African-American Studies/Theatre Arts, 2001 (2001); BA 1977 Minnesota; MA 1985 Iowa; MFA 1991 Iowa

**JONES, PHILIP C.**, Professor, Management Sciences, 1994 (1994); BIE 1973 Georgia Inst of Technology; MS 1974 Stanford; MA 1977 California-Berkeley; PHD 1977 California-Berkeley

**JONES, RHYS B.**, Adjunct Professor, Preventive & Community Dentistry, 1973 (1998); BA 1970 Iowa; DDS 1973 Iowa

**JONES, ROBERT DALLAS**, Clinical Associate Professor, Neurology, 1997 (2004); BA 1979 Wisconsin; MA 1984 Iowa; PHD 1986 Iowa

**JONES, SHELLEY ANN**, Clinical Adjunct Instructor, Internal Medicine, 1997 (1997); MD 1986 Iowa

**JONES, STANLEY EARL**, Adjunct Professor, Communication Studies, 2009 (2009); BA 1957 State Univ of Iowa; MA 1962 State Univ of Iowa; PHD 1964 Northwestern

**JONES, SUSAN SONDRÖL**, Lecturer, Music, 1998 (2001); BM 1967 Iowa; MA 1968 Iowa; MFA 1970 Iowa

**JONES, WILLIAM LARUE**, Professor, Music, 1997 (1997); BS 1960 Kansas State; MA 1962 Kansas State; MFA 1970 Iowa; DMA 1972 Wisconsin-Madison

**JONGEWAARD, RICHARD A.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BS 1968 Iowa; BS 1971 South Dakota; MD 1973 Iowa

**JORGE, RICARDO E.**, Associate Professor, Psychiatry, 2002 (2008); PHD 1983 Buenos Aires

**JORGENSEN, JAMES DAVID**, Adjunct Assistant Professor, Management & Organizations, 2008 (2008); BA 1990 Iowa State; JD 1993 Michigan

**JORGENSEN, JODI**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); AASC 2003 Kirkwood; BA 2009 Ashford

**JORGENSEN, PALLE E.**, Professor, Mathematics, 1983 (1983); BA 1968 AARHUS-Denmark; MS 1970 AARHUS; PHD 1973 AARHUS

**JOSELSON, RACHEL A.**, Associate Professor, Music, 1997 (2004); BM 1977 Florida State; MM 1980 Indiana-Bloomington

**JOSEPH, HYMAN**, Emeritus Professor, Economics, 1966 (1982); BS 1957 Illinois Inst of Technology; MS 1959 Illinois Inst of Technology; MA 1966 Northwestern; PHD 1969 Northwestern

**JOSEPH, SUE**, Adjunct Professor, Epidemiology, 2000 (2002); BA 1981 Northern Iowa; MA 1987 Northern Iowa; PHD 1991 Iowa

**JOSEPHSON, NATHAN**, Clinical Adjunct Professor, Internal Medicine, 1974 (1997); MD 1971 Iowa

**JOSHI, CHARUTA NARAYAN**, Clinical Associate Professor, Pediatrics, 2008 (2008); MD 1995 Grant Medical College

**JOYCE, STEVEN**, Clinical Adjunct Assistant Professor, Pediatrics, 2001 (2001); MD 1996 Iowa

**JUDGE-ELLIS, TERESA M.**, Clinical Associate Professor, Nursing, 1999 (2010); BSN 1988 St. Louis; MSN 1996 Pacific Lutheran

**JUDISCH, GEORGE FRANKLIN**, Emeritus Professor, Ophthalmology & Visual Science, 1975 (1985); BS 1958 Iowa State; MD 1962 Iowa

**JUERGENS, SHANNON L.**, Adjunct Lecturer, Marketing, 2009 (2009); MBA 2008 Iowa

**JUHASZ, MARNI F.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1998 North Carolina

**JUHLIN, JON JEFFREY**, Adjunct Assistant Professor, Endodontics, 2010 (2010); BS 1978 Iowa State; DDS 1991 Iowa; MSD 1991 Iowa

**JUNG, ANITA**, Associate Professor, Art & Art History, 2006 (2006); BFA 1985 Arizona State; MFA 1990 Wisconsin @ Madison

**JUNG, MICHAEL J.**, Clinical Adjunct Associate Professor, Family Medicine, 1985 (1994); MD 1980 South Dakota

**JURACEK, LYLE**, Adjunct Assistant Professor, Dance, 1996 (1996); BM 1973 Nebraska Wesleyan; MM 1975

## Michigan State

**JUST, CRAIG LAVERN**, Adjunct Associate Professor, Civil-Environmental Engineering, 2002 (2008); BS 1992 Northern Iowa; MA 1994 Northern Iowa; PHD 2001 Iowa

**JUST, TRACY A.**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); AA 1989 Des Moines Comm College

**JUSTIS, ROY**, Adjunct Instructor, Journalism & Mass Communication, 2006 (2006);

**JUSTMAN, BRUCE CARY**, Clinical Associate Professor, Endodontics, 1985 (2000); BS 1979 Loras; DDS 1983 Iowa

**JUWEID, MALIK**, Professor, Radiology, 2000 (2007); MD 1986 Heidelberg

**KAARET, PHILIP ELIAS**, Professor, Physics & Astronomy, 2004 (2008); BS 1984 Mass Inst of Tech; PHD 1989 Princeton

**KABADI, UDAYA M.**, Clinical Adjunct Professor, Internal Medicine, 1981 (2001); MBBS 1965 Bombay-India; MD 1970 Bombay-India

**KABBANI, HAIDAR**, Clinical Adjunct Assistant Professor, Pediatrics, 2006 (2006); MD 1993 Damascus Med School

**KABEL, DAVID WARREN**, Clinical Adjunct Associate Professor, Internal Medicine, 2006 (2006); BS 1970 Iowa; MD 1973 Iowa

**KABOLI, PETER JOHN**, Associate Professor, Internal Medicine/Epidemiology, 2000 (2007); BS 1989 Iowa; MD 1994 Iowa; MS 2000 Iowa

**KACMARYNSKI, DEBORAH SUE FOLLMER**, Clinical Assistant Professor, Pediatrics/Otolaryngology-Head & Neck Surgery, 2009 (2009); MD 2002 Minnesota Medical; MSO 2009 Minnesota

**KADEMIAN, JACK**, Clinical Assistant Professor, Radiology, 2007 (2007); MD 1998 St. George

**KADERA, KELLY MICHELE**, Associate Professor, Political Science/International Programs, 1993 (2003); BA 1987 Wells; MA 1988 Illinois-Urbana; PHD 1995 Illinois-Urbana

**KADING, RICHARD REESE**, Adjunct Lecturer, Mechanical Engineering, 2008 (2008); MS 1985 Iowa

**KADING, THANE ANN**, Adjunct Assistant Professor, Pharmacy, 2004 (2004); PHARM 1996 Iowa

**KAHN, DANIEL**, Professor, Radiology, 1988 (2005); BS 1977 Illinois; MD 1981 Hahnemann

**KALDJIAN, LAURIS CHRISTOPHER**, Associate Professor, Internal Medicine, 2000 (2006); BS 1984 Michigan; BA 1986 Oxford; MD 1989 Michigan; MDIV 1994 Yale

**KALIL, ROBERTO S.**, Clinical Associate Professor, Internal Medicine, 2000 (2003); MD 1985 Federal of Pelotas Brazil

**KALIN, LINDA B.**, Adjunct Instructor, Pharmacy, 2002 (2002); BSN 1979 South Dakota

**KALINA, PAUL R.**, Assistant Professor, Theatre Arts, 2009 (2009); BS 1991 Illinois State; MFA 2007 Idaho

**KALLAUS, NORMAN F.**, Emeritus Professor, Management & Organizations, 1953 (1967); BSC 1949 Iowa; MA 1951 Iowa; PHD 1956 Iowa

**KALLSEN, DAVID**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1987 Wisconsin

**KAMALA, JERUSA KOKUHUMBYA**, Adjunct Instructor, Obstetrics & Gynecology, 2008 (2008); BSC 1976 St. Olaf College; BS 1976 St. Olaf College; MD 1980 Howard University

**KAMATH, SAMEER SHANTARAM**, Clinical Assistant Professor, Pediatrics, 2008 (2008); MBBS 1997 Topiwala National Med; MD 1997 Case Western Reserve

**KAMERICK, EILEEN A.**, Adjunct Lecturer, Law-Faculty, 2007 (2007); AB 1980 Boston College; JD 1984 Chicago; MBA 1993 Chicago

**KAMERICK, KATHLEEN CLARE**, Lecturer, History/General University College, 1992 (1999); BA 1975 Iowa; MA 1984 Iowa; PHD 1991 Iowa

**KANE, FRANCIS LEO**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BS 1982 Missouri; MD 1986 Missouri

**KANE-JOHNSON, NANCY JEAN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2001); MD 1985 Iowa

**KANELLIS, MICHAEL JAMES**, Professor, Pediatric Dentistry, 1984 (2005); DDS 1979 Iowa; MS 1981 Iowa

**KANG, JIYEON**, Assistant Professor, Communication Studies, 2010 (2010); BA 1999 Seoul National; MA 2001 Seoul

National; PHD 2009 Illinois

**KANN, COLLEEN SUSAN**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2010 Iowa

**KANOUSE, SARAH**, Assistant Professor, Art & Art History, 2008 (2008); BA 1997 Yale; MFA 2004 Illinois

**KAO, SIMON CHING-SHUN**, Professor, Radiology, 1987 (1997); MBBS 1976 Hong Kong

**KARACAY, BAHRI**, Adjunct Assistant Professor, Pediatrics, 2005 (2005); MS 1987 Ataturk ,Turkey; MS 1992 Ohio State; PHD 1996 Ohio State

**KARDON, RANDY HERBERT**, Professor, Ophthalmology & Visual Science, 1989 (2004); BS 1975 Iowa; PHD 1982 Iowa; MD 1982 Iowa

**KARIM, YASSER MOHAMED**, Clinical Assistant Professor, Anesthesia, 2001 (2001); PNS 1971 Ains Shams; MBBCH 1976 Ains Shams; MSC 1980 Ains Shams

**KARNELL, MICHAEL PETER**, Associate Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1993 (1993); BA 1978 Western Michigan; MA 1979 Western Michigan; PHD 1983 Iowa

**KARNES, KELLY JO SHANNON**, Adjunct Lecturer, General University College, 2010 (2010); BED 1997 Emporia State; MED 1999 Kansas

**KARNISKI, LAWRENCE P.**, Professor, Internal Medicine, 1985 (2000); BS 1974 Kansas; MD 1977 Kansas

**KARWAL, MARK WILLIAM**, Clinical Associate Professor, Internal Medicine, 1994 (2003); BA 1980 Drake; MD 1984 Iowa

**KARWAN, KIRK**, Adjunct Professor, Management Sciences/Management & Organizations, 2008 (2008); PHD 1979 Carnegie Mellon

**KASIK, JOHN E.**, Emeritus Professor, Internal Medicine, 1970 (1973); BS 1949 Roosevelt; MS 1953 Chicago; MD 1954 Chicago; PHD 1962 Chicago

**KASKIE, BRIAN**, Associate Professor, Health Management & Policy, 2000 (2008); BA 1987 Indiana; MA 1993 Washington; PHD 1998 Southern California

**KASSON, BARRY G.**, Associate Professor, Pharmacology, 1986 (1996); BA 1974 California-San Diego; MS 1977 California-Los Angeles; PHD 1982 California-Los Angeles

**KASTEN, KATHERINE ELIZABETH**, Adjunct Instructor, Linguistics, 1997 (1997); BA 1968 Grinnell; MA 1989 Iowa State

**KASTENS, L KEVIN**, Associate Professor, Music, 1998 (1998); BS 1977 Illinois; MS 1978 Illinois

**KATEN-BAHENSKY, DONNA M.**, Adjunct Professor, Health Management & Policy, 2003 (2005); BA 1980 Missouri; MPH 1982 Missouri

**KATES, KENNETH PHILIP**, Adjunct Lecturer, Health Management & Policy, 2009 (2009); BBA 1976 Philadelphia; MBA 1980 Temple

**KATHOL, EMILY A.**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2010 Creighton

**KATOPOL, PATRICIA FIELDS**, Assistant Professor, Library & Information Science, 2007 (2007); BGS 1976 Michigan; JD 1981 Howard; LLM 1992 Temple University; MS 1999 Michigan; PHD 2006 Washington

**KATZ, DANIEL A.**, Associate Professor, Surgery, 2000 (2007); BS 1986 Fairleigh Dickinson; MD 1990 Johnson

**KATZ, DAVID A.**, Associate Professor, Internal Medicine/Epidemiology, 2003 (2003); BA 1982 Oberlin College; MD 1987 Jefferson Med College; MS 1995 New England Med

**KAWAI, MASATAKA**, Professor, Anatomy & Cell Biology, 1987 (1995); BA 1966 Tokyo; PHD 1971 Princeton

**KAWAMURO, KEIKO**, Assistant Professor, Mathematics, 2009 (2009); BS 1997 Tokyo; MA 1998 Tokyo; PHD 2006 Columbia

**KAWASAKI, HIROTO**, Assistant Professor, Neurosurgery, 2002 (2002); MD 1995 Tokyo Women's Medical

**KAY, ALAN R.**, Professor, Department of Biology, 1990 (2008); BS 1974 Cape Town-S Africa; BSC 1976 Cape Town-South Africa; BSC 1977 Stellerbosch; PHD 1984 Cambridge-United Kingdom

**KAYA, AYCA**, Assistant Professor, Economics, 2005 (2005); BA 1998 Bogazici U, Turkey; MA 2000 Bilkent U, Turkey; PHD 2005 Stanford U

**KAYLE, JENNIFER**, Assistant Professor, Dance, 2004 (2004); BA 1992 Middlebury, Vermont; MFA 1999 Smith

College, Mass.

**KE, CHUANREN**, Professor, Asian & Slavic Languages & Literature/International Programs, 1993 (2007); BA 1982 Beijing Normal University; MA 1985 Indiana; PHD 1992 Indiana

**KEALEY, GERALD P.**, Professor, Surgery, 1985 (1993); BA 1966 Iowa; MD 1969 Iowa; MS 1975 Iowa

**KEANE, ROBERT JOHN**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BE 1991 Iowa State; PHARMD 1998 Iowa

**KEARNEY, JOHN J.**, Adjunct Instructor, Family Dentistry, 2007 (2007); DDS 1978 Iowa

**KEARNEY, JOSEPH K.**, Professor, Computer Science, 1983 (2001); BA 1975 Minnesota; MA 1979 Texas-Austin; MS 1981 Minnesota; PHD 1983 Minnesota

**KEARNS, DAVID L.**, Clinical Associate Professor, Family Medicine, 1990 (1995); BS 1973 Fort Hays State; MA 1979 Wichita State; PHD 1990 Georgia State

**KEATING, COLLEEN L.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); MD 1993 Texas-Galveston

**KEE, VICKI R.**, Clinical Assistant Professor, Pharmacy, 2003 (2003); PHARMD 1999 Samford University McWhorter S

**KEEL, THOMAS WAYNE**, Adjunct Lecturer, Health Management & Policy, 1993 (1993); MA 1979 Iowa

**KEENAN, GAIL**, Adjunct Assistant Professor, Nursing, 2003 (2003); BN 1977 Rutgers; MS 1983 Illinois; DPHIL 1994 Iowa

**KEFFALA, VALERIE JUDITH**, Adjunct Assistant Professor, Psych & Quant Foundations, 2003 (2004); BA 1989 California; PHD 1996 Iowa

**KEIMIG, TIFFANY MARIE**, Adjunct Instructor, Social Work, 2008 (2008); AA 1999 Southeastern Community; BS 2001 Iowa State; MS 2006 Iowa; MSW 2006 University of Iowa

**KEITH, KEVIN SCOTT**, Adjunct Lecturer, Management & Organizations, 2010 (2010); BA 1974 Luther; MBA 2004 Iowa

**KELCHEN, CRAIG J.**, Adjunct Instructor, Interdisciplinary Programs, 2004 (2004); BA 1996 Northern Iowa; BA 2000 Northern Iowa

**KELL, GLENN LEROY**, Adjunct Lecturer, General University College, 2009 (2009); BA 1973 MidAmerica Nazarene; MDIV 1977 Nazarene Theological Seminary; DMIN 1984 North American Baptist; PHD 2003 Iowa

**KELLEMS, RUTH A.**, Emeritus Assistant Professor, Pharmacy, 1984 (1984);

**KELLER, JOHN C.**, Professor, Oral & Maxillofacial Surgery/Biomedical Engineering, 1988 (1991); BS 1974 Illinois; MS 1978 Northwestern; PHD 1982 Northwestern

**KELLEY, CHARLOTTE MARY**, Adjunct Instructor, Nursing, 2003 (2003); BS 1992 Grand View College; MS 1997 Iowa

**KELLEY, MOLLY MEAGAN**, Lecturer, English as Second Language, 2009 (2010); BA 2007 Iowa; MA 2008 Iowa

**KELLEY, PATRICIA LOU**, Emeritus Professor, Social Work, 1974 (1993); BA 1956 Carleton; MSW 1959 Minnesota; PHD 1981 Iowa

**KELLEY, ROBERT E.**, Emeritus Professor, English, 1966 (1975); BA 1960 Creighton; PHD 1968 Indiana

**KELLY, EARL PATRICK**, Adjunct Associate Professor, Social Work, 2007 (2007); BA Iowa; MSW St Louis

**KELLY, KAREN M.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 1998 Midwestern

**KELLY, KEVIN MICHAEL**, Adjunct Associate Professor, Occupational & Environmental Health/Anthropology/Community & Behavioral Health, 1982 (1997); BA 1977 Iowa; AM 1980 Illinois; PHD 1988 Illinois

**KELLY, LOUISE B.**, Emeritus Associate Professor, Rhetoric, 1949 (1974); BA 1945 Iowa; MA 1948 Iowa

**KELLY, MICHAEL**, Clinical Professor, Pharmacy, 1994 (2010); BS 1973 Iowa; PHARMD 1988 Iowa; MS 1989 Iowa

**KELLY, MITCHELL JAY**, Clinical Associate Professor, Psych & Quant Foundations, 1990 (2006); PHD 1995 Iowa

**KELLY, STEVEN MICHAEL**, Adjunct Assistant Professor, Pediatric Dentistry, 1991 (1991); DDS 1988 Iowa; MS 1990 Iowa

**KELLY GRIEF, MARY**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); BS 1982 Loyola

**KELSAY, DANIELLE MARIE RUBINO**, Clinical Associate Professor, Communication Sciences and Disorders, 1993

(2006); BS 1984 Iowa; MA 1987 Iowa

**KEMP, JOHN D.**, Professor, Pathology, 1982 (1990); BA 1971 Indiana; MD 1975 Indiana

**KEMP, KATHLEEN MARIE**, Adjunct Instructor, Social Work, 2007 (2007); MSW 1990 Iowa

**KEMP, MARTHA ANN**, Adjunct Assistant Professor, Pharmacy, 2000 (2002); MBA 1990 Iowa

**KEMP, ROBERT L.**, Emeritus Assistant Professor, Communication Studies, 1966 (1969); BA 1951 Iowa State Teachers; MA 1961 Northern Iowa

**KEMPCHINSKY, PAULA M.**, Associate Professor, Spanish & Portuguese, 1986 (1992); BS 1976 East Stroudsburg State; MA 1980 Minnesota; PHD 1986 California-Los Angeles

**KENDALL, SARA LYNN**, Clinical Adjunct Instructor, Nursing, 1992 (1992); BSN 1990 Mt. Mercy; MSN 1999 Iowa

**KENNEDY, ANN MARIE**, Adjunct Assistant Professor, Interdisciplinary Programs, 2009 (2009); BA 1989 Holy Cross; MA 1996 Iowa; MFA 1998 Iowa

**KENNEY, MELANIE ANN**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MA 1991 Iowa

**KENT, KELLY JOANN**, Adjunct Assistant Professor, Pharmacy, 2008 (2005); PHARM 2003 Iowa

**KENT, THOMAS H.**, Emeritus Professor, Pathology, 1966 (1972); BA 1956 Iowa; MD 1959 Iowa

**KENWORTHY, MAURA HOYT**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BA 1998 Iowa; DAUD 2002 South Florida

**KEPPLER-NOREUIL, KIM M.**, Clinical Professor, Pediatrics, 1996 (2008); BA 1984 Grinnell; MD 1989 Southern Illinois

**KEPROS, SARA KATHLEEN**, Lecturer, Teaching and Learning, 2003 (2003); BA 1994 Clarke, Dubuque, IA; MA 2003 Iowa

**KERBER, CYNTHIA**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1976 Iowa; MSN 1980 Southern Illinois; PHD 2001 Illinois State

**KERBER, LINDA K.**, Professor, History/Law-Faculty, 1971 (1975); AB 1960 Barnard; MA 1961 New York; PHD 1968 Columbia

**KERBER, RICHARD E.**, Professor, Internal Medicine/Emergency Medicine, 1971 (1978); BA 1960 Columbia; MD 1964 New York

**KERBY, SHAWN M.**, Adjunct Instructor, Preventive & Community Dentistry, 2006 (2006); DDS 2004 Iowa

**KERNS, ETHAN**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); DDS 2007 Iowa

**KERNS, EUGENE L.**, Clinical Adjunct Lecturer, Obstetrics & Gynecology, 1982 (1982); MD 1974 Iowa

**KERNS, ROBERT J.**, Associate Professor, Pharmacy, 2002 (2006); BS 1991 Iowa State; PHD 1996 Iowa

**KERR, BROOKE CHRISTINE RYHERD**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DDS 2009 Iowa

**KESHWANI, ANISH**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); MBBS 1989 Mumbai, India; MD 1992 Mumbai, India

**KESSEL, RICHARD G.**, Emeritus Professor, Department of Biology, 1961 (1968); BS 1953 Parsons; MS 1956 Iowa; PHD 1959 Iowa

**KESSLER, JASON RICHARD**, Clinical Adjunct Assistant Professor, Pediatrics, 2008 (2008); MD 1998 Iowa

**KETTERER, ROBERT C.**, Professor, International Programs/Cinema & Comparative Literature/Classics, 1988 (2008); BA 1974 Lawrence; MA 1976 Michigan; PHD 1981 Michigan

**KETTERING, JON DARWIN**, Adjunct Lecturer, Finance, 1998 (1998); MBA 1979 Iowa

**KETTNER, LINDA S.**, Adjunct Lecturer, General University College, 2009 (2009); BA 1971 Northern Iowa

**KEYES, MARGARET N.**, Emeritus Professor, Optical Science Tech Center OSTC, 1951 (1975); BA 1939 Cornell; MS 1951 Wisconsin; PHD 1965 Florida State; LHD 1976 Cornell

**KHADEMI, SHAHRAM**, Assistant Professor, Biochemistry/Physiology, 2005 (2005); PHD 2001 Texas A & M

**KHAN, ABUL**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); MBBS 1996 Dhaka; MBBS 1996 Dhaka Medical College

**KHANDELWAL, MEENA RANI**, Associate Professor, Women's Studies/Anthropology/International Programs, 2001 (2007); BA 1985 Virginia; MA 1988 Virginia; PHD 1995 Virginia

**KHERA, SATISH C.**, Professor, Operative Dentistry/Biomedical Engineering, 1972 (1988); BDS 1968 Lucknow-India; MS 1970 Iowa; DDS 1974 Iowa

**KHOO, TECK**, Clinical Adjunct Assistant Professor, Internal Medicine, 2009 (2009); BA 1998 Kuala Lumpur, Malaysia; MD 2001 Calgary

**KHURANA, SURJIT S.**, Professor, Mathematics, 1968 (1979); BA 1953 Punjab-India; MA 1955 Punjab-India; PHD 1968 Illinois

**KHURRAM, IRFAN M.**, Clinical Assistant Professor, Internal Medicine, 2008 (2009); MBBS 2001 Agakhan

**KIDD, LOVAR DAVIS**, Adjunct Instructor, Dance, 2010 (2010);

**KIEFFER, BEN**, Adjunct Instructor, Journalism & Mass Communication, 2005 (2005); BA 1986 Iowa

**KIENZLE, GEORGE C.**, Emeritus Assistant Professor, Oral Path,Radiology&Medicine, 1966 (1996); DDS 1958 Iowa

**KIENZLE, MICHAEL G.**, Professor, Internal Medicine/Nursing/Health Management & Policy, 1984 (1997); BS 1973 Iowa; MD 1977 Iowa

**KIERAN, KATHLEEN**, Clinical Assistant Professor, Urology, 2010 (2010); MD 2002 Boston

**KIJEWski, VICKI J.**, Clinical Associate Professor, Psychiatry/Internal Medicine, 2003 (2010); MED 1990 Eastern Washington; MD 1998 Missouri

**KILLIP, DEVORE E.**, Emeritus Professor, Operative Dentistry, 1966 (1972);

**KIM, CHONG LIM**, Emeritus Professor, Political Science, 1967 (1976); BA 1960 Seoul-Korea; MA 1965 Oregon; PHD 1968 Oregon

**KIM, HYUNGGUN**, Adjunct Assistant Professor, Biomedical Engineering, 2005 (2007); BS 1997 Korea Inst. Of Science & Tech; PHD 2005 Iowa

**KIM, JAE-ON**, Professor, Sociology/International Programs, 1970 (1981); BA 1961 Seoul-Korea; MS 1964 Southern Illinois; PHD 1976 California-Berkeley

**KIM, JINSUH**, Assistant Professor, Radiology, 2005 (2005); MD 1993 Soonchunhyang

**KIM, KYUNGMIN**, Assistant Professor, Economics, 2010 (2010); BA 2004 Seoul National; PHD 2009 Pennsylvania

**KIM, YONG-CHAN**, Assistant Professor, Community & Behavioral Health, 2007 (2007); MA 1996 State Univ of New York; PHD 2003 Southern California

**KIM, YUSUNG**, Assistant Professor, Radiation Oncology, 2007 (2007); PHD 2007 Wisconsin

**KIMM, VANESSA ALEXANDRA**, Clinical Instructor, Nursing, 2004 (2005); BSN 2001 Iowa; MSN 2003 Iowa

**KIMMICH, JOHN**, Professor, Journalism & Mass Communication, 1990 (2007); BS 1973 Illinois-Urbana; MA 1978 Purdue

**KIMURA, JUN**, Professor, Neurology, 1972 (1977); BT 1957 Kyoto-Japan; MD 1961 Kyoto-Japan

**KIMURA, KEN**, Emeritus Professor, Surgery, 1987 (1991); MD 1963 Kobe-Japan; PHD 1976 Kobe-Japan

**KINGMA, KELLY LEE**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); DDS 2008 Iowa

**KINGMA, KELLY LEE**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); DDS 2008 Iowa

**KINSEY-FIELDS, JONI**, Professor, Art & Art History, 1991 (2006); BFA 1981 Tulsa; MA 1984 Washington; PHD 1989 Washington

**KIRALY, JOHN JR**, Emeritus Associate Professor, Teaching and Learning, 1970 (1974); MA 1966 Nevada; PHD 1970 Minnesota

**KIRBY, JOHN R.**, Associate Professor, Microbiology, 2007 (2007); BS 1992 Illinois @ Champaign; PHD 1998 Illinois-Champaign

**KIRBY, PATRICIA ANNE**, Clinical Professor, Ophthalmology & Visual Science/Pathology, 1996 (2008); MBBCH 1979 Witwatersrand-South Africa; MMED 1986 Stellenbosch Med Schl-S Africa; MRC 1993 Royal College of Pathologists; FRACS 2001 Fellow of the Royal College

**KIRBY, ROBERT F.**, Adjunct Associate Professor, Psychology, 1990 (1996); BS 1978 Washington State; MA 1983 Virginia; PHD 1984 Virginia

**KIRCHHOFF, LOUIS V.**, Professor, Epidemiology/Internal Medicine, 1985 (1997); AB 1966 Harvard; BA 1972 California-San Diego; MD 1977 Yale; MPH 1977 Yale

**KIRCHNER, PETER T.**, Emeritus Professor, Radiology, 1981 (1983); BA 1960 Yale; MD 1964 Columbia

**KIRK, KAREN ILER**, Professor, Communication Sciences and Disorders, 2009 (2009); BA 1978 California; MS 1987 Southern California; PHD 1991 Iowa

**KIRK, WILLIAM A.**, Professor, Mathematics, 1967 (1970); BA 1958 DePauw; MA 1960 Missouri; PHD 1962 Missouri

**KIRSCH, GWENDOLYN LEE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHAR 2000 Iowa

**KIRSCH, LEE E.**, Professor, Pharmacy/Chemical & Biomedical Engineering, 1994 (2010); BS 1975 Purdue; PHD 1982 Ohio State

**KIRSCHLING, BRIAN R.**, Clinical Assistant Professor, Ophthalmology & Visual Science, 2000 (2000); BA 1995 Iowa; OD 1997 Illinois

**KISER, CAROL ANGELA**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2000 Iowa

**KISKER, C THOMAS**, Emeritus Professor, Pediatrics, 1973 (1979); BA 1958 Johns Hopkins; MD 1962 Cincinnati

**KITAMOTO, TOSHIHIRO**, Associate Professor, Anesthesia, 2003 (2010); BS 1982 Tokyo, Japan; MS 1984 Tokyo, Japan; PHD 1987 Tokyo, Japan

**KITTLESON, JUDITH**, Clinical Adjunct Instructor, Pathology, 2010 (2010); BS 1977 Augustana

**KITTRELL, TRACY MARIE**, Adjunct Assistant Professor, Family Dentistry, 1986 (2000); BS 1982 Iowa; DDS 1985 Iowa

**KITZMAN, DENNIS WILLIAM**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARMD 2005 University of Iowa; PHAR 2005 Iowa

**KITZMANN, ANNA SARA**, Assistant Professor, Ophthalmology & Visual Science, 2009 (2009); BA 1999 Carleton College; MD 2003 Mayo Medical

**KLAHN, JEFF E.**, Lecturer, Department of Biology, 1990 (1997); PHD 1981 Iowa

**KLAIBER, CHRISTOPHER CARL**, Assistant Professor, Aerospace Studies, 2008 (2008); BA 2000 Iowa; MA 2003 Webster

**KLAPPER, GILBERT**, Emeritus Professor, Geoscience, 1968 (1973); BS 1956 Stanford; MS 1958 Kansas; PHD 1962 Iowa

**KLASSON, CHARLES**, Emeritus Professor, Management & Organizations, 1967 (1967);

**KLATT, SUSAN A.**, Adjunct Lecturer, General University College, 2009 (2009); BBA 1987 Iowa State; MBA 2006 Iowa

**KLAUS, CARL H.**, Emeritus Professor, English, 1962 (1973); BA 1953 Michigan; MA 1954 Michigan; PHD 1966 Cornell

**KLEIBER, CHARMAINE MARIE**, Associate Professor, Nursing, 2000 (2004); BSN 1973 Kansas; MS 1979 Colorado; PHD 1999 Iowa

**KLEIBER, PAUL D.**, Professor, Physics & Astronomy, 1985 (1993); BA 1976 Occidental; MS 1980 Colorado; PHD 1981 Colorado

**KLEIN, DENNIS**, Clinical Adjunct Assistant Professor, Pathology, 2002 (2002); BA 1987 Bowdoin College, Maine; MD 1992 Vermont

**KLEIN, JOHN**, Clinical Adjunct Assistant Professor, Family Medicine, 2002 (2002); BS 1984 Rocky Mount, College, MT.; MD 1994 Utah

**KLEIN, JONATHAN M.**, Associate Professor, Pediatrics, 1990 (1997); BA 1980 Johns Hopkins; MD 1984 Medical College of VA

**KLEIN, PHILIP W.**, Emeritus Associate Professor, Spanish & Portuguese, 1977 (1984); BA 1962 Grinnell; MA 1968 Washington; PHD 1974 Washington

**KLEINFELD, ERWIN**, Emeritus Professor, Mathematics, 1968 (1968); BS 1948 City College of New York; MA 1949 Pennsylvania; PHD 1951 Wisconsin

**KLEINFELD, MARGARET**, Emeritus Professor, Mathematics, 1968 (1996); BA 1960 Rochester; MS 1963 Syracuse; PHD 1965 Syracuse

**KLEINSCHMIT, JULIA L.**, Clinical Associate Professor, Social Work, 1999 (2009); BS 1990 Nebraska; MSW 1997 Iowa

**KLEMM, DAVID EUGENE**, Professor, Religion, 1982 (1994); BA 1972 Marlboro; PHD 1980 Iowa

**KLEMUK, SARAH ALLISON**, Adjunct Assistant Professor, Communication Sciences and Disorders, 2007 (2007); BA 1989 Northern Iowa; BS 2000 Iowa; PHD 2007 Iowa

**KLESNEY-TAIT, JULIA**, Assistant Professor, Internal Medicine, 2007 (2007); BA 1990 Creighton; PHD 1998 UT Southwestern Med Ctr; MD 1998 UT Southwestern Med

**KLETZING, CRAIG**, Professor, Physics & Astronomy, 1996 (2005); BA 1981 California-Berkeley; MS 1983 California-San Diego; PHD 1989 California-San Diego

**KLINE, JOEL N.**, Professor, Occupational & Environmental Health/Inst for Clinical and Translational Science/Internal Medicine, 1993 (2005); BA 1983 Brown; MD 1986 Brown

**KLINGELHUTZ, ALOYSIUS JOHN**, Associate Professor, Microbiology/Radiation Oncology, 1999 (2006); BS 1986 St Johns; PHD 1991 Wisconsin

**KLINGLER, GEORGE S.**, Emeritus Associate Professor, Communication Studies, 1974 (1982); BA 1962 Bucknell; PHD 1974 Iowa

**KLINK, WILLIAM H.**, Emeritus Professor, Physics & Astronomy, 1965 (1976); BA 1959 Michigan; PHD 1964 Johns Hopkins

**KLISE, KURT J.**, Clinical Adjunct Assistant Professor, Family Medicine, 1997 (2002); BA 1978 Washburn; MD 1982 Kansas

**KLITGAARD, CHRISTOPHER MICHAEL**, Adjunct Lecturer, Health Management & Policy, 2008 (2008); BBA 1996 Iowa; MBA 1998 Iowa; MHA 1999 Iowa

**KLITGAARD, ERIN CHRISTINE JOHNSON**, Adjunct Assistant Professor, Management & Organizations, 2006 (2006); BBA 2000 Iowa; PHD 2006 Iowa

**KLOBUCAR, THOMAS FRANCIS**, Adjunct Assistant Professor, Political Science, 2003 (2003); BA 1987 Angelo State; MA 1995 Iowa; PHD 2003 Iowa

**KLUG, BEVERLY JEAN EUBANK**, Adjunct Lecturer, Psychiatry/General University College, 1999 (1999); BS 1974 Iowa; MA 1985 Iowa

**KLUTTS, JAMES STACEY**, Assistant Professor, Pathology, 2007 (2007); MD 2002 Arkansas; PHD 2002 University of Arkansas

**KNABE, JUDITH M.**, Adjunct Instructor, Communication Sciences and Disorders, 1985 (1996); BA 1963 Indiana; MS 1964 Wisconsin

**KNAPP, CAROL ANN**, Adjunct Assistant Professor, Accounting, 2009 (2009); MAC 1993 Oklahoma; PHD 1995 Oklahoma

**KNAPP, L W JR**, Emeritus Professor, Occupational & Environmental Health, 1959 (1969); BS 1951 Cornell; MS 1955 Cornell

**KNAPP, MICHAEL CHRIS**, Adjunct Professor, Accounting, 2009 (2009); BBA 1976 Oklahoma; PHD 1983 Oklahoma

**KNESTING, KIMBERLY**, Lecturer, Teaching and Learning, 2010 (2010); BA 1990 Carthage; PHD 2000 Indiana

**KNIGHT, MEGAN LINNET**, Lecturer, Rhetoric, 1998 (2001); MFA 1998 Iowa

**KNIPPER, JANE S.**, Clinical Adjunct Assistant Professor, Nursing, 1978 (2000); BSN 1975 Iowa; MA 1983 Iowa

**KNOCKEL, LAURA E.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2005 Iowa

**KNORR, GEORGE**, Emeritus Professor, Physics & Astronomy, 1967 (1974); BS 1954 Inst of Technol Munich-Germany; PHD 1963 Inst of Technol Munich-Germany

**KNUDSON, BETH RYDSTROM**, Adjunct Lecturer, Management & Organizations, 2008 (2008); BS 1985 Indiana; MBA 1988 Iowa

**KNUDSON, C MICHAEL**, Associate Professor, Pathology/Radiation Oncology, 1998 (2005); BSE 1984 Iowa; PHD 1992 Iowa; MD 1992 Iowa

**KNUDSON, MARY KAY**, Adjunct Assistant Professor, Economics, 2006 (2006); BS 1981 Minnesota; MS 1983 Wisconsin; PHD 1988 Minnesota



**KNUDTSON, NANCY ANN**, Adjunct Instructor, Nursing, 2001 (2001); MS 1995 South Dakota State

**KNUTSON, JOHN**, Professor, Psychology, 1969 (1981); BA 1964 Augustana; MS 1967 Washington State; PHD 1969 Washington State

**KO, YONG-JOON**, Assistant Professor, Prosthodontics, 2006 (2006); DDS 1997 Seoul National; MS 2000 Seoul National; MS 2006 Iowa

**KOCH, BRENTON BERL**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 2003 (2003); BA 1989 Drake; MD 1995 Iowa

**KOCH, YVONNE DESLOOVER**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2000 Iowa

**KOCHANSKA, GRAZYNA**, Professor, Psychology, 1991 (1995); MA 1974 Warsaw-Poland; PHD 1979 Warsaw-Poland

**KOEHN, DARCY LU BROWN**, Adjunct Assistant Professor, Nursing, 1988 (2007); MA 1987 Iowa

**KOEHN, KATHERINE LOUISE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BSPH 1996 South Dakota State; PHARMD 1998 South Dakota State

**KOERNER, THEODORE ALFRED WILLIAM**, Emeritus Associate Professor, Pathology, 1986 (1988); BS 1970 Louisiana State; PHD 1975 Louisiana State; MD 1978 Tulane

**KOFFEL, JONATHAN**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BA 2002 Carleton, MN; AMLS 2005 Michigan

**KOHATSU, NEAL**, Adjunct Associate Professor, Epidemiology, 2003 (2003); BA 1978 Stanford; MD 1982 Pittsburgh; MPH 1985 Minnesota

**KOHEN, AMNON**, Professor, Chemistry, 1999 (2010); BSC 1989 Hebrew; DSC 1994 Technion-Israel

**KOHLER, CONNIE LOUISE**, Adjunct Associate Professor, Community & Behavioral Health, 2008 (2008); BA 1973 Iowa; MA 1978 Iowa; PHD 1991 UAB

**KOHNEN, TERRENCE JOSEPH**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BS 1998 Iowa; PHARMD 2003 Iowa

**KOHOUT, FRANK J.**, Emeritus Professor, Periodontics, 1969 (1988);

**KOLAND, JOHN G.**, Associate Professor, Pharmacology, 1990 (1996); BS 1977 Minnesota; PHD 1983 Illinois-Urbana

**KOLAR, ANNE F.**, Clinical Assistant Professor, Psychiatry, 2003 (2003); BS 1979 Iowa; MD 1983 Iowa

**KOLDER, HANSJOERG E.**, Emeritus Professor, Ophthalmology & Visual Science, 1968 (1973); MD 1950 Vienna-Austria; PHD 1959 Vienna-Austria

**KOLDER, VERONIKA E.**, Clinical Assistant Professor, Obstetrics & Gynecology, 1995 (2008); MD 1983 IOWA

**KOLEN, MICHAEL J.**, Professor, Psych & Quant Foundations, 1984 (1997); BS 1973 Iowa; MA 1975 Arizona; PHD 1979 Iowa

**KOLEVA, HRISTINA K.**, Clinical Assistant Professor, Psychiatry, 2010 (2010); MD 2003 Sofia, Bulgaria

**KOLKER, JUSTINE LANE**, Associate Professor, Operative Dentistry, 2005 (2010); DDS 1996 Iowa; MS 2000 Iowa; PHD 2003 Iowa

**KOLLMORGEN, DANIEL ROBERT**, Clinical Adjunct Assistant Professor, Surgery, 2004 (2004); MD 1990 Iowa

**KOMISARUK, CATHERINE HELEN**, Assistant Professor, History, 2006 (2006); AB 1988 Harvard; MA 1994 California @ Los Angeles; PHD 2000 California @ Los Angeles

**KOMMER, SIMONE JEANNINE**, Adjunct Instructor, Preventive & Community Dentistry, 2001 (2001); AA 1985 Southern Illinois

**KONETY, BADRINATH R.**, Adjunct Associate Professor, Epidemiology, 2001 (2008); MBBS 1990 Ramajah Medical; MBA 2000 Katz

**KOPELMAN, ROBIN COOK**, Clinical Assistant Professor, Psychiatry, 2003 (2006); BA 1995 Grinnell; MD 1999 Iowa

**KOPELSON, KEVIN R.**, Professor, English, 1992 (2004); BA 1979 Yale; JD 1982 Columbia; MA 1988 Brown; PHD 1991 Brown

**KOPP, ULLA C.**, Professor, Pharmacology/Internal Medicine, 1988 (2006); BSC 1970 Uppsala-Sweden; PHD 1980 Gothenburg-Sweden

**KORNEGAY, VANCE L.**, Adjunct Professor, Journalism & Mass Communication, 2010 (2010); BS 1981 South Carolina; MA 1988 South Carolina

**KOROVKINA, VICTORIA PAVLOVNA**, Assistant Professor, Obstetrics & Gynecology, 2005 (2009); MD 1989 Ukraine

**KORPEL, ADRIANUS**, Emeritus Professor, Electrical-Computer Engineering, 1977 (1977); BS 1953 DELFT-Netherlands; MS 1955 DELFT-Netherlands; PHD 1969 DELFT-Netherlands

**KORTANEK, KENNETH O.**, Emeritus Professor, Management Sciences, 1986 (1986); BS 1958 Northwestern; MS 1959 Northwestern; PHD 1964 Northwestern

**KORTHANK GABALDON, AMY JOHANNA**, Adjunct Lecturer, College Transition, 2005 (2005); BS 1994 New Mexico; MA 1997 Iowa

**KOSSMAN, SUSAN P.**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1976 Saint Louis; MSN 1998 Texas Health Sci Ctr; PHD 2003 Illinois State

**KOSTINA, IRINA**, Lecturer, Asian & Slavic Languages & Literature, 2001 (2001); PHD 1985 Pushkin

**KOTTICK, EDWARD L.**, Emeritus Professor, Music, 1968 (1976);

**KOTTMAN, E JOHN**, Emeritus Associate Professor, Marketing, 1956 (1967); BA 1949 Iowa; MA 1956 Iowa; PHD 1963 Iowa

**KOVALESKI, THOMAS**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DDS 1978 Minnesota

**KOVENOCK, DANIEL JOHN**, Professor, Political Science/Economics, 2008 (2008); BSC 1977 Hebrew Univ. of Jerusalem; PHD 1983 Wisconsin - Madison

**KOWAL, REBEKAH J.**, Associate Professor, Dance, 2001 (2009); BA 1988 Barnard-Columbia; PHD 1999 New York

**KRAFT, NANCY E.**, Adjunct Instructor, Library & Information Science, 2005 (2005); BA 1975 South Dakota; MA 1980 Iowa

**KRAIG, MICHAEL RYAN**, Adjunct Assistant Professor, International Programs, 2004 (2004); BA 1993 Moorhead State; PHD 2001 SUNY at Buffalo

**KRAIMER, MARIA LISA**, Associate Professor, Management & Organizations, 2008 (2008); MBA 1994 Illinois @ Chicago; PHD 1999 Illinois @ Chicago

**KRAJEWSKI, WITOLD F.**, Professor, Civil-Environmental Engineering, 1987 (1996); MS 1976 Warsaw University of Technolog; PHD 1980 Warsaw University of Technolog

**KRAL, LEE A.**, Adjunct Assistant Professor, Pharmacy/Anesthesia, 2003 (2003); BSPH 1993 Iowa; PHARMMD 1996 Iowa

**KRASOWSKI, MATTHEW DAVID**, Clinical Assistant Professor, Pathology, 2009 (2009); MD 2001 Chicago

**KRAUS, VICKI L.**, Clinical Adjunct Assistant Professor, Nursing, 2000 (2000); BSN 1969 Wisconsin; MS 1974 Wisconsin; PHD 1997 Iowa

**KREDER, KARL**, Professor, Urology, 1992 (1999); BA 1977 Assumption-Massachusetts; MD 1981 Georgetown; MBA 2007 University of Iowa

**KREGEL, KEVIN C.**, Professor, Integrative Physiology/Radiation Oncology, 1993 (2001); BS 1981 Iowa; PHD 1987 Iowa

**KREITER, CLARENCE DENNIS**, Professor, Family Medicine, 2000 (2008); BS 1977 Iowa; MA 1985 Iowa; PHD 1993 Iowa

**KRELL, KEITH V.**, Adjunct Professor, Endodontics, 1975 (2003); BA 1970 Washington-St. Louis; MA 1975 United States International; DDS 1981 Iowa; MS 1983 Iowa

**KREMENAK, CHARLES R.**, Emeritus Professor, Orthodontics/Otolaryngology-Head & Neck Surgery, 1959 (1973); DDS 1955 Iowa; MS 1961 Iowa

**KRESNICKA, DAVID E.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BA 1969 Illinois; MD 1973 Illinois

**KRESOWIK, TIMOTHY F.**, Professor, Radiology/Surgery, 1988 (2001); BS 1976 Michigan; MD 1980 Michigan; MS 1984 Michigan

**KRETZSCHMAR, ROBERT M.**, Clinical Adjunct Professor, Obstetrics & Gynecology, 1962 (1985); MD 1957 Michigan

**KREYD, VADIM**, Emeritus Professor, Russian, 1985 (1993); MA 1960 Leningrad-Russia; PHD 1983 Michigan

- KRIEG, ARTHUR M.**, Professor, Internal Medicine, 1991 (1998); BS 1979 Haveford; MD 1983 Washington-St. Louis
- KRIGSTEN, LISA MICHELLE**, Adjunct Lecturer, Law-Faculty, 2009 (2009); BA 1992 Kansas; JD 1995 Iowa College of Law
- KRISHNAMURTHY, MUTHUKRISHNAN**, Assistant Professor, Mathematics, 2006 (2006); BTECH 1996 Indian Inst of Tech; PHD 2002 Purdue
- KRISTOF-BROWN, AMY**, Professor, Management & Organizations, 1997 (2008); BS 1992 Richmond; PHD 1997 Maryland
- KROKHMAL, PAVLO**, Assistant Professor, Industrial Engineering, 2005 (2005); MS 1996 Kiev National; PHD 1999 Kiev National; PHD 2003 Florida
- KROSS, BURTON CLARE**, Adjunct Associate Professor, Occupational & Environmental Health, 1984 (1992); PHD 1987 Iowa
- KRUEGER, ADAM CHARLES**, Adjunct Assistant Professor, Art & Art History, 2009 (2009); BFA 2001 SUNY - Fredonia; MA 2005 Iowa
- KRUGER, ANTON**, Associate Professor, Electrical-Computer Engineering/Civil-Environmental Engineering, 1996 (2006); MENG 1986 Potchefstroom University (RSA); PHD 1992 Iowa
- KRUGER, MARIE**, Assistant Professor, International Programs/English, 2004 (2004); MA 1995 Zu Koln, Germany; MA 2000 Wisconsin; PHD 2001 Wisconsin
- KRUMBHOLZ, JOHN ANTHONY**, Clinical Adjunct Assistant Professor, Educ Policy & Leadership Studies, 2004 (2004); BA 1974 Coe College; MA 1982 Iowa
- KRUMMEL, MICHELLE LEIGH**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BSPH 1993 Iowa
- KRUSE, LOUISE G.**, Emeritus Assistant Professor, Nursing, 1972 (1975); BSN 1961 Mankato State; MA 1972 Iowa
- KUEHN, DAVID MICHAEL**, Clinical Associate Professor, Radiology, 2002 (2005); BS 1987 Iowa; MD 1992 Iowa
- KUEHN, MARKUS H.**, Assistant Professor, Ophthalmology & Visual Science, 2007 (2007); PHD 2000 Saint Louis
- KUENZLI, RUDOLF E.**, Emeritus Professor, English, 1970 (1982); LIC 1964 Zurich; MA 1968 Wisconsin; MA 1969 Wisconsin; PHD 1971 Wisconsin
- KUFFEL, MARY E.**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 1999 (1999); MD 1993 Iowa
- KUHL, JON GREGORY**, Professor, Electrical-Computer Engineering/Public Policy Center, 1980 (1992); BS 1975 Iowa; MS 1977 Iowa; PHD 1980 Iowa
- KUHN, JERRY N.**, Emeritus Professor, Educ Policy & Leadership Studies/Teaching and Learning, 1954 (1964); BA 1948 Central Missouri; MA 1951 Central Missouri; PHD 1954 Iowa
- KUHN, STEPHANIE**, Adjunct Lecturer, College Transition, 2008 (2008); MS 2005 Indiana
- KULIG, CARMEN L.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMMD 2002 Drake
- KUMAR, AVINASH BHARGAVA**, Clinical Associate Professor, Anesthesia, 2005 (2010); MBBS 1996 Univ Mysore, India
- KUMAR, NARESH**, Assistant Professor, Geography, 2005 (2005); MA 1990 Maharshi Dayanand India; MPHIL 1992 Maharshi Dayanand, India; PHD 1999 Durham, UK
- KUMAR, PRIYA**, Associate Professor, English, 2000 (2007); BA 1992 Lady Shri Ram; MA 1994 Jawaharal Nehru
- KUMAR, SUDHIR**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); MBBS 1992 Bangalore Medical
- KUMAR, VIJAY**, Associate Professor, Pharmacy, 1992 (2002); BS 1970 Kanpur; MS 1972 Lucknow; PHD 1976 Lucknow; PHD 1981 Concordia
- KUMBERA, PATTY A.**, Adjunct Assistant Professor, Pharmacy, 2000 (2004); BS 1988 Drake
- KUNERT, PAMELA JOAN**, Clinical Adjunct Instructor, Nursing, 2004 (2004); BSN 1997 Lincoln, Missouri; MSN 2001 Iowa
- KUNTZ, J KENNETH**, Emeritus Professor, Religion, 1967 (1976); BA 1956 Grinnell; BD 1959 Yale; PHD 1963 Union Theological Seminary
- KUNTZ, KAREN A.**, Clinical Adjunct Instructor, Nursing, 2000 (2000); PHD 1988 Case Western Reserve

**KUNZE, KENT E.**, Clinical Adjunct Assistant Professor, Psychiatry, 2007 (2007); BA 1980 Wesleyan; MD 1984 Iowa

**KUPERMAN, SAMUEL**, Professor, Psychiatry, 1983 (2000); BA 1975 Iowa; MD 1978 Iowa

**KUPERSMITH, WILLIAM R.**, Emeritus Professor, English, 1972 (1981); BA 1963 Georgetown; PHD 1969 Texas

**KURT, JENNIFER MARIE**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1996 Iowa

**KURTH, WILLIAM S.**, Adjunct Professor, Physics & Astronomy, 2006 (2006); BA 1973 Iowa; MS 1975 Iowa; PHD 1979 Iowa

**KURTT, JODY LYN**, Clinical Adjunct Assistant Professor, Nursing, 1992 (2001); BSN 1977 Coe; MA 1990 Iowa

**KURTZ, SHELDON F.**, Professor, Surgery/Law-Faculty, 1973 (1976); AB 1964 Syracuse; LLB 1967 Syracuse; JD 1967 Syracuse

**KUSIAK, ANDREW**, Professor, Industrial Engineering/Nursing, 1988 (1988); BSC 1972 Warsaw Technical; MSC 1974 Warsaw Technical; PHD 1979 Polish Academy of Science

**KUTCHER, PATRICIA M.**, Adjunct Instructor, Health, & Sport Studies, 1987 (1998); BS 1975 Iowa

**KUTHY, RAYMOND A.**, Professor, Public Policy Center/Preventive & Community Dentistry, 1999 (1999); BS 1969 Mount St. Mary's; DDS 1973 Temple; MPH 1979 Minnesota

**KUTSCHKE, PAMELA JOY HERBACH**, Adjunct Instructor, Ophthalmology & Visual Science, 1997 (1997); BS 1984 Illinois-Urbana Champaign

**KUTZKO, PHILIP C.**, Professor, Mathematics, 1974 (1979); BA 1967 City College of New York; MS 1968 Wisconsin; PHD 1972 Wisconsin

**KUUSISTO, STEPHEN ALLAN**, Professor, Ophthalmology & Visual Science/English, 2007 (2007); MFA 1980 Iowa

**KUWANA, TOMOMI**, Assistant Professor, Pathology, 2004 (2004); MD 1983 Nigata, Japan; PHD 1989 Nigata, Japan; PHD 1995 Univ. of Cambridge, UK

**KVIDERA, ALLEN PAUL**, Adjunct Assistant Professor, Periodontics, 1986 (1986); PHD 1980 Iowa

**KWIRANT, JAMES A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1983 Nebraska

**KWITEK, ANNE EMILIE**, Associate Professor, Physiology/Internal Medicine, 2007 (2007); BS 1989 Wisconsin @ Stevens Point; PHD 1996 Iowa

**KWON, OJIN**, Adjunct Instructor, Theatre Arts, 2008 (2008); MFA 2002 Yale

**KWON, YOUNG H.**, Professor, Ophthalmology & Visual Science, 1996 (2008); BS 1984 MIT; PHD 1991 MIT; MD 1991 Yale

**KYLES, BARBARA JUNE**, Lecturer, Nursing, 2004 (2005); BSN 1981 Minnesota; MBA 1993 St. Thomas, MN

**LA SEUR, CARRIE LOWRY**, Adjunct Assistant Professor, Occupational & Environmental Health, 2005 (2005); AB 1993 Bryn Maur College; PHD 1996 Oxford; JD 2002 Yale

**LA TOCHA, DEMITRIUS**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); BA 1996 St. Mary's of Winona; DDS 2001 Iowa

**LABRECQUE, DOUGLAS R.**, Professor, Internal Medicine, 1977 (1988); BS 1965 Boston College; MD 1970 Stanford

**LADIEN, FRANKLIN JOSEPH**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1977 Wisconsin

**LAFKY, SUE A.**, Emeritus Associate Professor, Women's Studies, 1990 (1996); BS 1975 Oregon; MA 1986 Indiana; PHD 1990 Indiana

**LAGOS LAVENZ, SUSAN MARIE**, Clinical Associate Professor, Educ Policy & Leadership Studies, 2003 (2003); BA 1972 St Mary of the Woods; MA 1975 Iowa; PHD 1985 Iowa

**LAI, BRIAN H.**, Associate Professor, Political Science/International Programs, 2001 (2007); BA 1996 Northwestern; PHD 2001 Emory

**LAINSON, PHILLIP A.**, Emeritus Professor, Periodontics, 1965 (1975); BA 1960 Iowa; DDS 1962 Iowa; MS 1968 Iowa

**LAKIN, JEAN A.**, Emeritus Associate Professor, Nursing, 1967 (1988); BSN 1959 Michigan; PHD 1962 Iowa; MS 1967 Michigan

**LAL, GEETA**, Assistant Professor, Surgery, 2004 (2004); MD 1995 Toronto; MS 1999 Toronto

**LALUMIERE, RYAN T.**, Assistant Professor, Psychology, 2010 (2010); HS 1996 DeMatha Catholic HS; BA 2000 Mt. St Mary's; BS 2000 Mt. St. Mary's College; PHD 2005 California @ Irvine

**LAMB, FRED S.**, Professor, Pediatrics, 1994 (2007); BS 1982 Michigan; MD 1989 Michigan; PHD 1989 Michigan

**LAMPING, KATHRYN G.**, Associate Professor, Pharmacology/Internal Medicine, 1989 (2001); BS 1976 Illinois-Urbana; MS 1982 Milwaukee Medical; PHD 1983 Milwaukee Medical

**LAMPIRIS, LEWIS N.**, Adjunct Instructor, Preventive & Community Dentistry, 2001 (2001);

**LANAGHAN, JOHN C.**, Clinical Adjunct Assistant Professor, Family Medicine, 2004 (2004); BS 1983 Iowa; MD 1988 Iowa

**LANCE, GEORGE M.**, Emeritus Professor, Mechanical Engineering, 1961 (1970); BSME 1952 Case Institute of Technology; MS 1954 Cast Inst. Of Technology

**LANDINI, GREGORY**, Professor, Philosophy, 1989 (2001); AB 1978 Indiana; MA 1981 Indiana; PHD 1986 Indiana

**LANDON, RICHARD B.**, Professor, English/General University College, 1978 (1991); BA 1970 Centre; MA 1973 Texas-Austin; PHD 1978 Texas-Austin

**LANDSMAN, MIRIAM JOY**, Associate Professor, Social Work, 1988 (2007); BA 1976 Delaware; MSW 1982 Iowa; PHD 2000 Iowa

**LANG, CORNELIA**, Associate Professor, Physics & Astronomy, 2002 (2010); BA 1995 Vassar; MS 1997 California-Los Angeles; PHD 2000 California-Los Angeles

**LANG, JOSEPH B.**, Professor, Biostatistics/Statistics & Actuarial Science, 1992 (2006); BA 1986 St. Cloud State; MS 1988 Florida; PHD 1992 Florida

**LANG, KENNETH**, Adjunct Professor, General University College, 2010 (2010); BS 1959 Iowa State; MS 1966 Iowa; PHD 1970 Iowa

**LANG, SHERYL ANN BARTSCHER**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MA 1994 Iowa

**LANGBEHN, DOUGLAS ROBERT**, Professor, Psychiatry/Biostatistics, 1994 (2009); BA 1983 Drake; MD 1987 Iowa; MS 1988 Iowa; PHD 1996 Iowa

**LANGGUTH, NANCY J.**, Clinical Associate Professor, Teaching and Learning, 2003 (2009); BS 1980 Iowa State; MS 1986 NW Missouri; PHD 1996 Iowa

**LANGHORNE, MARY JO**, Adjunct Instructor, Library & Information Science, 2000 (2000); BA 1968 Hamline; MA 1975 Iowa

**LANGWORTHY, SARA ANN**, Lecturer, Interdisciplinary Programs, 2006 (2007); AB 1994 Grinnell

**LANNOO, MICHAEL J.**, Adjunct Professor, General University College, 2010 (2010); BS 1979 Iowa State; MS 1982 Iowa State; PHD 1986 Dalhousie (Halifax N.S.)

**LANSING, KIMBERLY M.**, Clinical Adjunct Assistant Professor, Family Medicine, 2006 (2006); MS 1988 Penn State; PHD 1992 Hawaii at Manoa; MD 1995 Hawaii at Manoa

**LANTERNIER, MATTHEW LYMAN**, Clinical Assistant Professor, Family Medicine, 2000 (2000); BS 1992 Indiana; MD 1999 Iowa

**LARA-BRAUD, CAROLYN W.**, Emeritus Associate Professor, Health, & Sport Studies, 1975 (1980); BA 1962 Texas; PHD 1969 Texas

**LAREW, MARY SPALDING**, Clinical Associate Professor, Pediatrics, 1985 (2004); BA 1974 Iowa; MD 1978 Iowa

**LARKIN, LEAH**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); BS 2005 Marquette; DDS 2008 Marquette

**LAROCHE, HELENA HILLMAN**, Assistant Professor, Internal Medicine/Pediatrics, 2006 (2009); BA 1994 Brown; MD 1999 Missouri Medical School

**LAROA, ARCHANA**, Clinical Assistant Professor, Radiology, 2009 (2009); MBBS 1989 Gov Med College - India

**LAROA, SANDEEP**, Clinical Assistant Professor, Radiology, 2009 (2009); MD 1987 Indira Gandhi Med College; MBBS 1987 Himachal State, India

**LARONDE, MICHEL S.**, Professor, French & Italian/International Programs, 1982 (2009); LIC 1971 Clermont-Ferrand; MA 1976 Indiana; PHD 1981 Indiana

**LARSEN, CAROLYN P.**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine, 2008 (2008); DDS 1986 Iowa

**LARSEN, RUSSELL G.**, Lecturer, Chemistry, 1995 (2000); PHD 1992 Harvard

**LARSEN, SARAH C.**, Professor, Chemistry, 1995 (2008); BA 1986 Bowdoin; PHD 1992 Harvard

**LARSON, BRANDY LEEANN**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2010 (2010); BS 1997 Iowa State; DDS 2003 Iowa

**LARSON, CHARLES CHESTER**, Clinical Adjunct Assistant Professor, Internal Medicine, 1990 (1990); MD 1982 Iowa

**LARSON, LOIS TERRI**, Adjunct Lecturer, Management & Organizations, 2010 (2010); MA 1984 Iowa

**LARSON, MICHELLE ANNE**, Adjunct Assistant Professor, Biostatistics, 2003 (2003); BS 1989 Iowa; MS 1994 Iowa; PHD 2002 Iowa

**LARSON, PAULA ANN**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1998 Iowa

**LARSON, RICHARD RANDALL**, Assistant Professor, Aerospace Studies, 2008 (2008); BS 2000 Maryland; MBA 2008 Touro International

**LARSON, SHELLY KAY**, Adjunct Instructor, Pharmacy, 2007 (2007); BSPH 1987 South Dakota State

**LARY, SUSAN VIRGINIA**, Clinical Adjunct Instructor, Nursing, 1994 (1994); BSN 1987 Iowa

**LASANSKY, MAURICIO**, Emeritus Professor, Art & Art History, 1945 (1950); DFA 1959 Iowa Wesleyan

**LASSEN, DELWYN LEE**, Clinical Adjunct Assistant Professor, Family Medicine, 1986 (1994); MD 1977 Iowa

**LATCHAM, ALLAN P.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2004); BA 1984 Wartburg; MD 1988 Iowa

**LATENSER, BARBARA ALICE**, Clinical Professor, Surgery, 2004 (2004); BSN 1976 Colorado; MD 1985 Nevada

**LAUGHRUN, DAVID**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); BS 1985 California; MD 1990 George Washington

**LAUHON, CAROL SINCLAIR CAMERON**, Adjunct Assistant Professor, English, 2006 (2006); PHD 2005 Iowa

**LAUR, JOHN J.**, Clinical Assistant Professor, Anesthesia, 2008 (2009); AS 1997 Milwaukee Area Tech; BS 1999 Marquette; MD 2003 Wisconsin

**LAURIAN, LUCIE**, Associate Professor, Urban & Regional Planning, 2004 (2009); PHD 2001 U of N. Carolina Chapel Hill

**LAVELLE, WILLIAM E.**, Emeritus Professor, Otolaryngology-Head & Neck Surgery/Prosthodontics, 1967 (1977); BA 1962 Iowa; DDS 1962 Iowa; MS 1967 Iowa

**LAVEZZO, KATHRYN**, Associate Professor, English, 1999 (2006); BA 1988 Calif-Los Angeles; MA 1991 Virginia; PHD 1999 Calif-Santa Barbara

**LAVIN, MILDRED H.**, Emeritus Assistant Professor, Psych & Quant Foundations, 1971 (2002);

**LAVINE, DERICK**, Adjunct Instructor, Art & Art History, 1999 (1999); BA 1989 Macalester

**LAW, IAN HARRY**, Clinical Professor, Pediatrics, 2000 (2010); BSE 1988 Iowa; MD 1993 Iowa

**LAWLER, ERICKA**, Clinical Assistant Professor, Orthopaedics and Rehabilitation, 2006 (2006); BS 1996 Yale; MD 2000 New York UNI

**LAWRENCE, ERIKA**, Associate Professor, Psychology, 2001 (2009); BA 1992 Emory; MA 1996 UCLA; PHD 2001 UCLA

**LAWRENCE, TODD KENNETH**, Clinical Adjunct Assistant Professor, Family Medicine, 2007 (2007); BS 1996 Mount Mercy; MD 2001 Iowa

**LAWRENCE, WALTER THOMAS**, Professor, Surgery, 2010 (2010); MD 1976 Virginia

**LAWTON, WILLIAM J.**, Emeritus Associate Professor, Internal Medicine, 1973 (1982); BA 1963 Northwestern; MD 1966 Northwestern

**LEAR, BRIDGET C.**, Assistant Professor, Department of Biology, 2010 (2010); BS 1995 Cal - Los Angeles; PHD 2001 Chicago

**LEBLOND, RICHARD F.**, Clinical Professor, Internal Medicine, 1996 (1996); AB 1969 Princeton; MD 1972 Washington-Seattle

**LECUONA, RENE JOAN**, Professor, Music, 1990 (2007); BM 1985 Indiana; MM 1987 Indiana

**LEDDY, JOHNA**, Associate Professor, Chemistry, 1991 (1997); BA 1978 RICE; PHD 1984 Texas

**LEDERHAAS, GEORGE**, Clinical Adjunct Assistant Professor, Anesthesia, 1998 (1998); BS 1984 Miami, FL; MD 1989 Miami

**LEDIAEV, JOHN P.**, Emeritus Associate Professor, Mathematics, 1967 (1971); BA 1963 Occidental; MA 1965 Calif-Riverside; PHD 1967 Calif-Riverside

**LEDOLTER, JOHANNES**, Professor, Management Sciences/Statistics & Actuarial Science, 1978 (1987); MS 1972 Wisconsin; MRSO 1974 Vienna-Austria; PHD 1975 Wisconsin

**LEE, AMY**, Associate Professor, Otolaryngology-Head & Neck Surgery/Physiology, 2008 (2008); BS 1990 Michigan; PHD 1997 Virginia

**LEE, ANDREW G.**, Adjunct Professor, Surgery/Ophthalmology & Visual Science, 2000 (2004); BA 1985 Virginia; MD 1989 Virginia

**LEE, GLORIA**, Associate Professor, Internal Medicine, 1998 (1998); PHD 1981 Harvard

**LEE, HOSIN**, Professor, Civil-Environmental Engineering/Public Policy Center, 1999 (2010); BS 1980 Seoul National; MS 1981 Stanford; PHD 1985 Texas-Austin

**LEE, IK JIN**, Adjunct Assistant Professor, Mechanical Engineering, 2010 (2010); MS 2003 Seoul National; PHD 2008 Iowa

**LEE, JAMES CHAO-SHEN**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMMD 2010 Texas Tech

**LEE, JOANNA**, Adjunct Instructor, Library & Information Science, 2009 (2009); BA 2004 Rochester, NY; MA 2008 Iowa

**LEE, JOHN D.**, Adjunct Professor, Industrial Engineering, 1998 (2001); BA 1987 Lehigh; BS 1988 Lehigh; MS 1989 Illinois; PHD 1992 Illinois

**LEE, LARRY D.**, Adjunct Instructor, Pharmacy, 2004 (2004); BSPH 1972 Iowa

**LEE, PHILLIP C.**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 1991 (2001); MD 1981 Iowa

**LEE, ROBERT A.**, Clinical Adjunct Assistant Professor, Family Medicine, 2002 (2002); MD 1988 Iowa

**LEE, WON-CHAN**, Associate Professor, Psych & Quant Foundations, 2008 (2010); BA 1991 Kyungpook National; MS 1994 Oklahoma; PHD 1998 Iowa

**LEGER, PIERRE-MAJORIQUE**, Adjunct Professor, Management Sciences, 2010 (2010); PHD 2002 Ecole Polytech de Montreal

**LEGGE, KEVIN LYTLE**, Associate Professor, Pathology/Microbiology, 2004 (2010); BS 1994 Knoxville, Tenn; PHD 2000 Tenn., Knoxville

**LEGGETT, JOHN W.**, Emeritus Professor, English, 1970 (1975); AB 1942 Yale

**LEHMAN, LINDA JEAN**, Clinical Adjunct Assistant Professor, Ophthalmology & Visual Science, 2004 (2004); BA 1981 Luther College; MS 1983 Iowa State; MD 1991 Iowa

**LEHMAN, NICHOLAS P.**, Adjunct Assistant Professor, Pharmacy, 2004 (2004); PHARMMD 2003 Iowa

**LEHMANN, SUSAN P.**, Clinical Assistant Professor, Nursing, 1978 (2005); BSN 1975 Loyola; MSN 1979 Loyola

**LEHNERTZ, RODNEY PAUL**, Adjunct Lecturer, General University College, 2009 (2009); MBA 2002 Iowa

**LEICHT, BRENDA M G**, Adjunct Assistant Professor, Department of Biology, 1998 (1997); BS 1981 Creighton University; PHD 1987 Indiana

**LEICHT, KEVIN**, Professor, Public Policy Center/Sociology, 1996 (2000); BS 1981 Creighton; MA 1983 Indiana; PHD 1987 Indiana

**LEIRA, ENRIQUE CARLOS**, Assistant Professor, Neurology, 2004 (2004); MD 1988 Universidad de Santiago; MS 2007 University of Iowa - Epidemiol

**LEISURE, MARY JILL**, Adjunct Assistant Professor, Pharmacy, 1997 (2006); BSPH 1991 South Dakota State; PHARMMD 2003 Iowa

**LEISY, ROBERT HENRY**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2001); DO 1985 Des Moines

## Osteopathic

- LEMBKE, VALDEAN C.**, Emeritus Professor, Accounting, 1968 (1982); BS 1962 Iowa State University; MBA 1965 Univ. of Michigan; PHD 1969 Univ. of Michigan
- LEMON, DAVID K.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1977 (1977); MD 1972 Iowa
- LENERT, PETAR**, Clinical Assistant Professor, Internal Medicine, 2002 (2002); MD 1979 Novi Sad; MSC 1981 Belgrade; PHD 1991 Novi Sad
- LENO, GREGORY HERBERT**, Adjunct Associate Professor, Anatomy & Cell Biology, 2004 (2010); BS 1981 NORTH DAKOTA; MS 1984 NORTH DAKOTA; PHD 1988 MED UNIV- SOUTH CAROLINA
- LENSINK, STEPHEN C.**, Adjunct Assistant Professor, Anthropology, 1983 (1988); BS 1968 Iowa State; MA 1976 Iowa; PHD 1984 Iowa
- LENTH, LARRY EUGENE**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2006 (2006); DDS 1985 Iowa
- LENTH, RUSSELL V.**, Professor, Statistics & Actuarial Science, 1975 (2005); BS 1970 New Mexico; MA 1972 New Mexico; PHD 1975 New Mexico
- LENTZ, STEVEN**, Professor, Internal Medicine, 1992 (2003); BS 1979 Iowa State; MD 1985 Washington
- LEOHR, KATHLEEN ANNE BROWN**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); BS 1978 Iowa
- LEONARD, JULIA ALEXANDER**, Lecturer, Art & Art History/Interdisciplinary Programs, 2001 (2001); MFA 2001 Iowa
- LEONARD, PAUL ARTHUR**, Clinical Associate Professor, Anesthesia, 1995 (2006); MD 1991 Iowa
- LESLIE, KIMBERLY KAY**, Professor, Obstetrics & Gynecology, 2009 (2009); BS 1975 Baylor; BS 1977 Texas Christian; MD 1981 Southwestern Medical
- LESTER, PATRICK ALAN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2007 Illinois-Chicago
- LETENDRE, DONALD E.**, Professor, Pharmacy, 2007 (2007); BS 1976 Massachusetts College of Pharma; PHAR 1979 Kentucky
- LEUTNER, ROBERT W.**, Associate Professor, Asian & Slavic Languages & Literature, 1982 (1985); BA 1968 Harvard; MA 1970 Michigan; MA 1973 Michigan; PHD 1976 Michigan
- LEVASSEUR, DANA**, Assistant Professor, Internal Medicine, 2008 (2008); PHD 2003 Alabama-Birmingham
- LEVERTY, JAMES TYLER**, Assistant Professor, Finance, 2005 (2005); PHD 2005 Georgia State
- LEVETT, PAULA K.**, Clinical Adjunct Instructor, Nursing, 2006 (2006); SCM 1982 University of Illinois
- LEVEY, SAMUEL**, Professor, Health Management & Policy, 1977 (1977); BA 1955 Bowdoin; MA 1956 Columbia; MA 1959 Iowa; PHD 1961 Iowa; MS 1963 Harvard
- LEVIN, IRWIN P.**, Professor, Psychology/Marketing, 1965 (1977); BA 1960 California-Los Angeles; MA 1963 California-Los Angeles; PHD 1965 California-Los Angeles
- LEVINE, MARK AVRI**, Associate Professor, English/Creative Writing, 1999 (2005); BA 1987 Brown; MFA 1990 University of Iowa
- LEVY, BARCEY THURSTON**, Professor, Family Medicine, 1993 (2006); AB 1978 Princeton; PHD 1984 North Carolina; MD 1990 University of Iowa
- LEVY, STEVEN M.**, Professor, Epidemiology/Preventive & Community Dentistry, 1984 (1994); BA 1978 Princeton; DDS 1982 North Carolina; MPH 1984 North Carolina
- LEW, DANIEL**, Professor, Oral & Maxillofacial Surgery, 1992 (1992); BS 1958 Tufts; DDS 1962 Fairleigh Dickinson
- LEWIN, ELLEN**, Professor, Women's Studies/Anthropology, 1997 (1999); BA 1967 Chicago; MA 1968 Stanford; PHD 1975 Stanford
- LEWIS, DALE PATRICK**, Adjunct Assistant Professor, Pharmacy, 1998 (1998); PHARMD 1994 Iowa
- LEWIS, GARY DAVIS**, Assistant Professor, Military Science, 1999 (2005); MS 1996 Iowa
- LEWIS, JERRY L.**, Clinical Professor, Psychiatry, 2001 (2009); BS 1967 Iowa State; MS 1968 Iowa; MD 1971 Iowa
- LEWIS, JODY ELIZABETH**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARMD 1997 Iowa
- LEWIS, ROSHAN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); MBBS 1999 Med Coll



Thiruvananthapuram; MBBSCH 1999 Thiruvananthapuram

**LEWIS, THOMAS E.**, Professor, Spanish & Portuguese, 1978 (2001); BA 1973 Brown; PHD 1978 California-San Diego

**LEWIS-BECK, MICHAEL S.**, Emeritus Professor, Political Science, 1974 (1982); BA 1965 Ball State; MA 1966 Michigan; PHD 1973 Michigan

**LI, DONG**, Assistant Professor, Mathematics, 2008 (2008); BA 2002 Hong Kong Baptist; MA 2004 Princeton; PHD 2006 Princeton

**LI, LI**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1997 Peking Union Medical College; MSN 2003 First Military Medical

**LI, TONG**, Professor, Mathematics, 1993 (2008); BA 1983 Peking; MS 1986 Peking; PHD 1992 New York

**LI, WEI**, Assistant Professor, Finance, 2010 (2010); BA 1993 Xian Jiaotong University(Math); PHD 2001 Iowa; PHD 2006 U of Iowa (Bus. Admin./Fin)

**LI, YI**, Professor, Mathematics, 1996 (1999); BS 1982 Xi'an Jiaotong-China; PHD 1988 Minnesota

**LI, YUE**, Assistant Professor, Internal Medicine, 2009 (2009); PHD 2005 Rochester

**LIAO, JUNLIN**, Adjunct Assistant Professor, Surgery, 2009 (2009); MBA 2001 Iowa; MHA 2002 Iowa; PHD 2007 Iowa

**LICHT, LOUIS ARTHUR**, Adjunct Associate Professor, Civil-Environmental Engineering, 1991 (1999); PHD 1988 Iowa

**LICHTY-GAFFEY, TIFFANY SUE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); MBA 2002 Drake; PHARM D 2002 Drake

**LIDDELL, DEBORA L.**, Associate Professor, Educ Policy & Leadership Studies/Counseling, Rehab & Stu Dev, 1991 (1998); BA 1978 Georgia State; MA 1980 Iowa State; EDD 1990 Auburn

**LIDRAL, ANDREW C.**, Professor, Orthodontics/Pediatrics, 2001 (2008); DDS 1990 North Carolina; PHD 1997 Iowa

**LIE, ERIK**, Professor, Finance, 2004 (2008); BS 1990 Oregon; MBA 1991 Oregon; PHD 1996 Purdue

**LIEBIG, CHRISTOPHER JOHN**, Lecturer, Law-Faculty, 1998 (1999); JD 1990 Harvard

**LIESVELD, JILL LYNETTE**, Clinical Associate Professor, Psychiatry, 1997 (2001); BS 1981 Iowa; MD 1986 Iowa

**LIGHT, TIMOTHY DANIEL**, Clinical Assistant Professor, Surgery, 2006 (2006); MD 1997 New York Medical

**LIIMATTA, KATJA MERJA**, Lecturer, French & Italian, 2000 (2000); PHD 2000 Pennsylvania

**LIITTSCHWAGER, JOHN M.**, Emeritus Professor, Industrial Engineering, 1961 (1968); BS 1955 Iowa State; MS 1961 Northwestern

**LILIEN, JACK**, Emeritus Professor, Department of Biology, 2000 (2000); BA 1962 Southern California; PHD 1967 Chicago

**LILIENTHAL, PATRICIA ROSE**, Adjunct Instructor, Nursing, 2004 (2004); BSN 1978 Coe College

**LILLIOS, KATINA**, Associate Professor, International Programs/Anthropology, 2003 (2006); BA 1982 Boston; MA 1984 Yale; PHD 1991 Yale

**LILLY, JEFFREY PAUL**, Adjunct Assistant Professor, Endodontics, 1998 (1998); DDS 1993 Iowa; MS 1995 Iowa

**LIM, RAMON**, Emeritus Professor, Neurology, 1981 (1984); MD 1958 Santo Tomas; PHD 1966 Pennsylvania

**LIM, TAE-HONG**, Professor, Biomedical Engineering, 2003 (2003); BS 1982 Seoul National UNI; MS 1984 Seoul National UNI; PHD 1990 Iowa

**LIM, VICTORIA S.**, Emeritus Professor, Internal Medicine, 1982 (1992); AA 1956 Far Eastern - Philippines; MD 1960 Far Eastern-Phillipines

**LIN, BOR-LUH**, Professor, Mathematics, 1963 (1972); BS 1956 National Taiwan; MS 1960 Notre Dame; PHD 1963 Northwestern

**LIN, CHIH-HSIEN**, Adjunct Assistant Professor, Dance, 2010 (2010); BA 2008 National Chengchi; MFA 2010 Iowa

**LIN, CHING-LONG**, Professor, Mechanical Engineering, 1997 (2007); BS 1986 National Taiwan; MS 1989 Stanford; PHD 1994 Stanford

**LIN, FANG**, Assistant Professor, Anatomy & Cell Biology, 2008 (2008); MD 1994 Peking Union Med.; PHD 2002 South Wales

**LIN, JIM JUNG-CHING**, Professor, Department of Biology, 1984 (1992); BS 1969 National Taiwan; PHD 1979 Connecticut

**LIN-DYKEN, DEBORAH C.**, Clinical Associate Professor, Pediatrics, 1991 (2001); BS 1981 Purdue; MD 1985 Indiana

**LIND, RONALD**, Clinical Assistant Professor, Anesthesia, 2005 (2006); MD 1982 Baylor Houston, TX

**LINDAHL, BARRY A.**, Adjunct Lecturer, Law-Faculty, 2005 (2005); JD 1973 Iowa

**LINDBERG, JAMES B.**, Emeritus Professor, Geography, 1960 (1975); BA 1950 Denison; MBA 1952 Michigan; PHD 1963 Wisconsin

**LINDELL, LARRY**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 2000 (2000); MD 1982 Iowa

**LINDEN, TODD C.**, Adjunct Lecturer, Health Management & Policy, 1994 (1994); MA 1987 Iowa

**LINDER, MARC**, Professor, Law-Faculty, 1990 (1990); BA 1966 Chicago; MA 1971 Princeton; PHD 1973 Princeton; JD 1983 Harvard

**LINDER, MATTHEW WHITNEY**, Adjunct Instructor, Pharmaceuticals, 2008 (2008); BS 1991 Iowa; MS 2002 Iowa

**LINDERMAN, MARC ALAN**, Assistant Professor, Geography, 2005 (2005); PHD 2002 Michigan State

**LINDGREN, MARCIA HARVEY**, Lecturer, Classics, 2000 (2007); PHD 1983 Iowa

**LINDGREN, SCOTT D.**, Professor, Pediatrics, 1980 (1997); BA 1972 Yale; MA 1975 Iowa; PHD 1977 Iowa

**LINDOWER, JULIE BEATTIE**, Clinical Assistant Professor, Pediatrics, 2008 (2008); MD 1991 Iowa; MPH 2005 University of Iowa

**LINDOWER, PAUL D.**, Clinical Associate Professor, Internal Medicine/Radiology, 2002 (2005); BS 1983 Earlham; MD 1987 Ohio State

**LINDQUIST, TERRY JEAN**, Associate Professor, Prosthodontics, 1994 (2002); BS 1990 Minnesota; DDS 1990 Iowa; MS 1994 SUNY

**LINK, BRIAN KRALL**, Professor, Internal Medicine, 1993 (2008); BA 1982 Northwestern; MD 1986 Iowa

**LINK, CHARLES J JR**, Clinical Adjunct Assistant Professor, Internal Medicine, 1998 (1998); MD 1985 Stanford

**LINK, ELLEN ADAIR**, Clinical Professor, Pediatrics, 1991 (2010); MD 1986 Iowa

**LINLEY, JODI L.**, Adjunct Lecturer, College Transition/General University College, 2003 (2003); BA Iowa; MA Iowa

**LISKIN-GASPARRO, J**, Associate Professor, Spanish & Portuguese, 1993 (1999); BA 1969 Bryn Mawr; MA 1992 Princeton; PHD 1993 Texas-Austin

**LITTLE, DAVID L.**, Clinical Adjunct Assistant Professor, Pediatrics, 1980 (1980); MD 1970 Nebraska

**LITTLE, JOHN THOMAS**, Adjunct Lecturer, College Transition, 2001 (2003); BGS 1979 Kansas; MA 1987 Kansas

**LITTLE, MARTA M.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1989 (1992); BA 1978 Texas-Austin; MD 1983 Texas Southwestern

**LITTON, ERIN LYNN**, Adjunct Instructor, Integrative Physiology, 2008 (2008); BS 2004 Iowa; MA 2006 Iowa

**LITWILLER, DENISE BARBARA**, Clinical Adjunct Instructor, Nursing, 2010 (2010); MSN 2005 Iowa

**LIU, DAWEI**, Assistant Professor, Biostatistics, 2008 (2008); BSC 1991 Shanghai Jiao tong; MSC 1999 Bowling Green State; PHD 2005 Michigan

**LIU, DONGWANG**, Adjunct Assistant Professor, Anthropology, 2008 (2008); MA 1995 Iowa State; MBA 2001 Iowa State; PHD 2005 Iowa State

**LIU, HUAN-CHUNG SCOTT**, Adjunct Instructor, Psych & Quant Foundations, 2008 (2008); BS 1991 Chinese Culture; MA 1998 Arizona State; PHD 2003 North Texas

**LIU, JACK C.**, Adjunct Assistant Professor, Family Dentistry, 2005 (2005); DDS 2001 Iowa

**LIU, VINCENT**, Clinical Associate Professor, Dermatology/Pathology, 2005 (2009); AB 1992 Harvard; MD 1996 Pennsylvania

**LIU, WILLIAM MING**, Professor, Psych & Quant Foundations, 2000 (2009); BA 1991 California-Irvine; MA 1995 Maryland; PHD 2000 Maryland

**LIU, Y KING**, Emeritus Professor, Mechanical Engineering/Orthopaedics and Rehabilitation/Biomedical Engineering,

1978 (1978); BS 1955 Bradley; MS 1959 Wisconsin; PHD 1963 Wayne State

**LIVELY, SONJA INGA HOINES**, Emeritus Assistant Professor, Nursing, 1976 (1976); BSN 1969 Iowa; MA 1970 Iowa

**LLOPART, ANA**, Assistant Professor, Department of Biology, 2009 (2009); BSC 1992 Barcelona; PHD 1999 Barcelona

**LLOYD, FRAN CELESTE OWENS**, Adjunct Lecturer, Marketing, 2008 (2008); MBA 1964 South Carolina

**LLOYD, KENNETH EDWARD**, Adjunct Assistant Professor, Civil-Environmental Engineering, 1999 (1999); BS 1972 Iowa; BSE 1976 Michigan; MSE 1977 Michigan; PHD 1999 Iowa

**LLOYD-JONES, RICHARD**, Emeritus Professor, English, 1952 (1965); BA 1949 New Mexico; MA 1950 North Carolina; PHD 1956 Iowa

**LOAN, TARA RENAE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); DIP 2001 Clear Creek Amana ; PHARMD 2007 Drake

**LOBB, TIMOTHY GARR**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2000 Iowa

**LOBE, THOM**, Clinical Adjunct Professor, Surgery, 2006 (2006); MD 1975 Maryland, Baltimore

**LOBUZNOV, ANDREW U.**, Clinical Adjunct Assistant Professor, Family Medicine, 2003 (2003); MD 1995 Kemerovo State Med Inst

**LOCHER-CLAUS, MARIA THERESA**, Adjunct Instructor, Prosthodontics, 1997 (1998); DDS 1992 Iowa

**LOCKE, KEVIN E.**, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2002); BS 1982 Iowa; MD 1986 Iowa

**LOCKHART, JACK M.**, Clinical Adjunct Instructor, Internal Medicine, 1982 (1988); MD 1970 Harvard

**LOCKWOOD, LAWRENCE JOSEPH**, Adjunct Lecturer, College Transition, 2009 (2009); BS 1972 Wisc.-Whitewater; MS 1976 Wisc.--Whitewater

**LOENING, STEFAN**, Clinical Adjunct Professor, Urology, 1975 (1982); MD 1965 Medical School Freiburg G

**LOENING-BAUCKE, VERA**, Emeritus Professor, Pediatrics, 1975 (1992); MD 1967 Med School of Erlangen-Germany

**LOEWENBERG, GERHARD**, Emeritus Professor, Political Science, 1969 (1970); BA 1949 Cornell; MA 1950 Cornell; PHD 1955 Cornell

**LOFGREN, MARIA ANNETTE**, Clinical Adjunct Instructor, Nursing, 2003 (2003); BSN 1992 Iowa Wesleyan; MSN 1998 Iowa

**LOGAN, HENRIETTA L.**, Emeritus Professor, Psych & Quant Foundations/Preventive & Community Dentistry, 1975 (1992); BA 1961 Wichita; MA 1973 Iowa; PHD 1976 ILWA

**LOGAN, JAMES**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); BS 1975 Augusta State; DDM 1978 Med of Georgia

**LOGAN, NELSON S.**, Emeritus Professor, Preventive & Community Dentistry, 1970 (1978); PHD 1969 Utah

**LOGAN, SARA MICHELLE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2007 Iowa

**LOGEMANN, CRAIG D.**, Adjunct Associate Professor, Pharmacy, 1995 (2004); BS 1988 Iowa; PHARMD 1995 Minnesota

**LOGSDON, JOHN**, Associate Professor, Department of Biology, 2003 (2007); BS 1988 Iowa State; PHD 1995 Indiana

**LOH, WALLACE DZU**, Professor, Law-Faculty, 2008 (2008); MA 1965 Cornell; PHD 1971 Michigan; JD 1973 Yale Law

**LOHAFFER, SUSAN**, Professor, English, 1973 (1982); BA 1964 Radcliffe; MA 1966 Stanford; PHD 1970 New York

**LOHMAN, DAVID F.**, Professor, Psych & Quant Foundations, 1981 (1993); BA 1972 Notre Dame; PHD 1979 Stanford

**LOHMULLER, JOSEPH L.**, Clinical Adjunct Associate Professor, Surgery, 1999 (2008); MD 1986 Indiana

**LOMAX, MICHAEL EUGENE**, Associate Professor, African-American Studies/Integrative Physiology, 2004 (2004); PHD 1996 Ohio State

**LONG, KEITH R.**, Emeritus Professor, Occupational & Environmental Health, 1960 (1969); BA 1951 Kansas; MA 1953 Kansas; PHD 1960 Iowa

**LONG, SUSAN DIANE**, Adjunct Instructor, Nursing, 2004 (2004); BSN 1974 Iowa

**LONGFELLOW, BRENDA**, Assistant Professor, Art & Art History, 2005 (2005); PHD 2005 Michigan

**LONGMUIR, REID ALLAN**, Assistant Professor, Ophthalmology & Visual Science, 2008 (2008); BS 1998 Iowa; MD 2002 Iowa

**LONGMUIR, SUSANNAH QUISLING**, Assistant Professor, Ophthalmology & Visual Science/Pediatrics, 2008 (2008); BA 1996 Vanderbilt; MD 2003 Vanderbilt

**LONGO, FRANK J.**, Emeritus Professor, Anatomy & Cell Biology, 1976 (1979); BS 1962 Loyola; MS 1965 Oregon State; PHD 1967 Oregon State

**LONGO, JOSEPH FRANK**, Adjunct Associate Professor, Industrial Engineering, 2005 (2006); BSE 1987 Iowa; MS 1990 Iowa; PHD 1996 Iowa

**LONNGREN, KARL E.**, Emeritus Professor, Physics & Astronomy/Electrical-Computer Engineering, 1965 (1972); BS 1960 Wisconsin; MS 1962 Wisconsin; PHD 1964 Wisconsin

**LOOK, DWIGHT C.**, Professor, Internal Medicine, 2001 (2007); BA 1984 Missouri-Kansas City; MD 1985 Missouri-Kansas City

**LOOMER, BRADLEY M.**, Emeritus Professor, Educ Policy & Leadership Studies, 1964 (1970); BA 1953 Iowa; MA 1956 Iowa; PHD 1962 Iowa

**LOOS, GERALD D.**, Clinical Adjunct Associate Professor, Family Medicine, 1987 (1987); MD 1968 Iowa

**LOPES, LOLA**, Emeritus Professor, Management & Organizations/Psychology, 1990 (1990); BA 1962 Redlands; MA 1971 California State; PHD 1974 California-San Diego

**LOSCH, MARY E.**, Clinical Adjunct Associate Professor, Community & Behavioral Health, 2004 (2004); BS 1981 Murray State; MA 1985 Iowa; PHD 1988 Iowa

**LOUKO, LINDA J.**, Clinical Associate Professor, Communication Sciences and Disorders, 2002 (2002); BS 1972 SUNY-Brockport; MA 1977 Nebraska; PHD 1998 Syracuse

**LOUNSBURY, PATRICIA**, Clinical Adjunct Instructor, Nursing, 1994 (1994); BSN 1980 Grand View College; MED 1986 Iowa State

**LOVAGLIA, MICHAEL J.**, Professor, Sociology, 1992 (2003); BA 1987 San Jose State; MA 1989 Stanford; PHD 1992 Stanford

**LOVE, JEAN C.**, Emeritus Professor, Law-Faculty, 1991 (1991); BA 1965 Wisconsin; JD 1968 Wisconsin

**LOVELL, JAMES P.**, Clinical Adjunct Instructor, Internal Medicine, 1995 (1995); DO 1985 Kirksville/ Osteopathic Med

**LOW, MICHAEL**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2009 (2009); BS 1972 Notre Dame; DDS 1976 Creighton

**LOWDER, MARY W.**, Adjunct Instructor, Communication Sciences and Disorders, 1999 (1999); BA 1969 Iowa; MA 1970 Iowa

**LOWE, TIMOTHY J.**, Professor, Management Sciences, 1989 (1989); BSIE 1965 Iowa State; ME 1967 Iowa State; PHD 1973 Northwestern

**LOWENBERG, KATHY ANN**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 2005 (2005); BA 1972 Iowa; MA 1993 Iowa

**LOZIER, JOHN SARGENT**, Clinical Adjunct Assistant Professor, Pediatrics, 2008 (2008); MD 2001 Iowa

**LU, CHARLES CHUNHSIN**, Emeritus Professor, Radiology, 1974 (1991); MD 1956 National Taiwan

**LU, CHIEN-TAI**, Emeritus Professor, Radiology, 1992 (1992);

**LU, DER-FA**, Assistant Professor, Nursing, 2004 (2005); ADN 1982 Taipei; BSN 1984 Taipei; MA 1991 Iowa; PHD 2001 Iowa

**LU, JIA**, Associate Professor, Mechanical Engineering, 2001 (2007); BS 1985 Beijing Aeronautics; MENG 1988 Tsinghua; PHD 1999 California-Berkeley

**LUBAROFF, DAVID M.**, Professor, Microbiology/Urology, 1973 (1982); BS 1961 Philadelphia-Pharmacy and Sci; MS 1964 Georgetown; PHD 1967 Yale

**LUCAS, KRISTEN LYNN**, Adjunct Assistant Professor, Communication Studies, 2009 (2009); MA 2002 Purdue; PHD 2006 Purdue

**LUDEWIG, GABRIELE**, Associate Professor, Occupational & Environmental Health, 2003 (2007); BS 1977 Mainz; MS 1982 Mainz; PHD 1991 Mainz

**LUIKART, JOAN**, Adjunct Instructor, Pharmacy, 2006 (2006); BSPH Drake

**LUKAS, MARY F.**, Adjunct Instructor, Communication Sciences and Disorders, 1995 (1996); MA 1989 Iowa

**LUND, BRIAN CHRISTOPHER**, Adjunct Assistant Professor, Epidemiology/Pharmacy, 2001 (2001); PHARMD 1999 Iowa; MS 2002 Iowa

**LUND, PETER SCOTT**, Clinical Associate Professor, Prosthodontics, 2007 (2007); BFA 1976 Minnesota; DDS 1980 Minnesota; MS 1987 Minnesota

**LUNDELL, CHRISTINE M.**, Adjunct Instructor, Pharmacy, 2010 (2010); BSPH 1990 Drake

**LUO, SHENG-NIAN**, Adjunct Assistant Professor, Mechanical Engineering, 2010 (2010); PHD 2003 California Institute of Tech

**LUO, YI**, Associate Professor, Urology, 2002 (2010); MD 1978 Nanjing Medical

**LUSCHEI, ERICH S.**, Emeritus Professor, Otolaryngology-Head & Neck Surgery/Communication Sciences and Disorders, 1983 (1983); BS 1964 Washington; PHD 1968 Washington

**LUTGENDORF, PHILIP A.**, Professor, Asian & Slavic Languages & Literature/International Programs, 1985 (2006); BA 1971 Chicago; MA 1982 Chicago; PHD 1986 Chicago

**LUTGENDORF, SUSAN KERRI**, Professor, Obstetrics & Gynecology/Urology/Psychology, 1988 (2006); BA 1971 Chicago; MSW 1976 Illinois; PHD 1994 Miami

**LUTZ, ANTHONY JAMES**, Adjunct Lecturer, General University College, 2007 (2007); BA 2004 Missouri-Columbi; MS 2006 Western Illinois

**LUTZ, EUGENE M.**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1966 Drake

**LUTZ, GENE M.**, Clinical Adjunct Professor, Community & Behavioral Health, 2004 (2004); BS 1966 Iowa State; MS 1968 Iowa State; PHD 1971 Iowa State

**LUTZ, SUSAN**, Adjunct Assistant Professor, Pharmacy, 2002 (2003); BS 1968 Drake

**LUXENBURG, NORMAN**, Emeritus Professor, Russian, 1967 (1971); AB 1949 Michigan; AM 1950 Zurich-Switzerland; AM 1951 Michigan; PHD 1956 Michigan

**LYNCH, CHARLES FRANCIS**, Professor, Epidemiology/Pathology, 1982 (1998); BS 1974 Loras; MS 1979 Iowa; MD 1979 Iowa; PHD 1984 Iowa

**LYNCH, GERALD JOSEPH**, Adjunct Professor, Economics, 2009 (2009); PHD 1975 Kentucky

**LYNCH, NANCY A.**, Lecturer, Nursing, 2005 (2005); BSN 1995 Bloomberg; MS 1999 Michigan

**LYNCH, WILLIAM**, Assistant Professor, Cardiothoracic Surgery/Biomedical Engineering, 2005 (2005); MS 1990 Michigan; MD 1994 Michigan

**LYNN, FRED A.**, Assistant Professor, Sociology, 2008 (2008); BA 1998 Michigan; MA 2003 Harvard; PHD 2006 Harvard

**LYONS, MICHAEL CHARLES**, Adjunct Assistant Professor, Integrative Physiology, 2006 (2006); BA 1988 Simpson College; MA 1995 Drake; PHD 2006 Iowa

**MAALOUF, MOUNA A.**, Lecturer, Chemistry, 2007 (2008); PHD 2006 Iowa

**MAAS, JAMES EVERETT**, Adjunct Assistant Professor, Family Dentistry, 1998 (2000); BBA 1994 Iowa; DDS 1998 Iowa

**MAAS, MERIDEAN LEONE SPEAS**, Emeritus Professor, Nursing, 1976 (1994); BSN 1957 Iowa; MA 1960 Iowa; PHD 1979 Iowa State

**MAASSEN, RACHEL ANNA**, Clinical Assistant Professor, Obstetrics & Gynecology, 2006 (2006); BS 1998 Iowa; MD 2002 Iowa

**MABRY, TAD R.**, Clinical Associate Professor, Pediatric Dentistry, 2009 (2009); BA 1983 Westminster College; DDS 1987 Oklahoma Col of Dentistry; MS 1994 Nebraska Med Ctr

**MAC, JOSEPH R.**, Adjunct Assistant Professor, Pharmacy, 1997 (1997); PHARMD 1992 Nebraska-Omaha

**MACAGNO, ENZO OSCAR**, Emeritus Professor, Mechanical Engineering, 1960 (1967); MS 1939 National-Argentina; PHD 1953 Grenoble-France

**MACAGNO, MATILDE C.**, Emeritus Assistant Professor, Mathematics, 1957 (1974); BS 1940 National-Argentina; MS

1958 Iowa

**MACAULEY, KELLY ANNE**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BS 1980 Wisconsin; MA 1983 Iowa

**MACDONALD, SARAH ELIZABETH**, Adjunct Lecturer, English, 2003 (2003); AB 1993 Calvin College; MFA 1996 Iowa

**MACFARLANE, DONALD E.**, Professor, Internal Medicine, 1979 (1995); MBBS 1967 London; PHD 1975 London

**MACGILLIVRAY, LEONARD RICHARD**, Professor, Chemistry, 2000 (2010); BSC 1994 Saint Mary's; PHD 1998 Missouri-Columbia

**MACGREGOR, PAUL S.**, Clinical Adjunct Assistant Professor, Urology, 1988 (1988); DO 1976 Osteopathic Med & Surg

**MACK, STEVEN JOHN**, Adjunct Assistant Professor, Orthodontics, 2009 (2009); BS 1991 Iowa State; DDS 1995 Iowa; MS 1997 Iowa

**MACKKEY, MICHAEL AUSTIN**, Associate Professor, Radiology/Biomedical Engineering, 2000 (2000); PHD 1998 California-Berkeley

**MACNEIL, RICHARD DAVID**, Professor, Integrative Physiology, 1975 (1991); BA 1970 Wisconsin; MED 1975 Springfield; PHD 1979 University of Iowa

**MACPHERSON, BETH JOANN**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BA 1987 Montana; MA 1989 Iowa

**MACVEY, ALAN M.**, Professor, Theatre Arts, 1991 (1998); BA 1968 Stanford; MA 1970 Stanford; MFA 1977 Yale

**MACVEY, CAROL E.**, Lecturer, Theatre Arts, 1991 (1999); BA 1966 Notre Dame; MA 1976 Middlebury

**MADIA, ASHA**, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); MD 1981 American Board of Pediatrics

**MADISON, EUGENE W.**, Emeritus Professor, Mathematics, 1966 (1982); BS 1956 Le Moyne; MS 1958 Michigan State; PHD 1966 Illinois

**MADISON, KATHI C.**, Professor, Dermatology/Oral Path,Radiology&Medicine, 1984 (1999); SCB 1975 Brown; MD 1978 Brown

**MADSEN, DONALD H.**, Emeritus Professor, Mechanical Engineering, 1954 (1960); BSME 1944 Iowa State; MSME 1948 Purdue; PHD 1953 Purdue

**MADSEN, DOUGLAS K.**, Emeritus Professor, Political Science, 1971 (1987); AB 1961 Stanford; MA 1967 California-Los Angeles; PHD 1973 California-Los Angeles

**MADSEN, MARK T.**, Professor, Physics & Astronomy/Radiology, 1988 (2003); BS 1973 Wisconsin-Kenosha; MS 1975 Wisconsin-Madison; MS 1976 Wisconsin-Madison; PHD 1979 Wisconsin-Madison

**MADSEN, MURRAY DEAN**, Adjunct Assistant Professor, Occupational & Environmental Health, 2003 (2003); BS 1973 Minnesota; MBA 1984 St. Ambrose

**MADSEN, TIMOTHY T.**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1982 Iowa

**MADSON, LINDA KAY**, Clinical Associate Professor, Psychiatry, 2000 (2007); BA 1981 Luther; MD 1990 Iowa

**MAGALHAES-SILVERMAN, MARGARIDA**, Clinical Professor, Internal Medicine, 1997 (2003); MD 1978 University of Porto

**MAGBOUL, MAGBOUL M A**, Clinical Assistant Professor, Anesthesia, 2001 (2001); BS 1969 Khartoum; MBBS 1974 Khartoum

**MAGLE, PATRICIA KAY**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (2002); BS 1973 Michigan; MD 1977 Michigan

**MAGNOTTA, VINCENT ALFONSO**, Associate Professor, Radiology/Biomedical Engineering/Psychiatry, 2003 (2008); BA 1991 Albion; MS 1994 Iowa; PHD 1997 Iowa

**MAHAJAN, VINIT BHARATI**, Assistant Professor, Ophthalmology & Visual Science, 2008 (2008); BA 1992 California Berkeley; PHD 2001 California Irvine; MD 2001 California Irvine

**MAHARRY, MICHAEL KARL**, Clinical Associate Professor, Family Medicine, 1999 (2008); BA 1992 Washington-St. Louis; MD 1996 Iowa

**MAHER, JAMES W.**, Emeritus Professor, Surgery, 1985 (1989); BS 1970 Randolph-Macon; MD 1974 Florida

**MAHMOOD, AMINA**, Adjunct Lecturer, College Transition, 2009 (2009); BA 2001 New York @ Alba; PHD 2008 Iowa

**MAHONE, SYDNE**, Associate Professor, African-American Studies/Theatre Arts, 1998 (2006); BA 1980 Douglass Rutgers Univ; MA 1986 Mason Gross, Rutgers Univ

**MAHONEY, LARRY T.**, Professor, Pediatrics/Epidemiology, 1976 (1992); BS 1969 Loras; MD 1973 Iowa

**MAHONEY, MARK ALAN**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BA 1980 Bethel; MD 1984 Iowa

**MAIER, EDWARD LEE**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 1970 Iowa

**MAIER, SCOTT RANDALL**, Adjunct Associate Professor, Journalism & Mass Communication, 2008 (2008); MA 1989 UCLA; PHD 2000 North Carolina

**MAIERHOFER, WALTRAUD**, Professor, German, 1990 (2007); MA 1986 Regensburg-West Germany; PHD 1988 Regensburg-West Germany

**MAIGAARD, RANDY N.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1989 Iowa

**MAILHOT, JASON M.**, Adjunct Professor, Periodontics, 2009 (2009); AA 1976 New York @Farmingdale; BS 1978 New York @ Oneonta; DMD 1981 Pittsburgh; MS 1993 Georgia

**MAKAR, ADEL F.**, Clinical Adjunct Associate Professor, Pediatrics, 1987 (2002); MBBCH 1974 Assuit Egypt

**MAKI, DENNIS R.**, Professor, Counseling, Rehab & Stu Dev, 1982 (1995); BA 1970 Michigan State; MA 1975 Michigan State; PHD 1979 Wisconsin

**MAKTABI, MAZEN A.**, Associate Professor, Anesthesia, 1988 (1997); MD 1978 Cairo-Egypt

**MALANSON, GEORGE P.**, Professor, Geography, 1985 (1996); BA 1972 Williams; MS 1978 Utah; PHD 1983 California-Los Angeles

**MALEY, JOAN ELIZABETH**, Clinical Associate Professor, Radiology, 1997 (2004); BS 1988 Iowa; MD 1992 Iowa

**MALICHKY, KIMBERLY**, Adjunct Assistant Professor, Pharmacy, 2004 (2004); BA 1996 Hastings-NE; PHARM D 2002 Iowa

**MALIK, NORBERT R.**, Emeritus Professor, Electrical-Computer Engineering, 1967 (1980); BS 1959 Iowa; MSEE 1960 Iowa; PHD 1964 Iowa State

**MALLIK, USHA**, Professor, Physics & Astronomy, 1988 (1993); BS 1966 Calcutta University-India; MS 1968 Indian Institute of Tech-India; MA 1972 City College of New York; PHD 1978 City College of New York

**MALLORY, CAROLINE N.**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1991 Illinois; MS 1993 Illinois; PHD 1998 Indiana

**MALLOY, MICHELLE M WHITE**, Adjunct Instructor, Nursing, 2001 (2001); MSN 1997 Iowa

**MALONE, ROBERT E.**, Professor, Department of Biology, 1985 (1993); BS 1970 Calif-Los Angeles; PHD 1976 Oregon

**MANAK, JOHN R.**, Assistant Professor, Department of Biology, 2008 (2008); BS 1984 Trinity, Hartford CT; MS 1987 New York; PHD 1992 Columbia

**MANALIGOD, JOSE M.**, Associate Professor, Otolaryngology-Head & Neck Surgery, 2001 (2004); BA 1986 Northwestern; MD 1990 Illinois-Chicago

**MANAS, JULIE STARK**, Adjunct Lecturer, Health Management & Policy, 1993 (1993); MA 1984 Iowa

**MANDSAGER, NEIL TIMOTHY**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 2009 (2009); BS 1978 Wartburg; MD 1982 Iowa

**MANGUM, TERESA L.**, Associate Professor, International Programs/English, 1990 (1996); BA 1976 Appalachian State; MA 1979 North Carolina State; PHD 1990 Illinois-Urbana

**MANNING, JOHN**, Associate Professor, Music, 2004 (2010); BM 1991 Boston; MM 2002 MA Amherst

**MANSON, JANICE**, Adjunct Instructor, Preventive & Community Dentistry, 2006 (2006); AS 1994 Hawkeye Community

**MARAVETZ, STEVEN J.**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); MA 1984 Iowa

**MARBERRY, CHARLES E.**, Emeritus Professor, Finance, 1959 (1964); BA 1948 Illinois; MA 1950 Stanford; PHD 1952 Illinois

**MARCE, PILAR**, Lecturer, Spanish & Portuguese, 2006 (2006); BA 1998 Pompeu Fabra; MA 2003 Purdue; MA 2005 Monterey Institute of Int'l St

**MARCELINO, MARIE A.**, Adjunct Instructor, Pharmacy, 2009 (2009); PHARM D 2009 Drake

**MARCHIK, MARY ANNE MARIE**, Clinical Assistant Professor, Social Work, 1990 (2000); BA 1977 Iowa; MSW 1984 Iowa

**MARCHMAN, JAMES NATHAN**, Clinical Professor, Psychology, 1977 (2000); BA 1966 Eastern New Mexico; MA 1968 Iowa; PHD 1973 Iowa

**MARCUSSEN, BRITT LEE**, Clinical Assistant Professor, Family Medicine, 1999 (2000); BS 1988 Iowa; MD 1994 Iowa

**MAREK, CINDY LOU**, Clinical Associate Professor, Pharmacy/Oral Path,Radiology&Medicine, 1990 (2002); BS 1986 Iowa; PHARM D 1996 Iowa

**MARGEAS, ROBERT C.**, Adjunct Professor, Operative Dentistry, 1990 (2000); DDS 1986 Iowa

**MARGOLIN, LESLIE H.**, Professor, Interdisciplinary Programs/Counseling,Rehab & Stu Dev, 1987 (1998); BA 1967 Bard; MSW 1970 Hunter; PHD 1985 Nebraska-Lincoln

**MARGULIS, CLAUDIO JAVIER**, Associate Professor, Chemistry, 2003 (2008); PHD 2001 Boston

**MARIAN, ANIL ALEXANDER**, Clinical Assistant Professor, Anesthesia, 2008 (2008); MBBS 1999 Trivandrum, India; MD 2002 Mumbai, India

**MARIANI, MARY L.**, Adjunct Instructor, Preventive & Community Dentistry, 1991 (1991); DDS 1988 Missouri

**MARIN, MICHELA**, Adjunct Lecturer, French & Italian, 2008 (2008); BA 1990 Venice

**MARK, ALLYN L.**, Professor, Internal Medicine, 1961 (1975); BA 1957 Iowa; MD 1961 Iowa

**MARKHAM, SANFORD M.**, Emeritus Professor, Obstetrics & Gynecology, 1999 (2004); BA 1956 Kansas; MD 1960 Kansas

**MARKON, KRISTIAN ERIC**, Assistant Professor, Psychology, 2007 (2007); BA 1996 Minnesota; PHD 2007 Minnesota

**MARKOVETZ, NICOLLET ANN**, Clinical Assistant Professor, Nursing, 1983 (2005); BS 1971 Iowa; MSN 1984 Iowa

**MARLER, R TIMOTHY**, Adjunct Associate Professor, Biomedical Engineering/Mechanical Engineering, 2009 (2009); BENG 1991 Rochester; MENG 1993 Pennsylvania State; PHD 2005 Iowa

**MARLIN, ROBERT W.**, Adjunct Assistant Professor, Family Dentistry, 2005 (2005); DDS 1977 Iowa

**MARRA, KIMBERLEY BELL**, Professor, Theatre Arts/American Studies, 1990 (2007); BA 1981 Dartmouth; MA 1983 Brown; PHD 1990 Wisconsin-Madison

**MARRON, MAUREEN**, Adjunct Assistant Professor, Psych & Quant Foundations, 1998 (2000); BS 1991 Oregon; MS 1993 Pittsburgh; PHD 1999 Pittsburgh

**MARSH, J LAWRENCE**, Professor, Orthopaedics and Rehabilitation, 1987 (1995); BA 1975 Colgate; MD 1979 State Univ of NY-Upstate Med

**MARSHALL, KEITH M.**, Emeritus Professor, Anthropology, 1972 (1980); BA 1965 Grinnell; MA 1967 Washington; PHD 1972 Washington

**MARSHALL, LESLIE B.**, Emeritus Associate Professor, Nursing, 1974 (1985); BA 1965 Grinnell; PHD 1973 Washington; BSN 1990 Mt. Mercy

**MARSHALL, RONDA J.**, Lecturer, Teaching and Learning, 2005 (2005); BA 1970 Southwestern; MA 1991 Iowa

**MARSHALL, TERESA A.**, Associate Professor, Preventive & Community Dentistry, 1992 (2009); PHD 1987 Iowa

**MARTENS, STEVEN WILLIAM**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARM D 2005 Iowa

**MARTI, MOLLIE WEIGHNER**, Adjunct Assistant Professor, Psychology, 2002 (2002); BA 1987 Loras; JD 1991 Iowa; MA 1998 Iowa; PHD 1999 Iowa

**MARTIN, CHRIS ELIZABETH**, Adjunct Instructor, Social Work, 2006 (2006); MSW 2001 Iowa

**MARTIN, EMILY**, Adjunct Assistant Professor, Interdisciplinary Programs, 1999 (1999); BFA 1975 Iowa; MA 1977 Iowa; MFA 1979 Iowa

**MARTIN, GRAINNE MARIE PRINCE**, Adjunct Lecturer, General University College, 2009 (2009); BA 1974 Cornell; MA 1977 Iowa; JD 1980 Iowa



**MARTIN, JAMES A.**, Assistant Professor, Biomedical Engineering/Orthopaedics and Rehabilitation, 2008 (2008); BS 1983 California; PHD 1992 North Carolina State

**MARTIN, KIPPY**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); BS 1987 East Central; DDS 1991 Oklahoma

**MARTIN, RENE ELIZABETH**, Associate Professor, Nursing/Psychology, 1985 (2007); BSN 1982 Iowa; MA 1993 Iowa; PHD 1996 Iowa

**MARTIN, STEPHEN DOUGLAS**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1973 Iowa; MBA 1987 Dubuque

**MARTIN-ESTUDILLO, LUIS**, Assistant Professor, Spanish & Portuguese, 2005 (2005); MA 2002 Minnesota; PHD 2005 Minnesota

**MARTINET-MORIARTY, F**, Emeritus Professor, Dance, 1978 (1995);

**MARTINEZ-NARHI, REYNA ISABEL**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2000 Iowa

**MARTINS, JAMES B.**, Professor, Internal Medicine, 1975 (1991); BA 1966 North Park; MD 1970 Illinois

**MARTILA, JOAN DOROTHY**, Adjunct Instructor, Communication Sciences and Disorders, 1982 (1996); MA 1974 Iowa

**MARVEL, CHERIE LYNN**, Adjunct Assistant Professor, Psychiatry, 2005 (2005); BS 1994 Tufts; PHD 2002 Georgetown

**MARVIN, ROBERTA M.**, Adjunct Associate Professor, International Programs, 1997 (1997); BM 1975 Boston Conservatory; MA 1986 Tufts; PHD 1992 Brandeis

**MARZ, MARK L.**, Adjunct Associate Professor, Family Dentistry, 1979 (2000); DDS 1978 Iowa

**MARZEN, VINCENT PAUL**, Adjunct Lecturer, Marketing, 1999 (2001); MBA 1999 Iowa

**MASCARDO, LISA ANN**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); BS 1995 Iowa; BSPH 1995 Iowa; PHARMD 1997 Iowa

**MASCHKA, DONALD A.**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 2000 (2000); MD 1992 Iowa

**MASON, CHARLES M.**, Emeritus Assistant Professor, Educ Policy & Leadership Studies, 1965 (1965); BA 1949 Iowa; MA 1951 Iowa; PHD 1962 Iowa

**MASON, EDWARD E.**, Emeritus Professor, Surgery, 1953 (1961); BA 1943 Iowa; MD 1945 Iowa; PHD 1953 Minnesota

**MASON, KENNETH ANDREW**, Lecturer, Department of Biology, 2007 (2007); BS 1982 Washington; PHD 1991 California @ Davis

**MASON, MARLYS JEAN**, Adjunct Associate Professor, Marketing, 2009 (2009); PHD 2001 Utah

**MASON, PAUL THOMAS**, Adjunct Lecturer, Accounting, 2009 (2009); BA 1975 Connecticut; MBA 1977 Connecticut

**MASON, SALLY K.**, Professor, Department of Biology, 2007 (2007); BA 1972 Kentucky; MS 1974 Purdue; PHD 1978 Arizona

**MASON, SARA E.**, Assistant Professor, Chemistry, 2010 (2010); BS 2001 St. John Fisher; PHD 2007 Pennsylvania

**MATHAHS, SHANA ALYSSA**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2007 Iowa

**MATHER, BETTY B.**, Emeritus Professor, Music, 1952 (1973); BA 1949 Oberlin; MA 1951 Columbia

**MATHESON, LLOYD E.**, Emeritus Associate Professor, Pharmacy, 1975 (1980); BS 1964 Wisconsin; PHD 1970 Wisconsin

**MATHEW WILSON, MARY ELLEN**, Adjunct Lecturer, College Transition, 2004 (2004); AA 1976 Sauk Community; BLS 1997 Iowa; MA 2003 Iowa

**MATHEWS, KATHERINE DIANNE**, Professor, Neurology/Pediatrics, 1989 (2008); BS 1976 Iowa; MD 1981 Iowa

**MATHEWS, MICHAEL**, Adjunct Assistant Professor, Pediatric Dentistry, 2002 (2002); BA 1991 Central; DDS 2000 Iowa

**MATOWE, LLOYD**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BSPH 1994 Zimbabwe

**MATSUDA, JAMES JIRO**, Clinical Adjunct Assistant Professor, Pediatrics, 2009 (2009); PHD 1993 Iowa; MD 1993 Iowa

**MATSUMOTO, BARRY D.**, Associate Professor, Law-Faculty, 1974 (1974); BA 1967 Washington; JD 1970 Washington

**MATSUO, MIWA**, Assistant Professor, Urban & Regional Planning, 2009 (2009); BE 2002 Tokyo, Japan; MS 2004 University of Tokyo; MA 2005 Tokyo, Japan; PHD 2008 Harvard; DR 2008 Harvard Grad School of Design

**MATSUURA, JOHN**, Clinical Adjunct Assistant Professor, Surgery, 2009 (2009); MD 1987 Hawaii

**MATT, GARY DAVID**, Adjunct Assistant Professor, Endodontics, 2005 (2005); DDS 1998 Iowa; CER 2003 Naval Dental ,Bethesda

**MATTES, KYLE**, Assistant Professor, Political Science, 2008 (2008); BA 1997 Northwestern; MA 2005 California Institute of Tech; PHD 2008 California Institute of Tech

**MATTES, TIMOTHY EDWARD**, Associate Professor, Civil-Environmental Engineering, 2004 (2010); BSE 1994 John Hopkins; MSE 1995 John Hopkins; PHD 2004 Cornell University

**MATTES, WILLIAM A.**, Emeritus Associate Professor, Counseling,Rehab & Stu Dev, 1967 (1970); BA 1961 Knox; MS 1965 Indiana; EDD 1967 Indiana

**MATTHEWS, DAVID CARL**, Adjunct Instructor, Electrical-Computer Engineering, 2008 (2008); BA 1984 Doane College; BS 1985 Washington; MS 1994 Iowa State

**MATTHEWS, GRACE**, Clinical Adjunct Instructor, Nursing, 2006 (2006); BSN 1995 Iowa; MSN 2000 Iowa

**MAURICE, THOMAS J.**, Adjunct Assistant Professor, Pediatric Dentistry, 2003 (2003); BS 1988 Illinois Wesleyan; DDS 1992 Iowa; MS 1995 North Carolina

**MAURY, WENDY**, Associate Professor, Microbiology, 1999 (2006); BA 1976 Duke; MS 1980 North Carolina State; PHD 1988 Virginia

**MAXEY, E JAMES**, Adjunct Associate Professor, Psych & Quant Foundations, 1957 (1971); BS 1957 Illinois State; MS 1959 Iowa; PHD 1967 Iowa

**MAXSON, JAMI A.**, Clinical Adjunct Assistant Professor, Family Medicine, 2000 (2002); BS 1989 Iowa; MD 1993 Iowa

**MAXSON, LINDA**, Professor, Department of Biology, 1997 (1997); BS 1964 San Diego State; MA 1966 San Diego State; PHD 1973 California-Berkeley

**MAXTED, JAMES C.**, Adjunct Instructor, Electrical-Computer Engineering, 2001 (2001); BSEE 1974 Iowa; MSEE 1984 Iowa

**MAXWELL, BRIANA MARIE**, Adjunct Assistant Professor, Theatre Arts, 2008 (2008); BS 2005 Austin Pray St.; MFA 2008 Iowa

**MAXWELL, CAROL J.**, Lecturer, Nursing, 2008 (2008); MSN 1995 Clarkson; PHD 2002 Iowa State

**MAXWELL, JOHN A.**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine, 1999 (1999); DDS 1975 Iowa

**MAXWELL, KATHRYN ANN BUCHANAN**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); BA 1974 Iowa

**MAYER, GAYLE ANN**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1975 Drake

**MAYNARD, JERRY ALLEN**, Emeritus Professor, Orthopaedics and Rehabilitation/Anatomy & Cell Biology/Integrative Physiology, 1971 (1981); BA 1958 Northern Iowa; MS 1961 Indiana; PHD 1970 Iowa

**MAYS, A LOUISE**, Emeritus Assistant Professor, Social Work, (2004);

**MAZUR, ALEXANDER**, Clinical Associate Professor, Internal Medicine, 2007 (2007); MD 1983 Perm, Russia

**MCALLISTER, BRYANT F.**, Associate Professor, Department of Biology, 2002 (2008); BS 1989 Texas A & M; MS 1992 Texas A & M; PHD 1997 Rochester

**MCBRIDE, BUNNY ALLEN**, Emeritus Professor, Art & Art History, 1970 (1985); BS 1960 Montana State; MFA 1970 Alfred

**MCBRIEN, DIANNE M.**, Clinical Associate Professor, Pediatrics, 1997 (2005); MD 1991 Mayo Medical

**MCCABE, DONALD RAY**, Clinical Adjunct Assistant Professor, Pediatrics, 1981 (1981); MD 1971 Iowa

**MCCAFFREY, ANTON P.**, Assistant Professor, Internal Medicine, 2004 (2004); BA 1989 Univ of California at San Dieg; PHD 1999 Univ of Colorado at Boulder

**MCCARTER, LINDA**, Professor, Microbiology, 1996 (2009); BA 1974 Hawaii; PHD 1983 California-Davis

**MCCARTHY, ANN MARIE**, Professor, Nursing/Pediatrics, 1984 (2005); BA 1972 Simmons; MSN 1976 Boston College; PHD 1990 Iowa

**MCCARTHY, CHRISTINE**, Associate Professor, Educ Policy & Leadership Studies, 1995 (2001); BA 1976 Quinnipiac; MA 1980 Colorado; MA 1990 Ohio State; PHD 1992 Ohio State

**MCCARTHY, KYLE REMEY**, Adjunct Assistant Professor, Creative Writing, 2010 (2010); MFA 2010 Iowa

**MCCARTNEY, DAVID F.**, Adjunct Assistant Professor, General University College, 2002 (2002); BA 1979 Wisconsin; AMLS 1998 Maryland

**MCCARTY, GWENDOLYN JO**, Adjunct Instructor, Linguistics, 2008 (2008); JD 1989 Indiana

**MCCARTY, RICHARD C.**, Lecturer, Management & Organizations, 2004 (2004); BA 1973 University of Northern Iowa

**MCCAUGHEY, PAUL T.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); DO 1985 Osteopathic-Des Moines

**MCCLAIN, DONALD H.**, Adjunct Assistant Professor, Computer Science, 2002 (2002); BA 1960 Northern Iowa; MS 1967 Iowa State; PHD 1970 Iowa State

**MCCLELLAND, ELEANOR**, Emeritus Associate Professor, Nursing, 1971 (1980); BA 1959 Monmouth; MPH 1970 Michigan; PHD 1979 Iowa

**MCCLELLAND, WILLIAM C.**, Professor, Geoscience, 2008 (2008); PHD 1990 Arizona

**MCCLELLAN, RONALD EUGENE**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); BA 1969 Iowa; BFA 1974 Kansas City Art Institute

**MCCLIMENT, EDWARD R.**, Emeritus Professor, Physics & Astronomy, 1964 (1983); BSE 1956 Michigan; MS 1958 Rensselaer Polytechnic; PHD 1962 Illinois

**MCCLIMON, KEVIN**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1983 Iowa

**MCCONKEY, STACY A.**, Clinical Associate Professor, Pediatrics, 2001 (2007); BS 1990 Augustana; MD 1994 Illinois@Peoria

**MCCONVILLE, JAMES B.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BS 1969 Notre Dame; MD 1973 Iowa

**MCCORMICK, GEORGE R.**, Emeritus Professor, Geoscience, 1968 (1976); BA 1958 Ohio Wesleyan; PHD 1964 Ohio State

**MCCORMICK, LAURIE MAY**, Assistant Professor, Psychiatry, 2005 (2008); MD 1998 American University Car

**MCCORMICK, MICHAEL LEON**, Adjunct Assistant Professor, Radiation Oncology, 2001 (2001); BA 1981 Iowa; MS 1985 Iowa; PHD 1989 Iowa

**MCCOWAN, BERNADETTE ALSTON**, Clinical Assistant Professor, Pharmacy Practice and Science, 2010 (2010); PHARM 2003 North Carolina

**MCCRAY, PAUL B.**, Professor, Internal Medicine/Microbiology/Pediatrics, 1991 (2001); BA 1976 St. Olaf; MD 1981 Iowa

**MCCUE, JAMES F.**, Emeritus Professor, Religion, 1965 (1973); BA 1955 Xavier; MA 1958 Loyola University of Chicago; PHD 1961 Wisconsin

**MCCUE, MAUREEN F.**, Adjunct Assistant Professor, International Programs/Epidemiology, 1991 (1991); BA 1969 Wisconsin-Madison; MD 1981 Wisconsin-Madison; PHD 1997 University of Iowa

**MCCUNNIFF, MICHAEL DAVID**, Adjunct Instructor, Preventive & Community Dentistry, 1999 (1999); DDS 1983 Missouri-Kansas City

**MCDANEL, DEANNA L.**, Clinical Assistant Professor, Pharmacy, 2002 (2002); PHARM 2001 Iowa

**MCDANIELS, LISA C.**, Adjunct Lecturer, College Transition, 2008 (2008); BA 1981 Bridgewater College; MED 1991 James Madison; AMLS 1998 Florida State

**MCDONOUGH, RANDY PATRICK**, Adjunct Professor, Pharmacy, 1988 (2003); BSPH 1987 Iowa; MS 1997 Iowa

**MCENTAFFER, RANDALL L.**, Assistant Professor, Physics & Astronomy, 2008 (2008); PHD 2007 Colorado, Boulder

**McFARLAND, JOHN W.**, Adjunct Assistant Professor, Preventive & Community Dentistry, 1991 (1991); DDS 1967 Northwestern

**MCGANNON, KERRY REBECCA**, Associate Professor, Health, & Sport Studies, 2003 (2010); BA 1993 Victoria; MA 1996 Victoria; PHD 2001 Alberta

**MCGAUGHEY, MARK**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); BS 1975 Carelton College; MD 1979 Johns Hopkins

**MC GEE, SANDRA L.**, Adjunct Instructor, Social Work, 2000 (2000); BS 1994 Upper Iowa; MSW 1998 Iowa

**MC GEE, VERONICA LOU**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1996 Drake

**MCGILL, MELISSA ANN**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BSPH 1995 Iowa

**MCGINNIS, DAVID L.**, Adjunct Assistant Professor, Geography, 1997 (1997); BS 1973 Iowa State; MS 1991 Pennsylvania State; PHD 1994 Pennsylvania State

**MCGINNIS, WILLIAM L.**, Clinical Associate Professor, Radiation Oncology, 1977 (2008); MD 1973 Iowa

**MCGOWAN, GERALD J.**, Clinical Adjunct Associate Professor, Family Medicine, 1975 (1982); MD 1963 Iowa

**MCGOWAN, STEPHEN E.**, Professor, International Programs/Internal Medicine, 1986 (1998); AB 1972 Washington; MD 1976 Rochester

**MC GRAW, AMYRUTH**, Lecturer, Communication Sciences and Disorders, 2004 (2005); BA 1993 Oberlin College; MFA 1998 Arizona State

**MC GRAW, DAVID JONATHAN**, Lecturer, Theatre Arts, 2003 (2007); BA 1995 Holy Cross, Worcester, MA; MA 2005 Goucher College; MFA 2007 University of Iowa

**MCGREGOR, KARLA K.**, Professor, Communication Sciences and Disorders, 2005 (2008); BA 1984 North Carolina; MS 1987 Purdue; PHD 1992 Purdue

**MCGUIRE, DON R.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BS 1981 Butler; BSPH 1981 Butler University

**MCGUIRE, LINDA ANN**, Adjunct Lecturer, Law-Faculty, 1979 (2003); BS 1970 State University of New York; MA 1971 Bowling Green State University; JD 1982 IOWA

**MCGUIRE, SARAH MARIE**, Assistant Professor, Radiation Oncology, 2007 (2007); BS 1998 Milwaukee Sch. of Engineering; PHD 2004 Duke

**MCGUIRE, STEVE**, Professor, Teaching and Learning/Art & Art History/Interdisciplinary Programs, 1988 (2005); BS 1981 Northwest Missouri State; MA 1983 Iowa; PHD 1990 Iowa

**MCINTOSH, THOMAS J.**, Clinical Adjunct Professor, Internal Medicine, 2000 (2000); MS 1970 Iowa

**MCKAY, SHERRY LEA**, Clinical Assistant Professor, Nursing, 1998 (2004); BSN 1993 Iowa Wesleyan; BSN 1998 Iowa; MSN 1998 Iowa

**MCKEAN, JAMES CLAYTON**, Adjunct Professor, English, 2006 (2006); BA 1968 Washington State; MA 1974 Washington State; MFA 1981 Iowa; PHD 1990 Iowa

**MCKEAN, PENNY LEE**, Adjunct Assistant Professor, Interdisciplinary Programs, 2004 (2004); BA 1976 Washington State; MA 1989 Iowa; MFA 1992 Iowa

**MCKEE, REX NELSON**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1970 Iowa

**MCKEIGHEN, ROSEMARY J.**, Emeritus Professor, Nursing, 1975 (1980); BA 1950 Indiana; BSN 1965 California State; MS 1967 UCLA; PHD 1984 Texas

**MCKENNA, JACQUELINE**, Adjunct Lecturer, College Transition/General University College, 2008 (2008); BA 2005 Fort Hays State; BS 2005 Fort Hays State; MS 2007 Western Illinois

**MCKENNA, JON**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1979 Creighton

**MCKENNA, RYAN P.**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); DDS 2003 Iowa

**MCKINLEY, TODD O.**, Professor, Orthopaedics and Rehabilitation, 1999 (2009); BS 1986 Minnesota; MD 1992 Minnesota

**MCKNIGHT, CARRIE BETH**, Clinical Assistant Professor, Oral Path,Radiology&Medicine, 1999 (2001); DDS 1998 Iowa

**MCKUSICK, MARSHALL B.**, Emeritus Associate Professor, Anthropology, 1960 (1964); BA 1952 Minnesota; MA 1954 Minnesota; PHD 1960 Yale

**MCLAREN, RACHEL MAREE**, Assistant Professor, Communication Studies, 2008 (2008); BA 2003 LaSalle; MA 2005 Penn State; PHD 2008 Penn State

**MCLAUGHLIN, JOHN C.**, Emeritus Professor, English, 1958 (1967); BA 1950 Kenyon; MA 1952 Toledo; PHD 1961 Indiana

**MCLAY, RICHARD W.**, Adjunct Professor, Biomedical Engineering, 1998 (1998); PHD 1963 Wisconsin-Madison

**MCLEAN, WILLAJEANNE F.**, Adjunct Lecturer, Law-Faculty, 2006 (2006); BS 1979 Massachusetts; JD 1986 Fordham

**MCLEESE, DONALD GEORGE**, Associate Professor, Journalism & Mass Communication, 2003 (2006); BA 1973 North Central; MA 1975 Chicago

**MCLEMORE, JERRI**, Clinical Adjunct Assistant Professor, Pathology, 2004 (2004); BA 1987 Kansas; MD 1992 Kansas

**MCLENNAN, GEOFFREY**, Professor, Internal Medicine/Radiology/Biomedical Engineering, 1977 (1992); MBBS 1970 Adelaide Medical School; PHD 1992 Adelaide Medical School

**MCLEOD, KEMBREW**, Associate Professor, Communication Studies, 2000 (2006); BS 1993 James Madison; MA 1995 Virginia; PHD 1999 Massachusetts-Amherst

**MCLERAN, HERMINE E.**, Adjunct Associate Professor, Preventive & Community Dentistry, 1974 (1987); MPH 1961 Michigan

**MCMAINS, KENNETH DEAN**, Adjunct Associate Professor, Occupational & Environmental Health, 2004 (2004); BA 1971 Northern Iowa; MD 1976 U of Autonoma de Guadalajara

**MCMULLEN, MARK F.**, Adjunct Instructor, Pharmacy, 2005 (2005); BS 1982 Iowa

**MCMURRAY, ROBERT M.**, Associate Professor, Communication Sciences and Disorders/Psychology, 2004 (2010); BA 1998 Cornell University; MS 2003 Rochester, NY; PHD 2004 Rochester, NY

**MCNABB, SCOTT F.**, Associate Professor, Educ Policy & Leadership Studies, 1979 (1984); BA 1968 Earlham; MED 1972 Harvard; PHD 1978 Virginia

**MCNAMARA, JAMES**, Assistant Professor, Internal Medicine, 2007 (2009); BSC 1992 Virginia; PHD 2003 Duke

**MCNAUGHT, MELISSA D.**, Assistant Professor, Teaching and Learning, 2009 (2009); BA 1995 Missouri Southern State; MS 2005 Pittsburgh State; PHD 2009 Missouri

**MCNEIL, MELANIE JOAN**, Adjunct Lecturer, Finance, 2010 (2010); BS 1984 Northern Illinois; MS 1989 Northern Illinois; MA 1997 Iowa

**MCNEIL, ROBIN M.**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); AS 2001 Kirkwood; BS 2004 Missouri-KC

**MCNULTY, MICHAEL L.**, Emeritus Professor, Geography, 1969 (1976); BS 1962 California State/Pennsylvania; MA 1964 Northwestern; PHD 1966 Northwestern

**MCPHERSON, JAMES A.**, Professor, Creative Writing/English, 1981 (1981); BA 1965 Morris Brown; LLB 1968 Harvard; MFA 1970 Iowa

**MCQUISTAN, MICHELLE**, Assistant Professor, Preventive & Community Dentistry, 2004 (2004); BA 1997 Notre Dame; DDS 2001 Iowa; MS 2004 University of Iowa

**MCWILLIAMS, JENNIFER K.**, Clinical Assistant Professor, Psychiatry, 2009 (2009); MD 2004 Nebraska Med Center

**MEAD, MAURITA MURPHY**, Professor, Music, 1983 (2000); BM 1976 Eastman School of Music; MM 1979 Michigan State

**MEADOWS, JILL LYNELLE**, Clinical Associate Professor, Obstetrics & Gynecology, 1999 (2005); BA 1991 Macalester; MD 1995 Iowa

**MECHAM, BETTE JO**, Adjunct Instructor, Nursing, 2006 (2006); MS 2004 Western Illinois; BA 2004 Western Illinois

**MEEKER, BRIAN WALTER**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BS 1981 Truman Univ; DO 1984 Des Moines

**MEEKS, SANFORD**, Adjunct Associate Professor, Radiation Oncology, 1999 (1999); BS 1989 Florida Southern; MS 1991 Florida; PHD 1994 Florida

**MEESE, JOSEPH J.**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1976 Iowa

**MEGHANI, SHENI**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); MBBS 1996 SMT N HL, India; MD 1999 Sheth KM PostGrad Med

**MEIER, JEFFERY LINN**, Associate Professor, Internal Medicine, 1993 (2004); BS 1981 Iowa; MD 1986 Iowa

**MEINCKE, LYNN ANN**, Adjunct Instructor, Social Work, 1996 (1996); MSW 1986 Iowa

**MEIS, PATRICIA A.**, Adjunct Instructor, Preventive & Community Dentistry, 1998 (1998); BS 1969 Iowa

**MEISTERHEIM, MELISSA**, Adjunct Lecturer, College Transition, 2009 (2009); BA 1998 Truman State; MA 2001 Iowa

**MEJIA SUAREZ, CARLOS MARIO**, Lecturer, Spanish & Portuguese, 2010 (2010); BA 2000 La Universidad; MA 2004 La Pontificia Javeriana; PHD 2010 Iowa

**MEKIES, SAUL**, Adjunct Lecturer, Management & Organizations, 2009 (2009); MA 1984 Connecticut

**MELCHERT, THOMAS E.**, Emeritus Associate Professor, Department of Biology, 1963 (1968); BA 1958 Lawrence; MS 1960 Wisconsin; PHD 1963 Texas

**MELISSANO, RITA R.**, Adjunct Associate Professor, Social Work, 2001 (2001); PHD 1990 Brigham Young

**MELLOR, STEPHANIE B.**, Adjunct Instructor, Pharmacy, 2010 (2010); BSN 2007 Iowa

**MENDA, YUSUF**, Assistant Professor, Radiology/Radiation Oncology, 2001 (2002); MD 1994 Istanbul

**MENDEZ, ADRIANA**, Professor, International Programs/Spanish & Portuguese, 1985 (1998); BA 1972 Cincinnati; MA 1974 Duke; PHD 1979 Cornell

**MENDOZA, SERGIO ANDRES**, Clinical Associate Professor, Orthopaedics and Rehabilitation, 2001 (2007); MD 1990 Pontifica Catolica

**MENEZES, ARNOLD H.**, Professor, Neurosurgery, 1974 (1985); ISC 1961 Bombay; MBBS 1966 Bombay

**MENG, XIANGBING**, Assistant Professor, Obstetrics & Gynecology, 2009 (2009); BA 1990 Beijing Normal; MS 1995 Beijing Normal; PHD 1998 Beijing Inst Rad Medicine

**MENGELING, MICHELLE A.**, Adjunct Assistant Professor, Psych & Quant Foundations, 2004 (2006); BA 1986 Iowa; MS 1988 Iowa; PHD 2002 Iowa

**MENNEN, JAMES**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1991 Iowa

**MENNINGER, JOHN R.**, Professor, Department of Biology, 1972 (1978); BA 1957 Harvard; PHD 1964 Harvard

**MENTZER, RAYMOND A.**, Professor, Religion/History, 2001 (2001); AB 1967 Fordham; MA 1970 Wisconsin; PHD 1973 Wisconsin

**MENZIES, LISA J.**, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); MD 1990 Rush

**MERCHANT, JAMES A.**, Professor, Nursing/Internal Medicine/Occupational & Environmental Health, 1981 (1981); BS 1962 Iowa State; MD 1966 Iowa; PHD 1973 North Carolina

**MERCHANT, JOHN A.**, Adjunct Assistant Professor, Cinema & Comparative Literature, 2007 (2007); PHD 2006 Chicago

**MEREDITH, PATRICIA KAY**, Clinical Associate Professor, Oral Path,Radiology&Medicine, 1984 (2000); BS 1979 Iowa; DDS 1983 Iowa; MS 2008 Iowa

**MERGENTHALER, RICHARD D.**, Assistant Professor, Accounting, 2008 (2008); PHD 2008 Washington

**MERIDETH, JEFF**, Adjunct Instructor, Pharmacy, 2005 (2005); BSPH Creighton

**MERINO, ANA**, Associate Professor, Spanish & Portuguese, 2009 (2009); LIC 1995 Universidad Autonoma de Madrid; MA 1997 Ohio State; PHD 2001 Pittsburgh

**MERKER, KARL K.**, Emeritus Professor, English, 1967 (1981); BA 1952 Illinois

**MERKITCH, KENNETH W.**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 1995 (1995); MD 1984 Northwestern

**MERLINO, ROBERT L.**, Professor, Physics & Astronomy, 1981 (1992); BS 1973 St Joseph's; PHD 1980 Marylinad

**MERRICK, ROBERT J.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BS 1966 Iowa; MD 1969 Iowa

**MERRIFIELD, ELIZABETH A.**, Adjunct Instructor, Communication Sciences and Disorders, 1985 (1996); BS 1962 Wisconsin; MS 1964 Wisconsin; PHD 1978 Iowa

**MERRILL, CHRISTOPHER**, Professor, English/International Writing/International Programs/Cinema & Comparative

Literature, 2000 (2000); MA 1982 Washington

**MERRILL, NATHAN PATRICK**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARM D 2005 Iowa

**MERTENS, CAROL ELAINE**, Adjunct Assistant Professor, Teaching and Learning, 2000 (2000); BS 1975 Northeast Missouri; MA 1989 Iowa; PHD 2000 Iowa

**MESENBRINK, CARISSA**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); PHARM D 2002 Drake

**MESSERLE, LOUIS**, Associate Professor, Radiology/Chemistry, 1984 (1990); SCB 1975 Brown; PHD 1979 Massachusetts Inst of Tech

**MESSINGHAM, KELLY A NORDYKE**, Assistant Professor, Dermatology, 2009 (2009); BS 1993 Iowa State; MS 1995 Iowa State; PHD 2001 Loyola

**METCALF, AMANDA M.**, Professor, Surgery, 1986 (1996); BS 1975 Iowa; MD 1978 Nebraska

**METZ, JENNIFER L.**, Lecturer, Health, & Sport Studies, 2006 (2006); BA 1996 Loyola, Chicago; MA 1998 Northern Illinois; PHD 2005 Illinois--Urbana

**METZGER, ANN MARIE**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1980 Mount Mercy; MD 1993 Iowa

**METZGER III, ROBERT J.**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 2010 (2010); BGS 2001 Cornell College; MA 2004 Forest Institute; PSYD 2006 Forest Institute

**MEURICE, YANNICK**, Professor, Physics & Astronomy, 1990 (2003); BS 1981 Universite Catholique de Louva; PHD 1985 Universite Catholique de Louva

**MEYER, DAVID L.**, Adjunct Assistant Professor, Orthodontics, 2009 (2009); DDS 1987 Iowa; MS 1989 Louisville

**MEYER, FRANCES JANE**, Clinical Associate Professor, Internal Medicine, 2006 (2006); MD 1985 Downstate Medical College SUNY

**MEYER, KAREN S.**, Lecturer, Teaching and Learning, 2009 (2009); BS 1985 Iowa; MA 1991 Iowa

**MEYER, PAUL DONALD**, Clinical Associate Professor, Anesthesia, 2005 (2006); BS 1959 Illinois Inst. Chicago; PHD 1967 Iowa; MD 1981 Iowa

**MEYERHOLZ, DAVID KYLE**, Assistant Professor, Pathology, 2006 (2006); DVM 1994 Iowa State; MS 2001 Iowa State; PHD 2004 Iowa State

**MEZHIR, JAMES JOHN**, Assistant Professor, Surgery, 2010 (2010); MD 2001 Buffalo

**MIAN, SOMIA**, Clinical Assistant Professor, Internal Medicine, 2008 (2008); MD 2001 Medicine & Dentistry NJ

**MICHAELS, PAULA A.**, Associate Professor, International Programs/History, 1997 (2003); BA 1987 Northwestern; MA 1991 North Carolina-Chapel Hill; PHD 1997 North Carolina-Chapel Hill

**MICHAELSON, SUSAN DOMINY**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 2003 (2005); BA 1983 Texas Lutheran; MA 2001 Iowa; PHD 2005 Iowa

**MICHELS, TIMOTHY LEE**, Adjunct Associate Professor, Family Dentistry, 1987 (2000); BS 1981 Drake; DDS 1985 Iowa

**MIDGETT, DOUGLAS K.**, Emeritus Associate Professor, Anthropology, 1972 (1980); BA 1965 Montana; PHD 1977 Illinois

**MIDTOD, TOM ARNE**, Assistant Professor, History, 2009 (2009); BA 2000 Oslo, Norway; MA 2003 South Alabama; PHD 2008 Northern Illinois

**MIHM, HAROLD L.**, Clinical Adjunct Lecturer, Obstetrics & Gynecology, 1982 (1982); MD 1972 Iowa

**MIKELSON, BONNIE**, Adjunct Instructor, Social Work, 2008 (2008); BSW 1972 Northern Illinois; MSW 1977 Iowa

**MILAVETZ, GARY**, Associate Professor, Pharmacy, 1981 (1991); BS 1978 Minnesota; PHARM D 1980 Minnesota

**MILDE, FRANCES KAY**, Emeritus Assistant Professor, Nursing, 1974 (1977); BSN 1971 Missouri-Columbia; MSN 1974 Western Reserve; PHD 1983 Iowa

**MILHEM, MOHAMMED**, Clinical Assistant Professor, Internal Medicine, 2007 (2007); MD 1995 Jordan

**MILKMAN, ROGER D.**, Emeritus Professor, Department of Biology, 1968 (1968); AM 1954 Harvard; PHD 1956 Harvard

**MILLARD, MELANIE RANI**, Adjunct Assistant Professor, Pharmacy, 1997 (2006); PHARM D 1997 Iowa

**MILLER, ANDREW JAMES**, Adjunct Instructor, Pharmacy, 2010 (2010); BSPH 1989 Long Island

**MILLER, ANTHONY CLARK**, Clinical Associate Professor, Psychiatry, 2008 (2010); BA 1990 Goshen College; MD 1994 University of Iowa

**MILLER, BENJAMIN J.**, Clinical Assistant Professor, Orthopaedics and Rehabilitation, 2010 (2010); BS 1999 Cornell; MD 2003 Iowa

**MILLER, CHARLES ANTHONY**, Adjunct Associate Professor, Communication Sciences and Disorders, 1997 (2004); BSEE 1983 Iowa; PHD 1992 Iowa

**MILLER, DANA K.**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1981 Creighton

**MILLER, DEBRA KAY WALTERS**, Clinical Adjunct Assistant Professor, Pediatrics, 1988 (1988); MD 1980 Iowa

**MILLER, DELWYN DEON**, Professor, Psychiatry, 1992 (2004); BS 1977 Iowa; PHARM D 1980 Kentucky; MD 1987 Case Western Reserve

**MILLER, ERIC**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); DDS 1988 Colorado

**MILLER, FRANKLIN**, Emeritus Professor, Cinema & Comparative Literature, 1970 (1982); BA 1962 Oberlin; MA 1964 Ohio State; MFA 1970 Ohio State

**MILLER, HEATHER**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); AA 1996 Hawkeye Community

**MILLER, JAMES ARTHUR**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1971 Iowa

**MILLER, KARLA SUZANNE**, Adjunct Instructor, Nursing, 2009 (2009); BA 1994 Iowa; MSW 2001 Iowa

**MILLER, MARGUERITE LEA**, Adjunct Instructor, German, 2005 (2005); BA 1975 Iowa; MA 1990 Iowa

**MILLER, MERIDA**, Clinical Assistant Professor, Obstetrics & Gynecology, 2007 (2007); BA 1994 Bowdoin College; MD 2003 Minnesota Medical

**MILLER, MICHAEL P.**, Clinical Assistant Professor, Emergency Medicine, 2010 (2010); BS 1990 Manchester; MD 1995 Iowa

**MILLER, MICHELLE LYNN**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARM D 2010 Nebraska Medical

**MILLER, RACHEL ANN WARNTJES**, Clinical Professor, Internal Medicine, 1996 (2008); BS 1986 South Dakota State; MD 1989 Iowa

**MILLER, WILLIAM A.**, Emeritus Professor, Faculty Practice Administration, 1997 (1997); BS 1965 Ohio State; MS 1969 Ohio State; PHAR 1971 Kentucky

**MILLER JR, FRANCIS JOSEPH**, Associate Professor, Internal Medicine/Anatomy & Cell Biology/Radiation Oncology, 1995 (2003); MD 1989 Iowa

**MILLS, MARGARET HILL**, Professor, Asian & Slavic Languages & Literature, 1989 (2000); BA 1976 Iowa; MA 1979 Iowa; PHD 1985 Michigan; MPH 2005 Univ of Iowa

**MINECK, DANIEL**, Lecturer, Mechanical Engineering, 2007 (2008); BSME 1971 Iowa State

**MINER, EDWARD A.**, Adjunct Assistant Professor, International Programs, 2004 (2004); BA 1986 Texas-Austin; MA 1991 Ohio; PHD 2000 Illinois; MS 2002 Illinois

**MINION, F CHRIS**, Adjunct Professor, Microbiology, 2010 (2010); PHD 1983 Alabama, Birmingham

**MINTON, NATHANIEL TEAL**, Adjunct Assistant Professor, Creative Writing, 2009 (2009); BA 1997 Antioch; MFA 2009 Iowa

**MIRR, RONALD KURT**, Adjunct Instructor, Social Work, 1997 (1997); BA 1981 Purdue; MSW 1987 Iowa

**MISSALL, KRISTEN**, Associate Professor, Psych & Quant Foundations, 2009 (2009); BA 1996 Nebraska; MA 1999 Minnesota; PHD 2002 Minnesota

**MISSEN, CLIFFORD CHARLES**, Adjunct Instructor, Library & Information Science, 1996 (1996); BA 1985 Evergreen State; MA 1992 Iowa

**MITCHELL, COLLEEN CATHARINE**, Assistant Professor, Mathematics, 2005 (2005); BS 1998 Duke; MA 2001 Duke; PHD 2003 Duke

**MITCHELL, MARY**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); MA 1984 Iowa;



PHD 1994 Iowa

**MITCHELL, SARA BETH**, Associate Professor, Political Science, 2004 (2004); BS 1991 Iowa State; MA 1993 Michigan State; PHD 1997 Michigan State

**MITCHELL, TERESA MARIE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2008 Iowa

**MITCHELL, TORREY**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); BS 1964 Ohio University; MD 1968 Univ of Cincinnati

**MITROS, FRANK A.**, Professor, Pathology, 1976 (1988); BS 1965 Seton Hall; MD 1969 New Jersey College of Medicine

**MITTELBERG, K NEIL**, Clinical Adjunct Assistant Professor, Urology, 2002 (2002); MD 1990 Loyola

**MIXDORF, TRACY MICHELE**, Clinical Adjunct Assistant Professor, Family Medicine, 2006 (2006); BS 1992 Iowa; DO 1998 Osteopathic Medicine; MHA 1998 Osteopathic Medicine

**MIYAKE, CHRISTINE**, Clinical Assistant Professor, Emergency Medicine, 2008 (2008); MD 2004 Nevada School of Med

**MIZUNO, KURIKO**, Lecturer, Asian & Slavic Languages & Literature, 2008 (2008); BA 1988 Sugiyama; MA 2007 Purdue

**MOBILY, KENNETH EDWARD**, Professor, Integrative Physiology, 1979 (1994); BA 1972 Kent State; MA 1977 Iowa; PHD 1981 Iowa

**MOBILY, PAULA RENAY**, Associate Professor, Nursing, 1976 (1994); BSN 1971 Ohio State; MSN 1976 Cincinnati; PHD 1987 Iowa

**MODRICK, JOSEPH M.**, Clinical Assistant Professor, Radiation Oncology, 2002 (2002); BS 1989 Northern Iowa; MS 1994 Iowa; MS 1998 Wisconsin; PHD 2000 Wisconsin

**MOELLER, KRISTI JO**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2006 Iowa

**MOELLER, LON D.**, Clinical Professor, Management & Organizations, 1994 (2007); BBA 1982 Iowa; MA 1984 Iowa; JD 1987 Iowa

**MOHAPATRA, DURGA PRASANNA**, Assistant Professor, Pharmacology, 2008 (2008); PHD 2003 Erlangen-Nurnberg

**MOHLER, J DAWSON**, Emeritus Professor, Department of Biology, 1966 (1969); AB 1949 Missouri; AM 1950 Missouri; PHD 1955 California-Berkeley

**MOHLER, PETER J.**, Associate Professor, Internal Medicine/Physiology, 2006 (2008); BS 1995 Wake Forest; PHD 2000 North Carolina

**MOLINE, DAVID O.**, Emeritus Professor, Family Dentistry, 1983 (1992); DDS 1953 Washington

**MOLIS, MARC ALAN**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); BS 1996 Illinois Wesleyan; MD 2000 Northwestern

**MOLIS, WHITNEY ELIZABETH**, Clinical Adjunct Assistant Professor, Pediatrics, 2008 (2008); MD 2001 Northwestern

**MOLL, KENNETH L.**, Emeritus Professor, Communication Sciences and Disorders, 1959 (1968); BS 1954 SE Missouri State; MA 1959 Iowa; PHD 1960 Iowa

**MOMANY, ELIZABETH T.**, Adjunct Assistant Professor, Preventive & Community Dentistry, 1990 (2009); BS 1982 Iowa; MA 1984 Iowa; PHD 1988 Iowa

**MONAGAN, ALFRIETA V.**, Adjunct Associate Professor, Anthropology, 1976 (1994); BA 1969 George Washington; MA 1971 Princeton; PHD 1981 Princeton

**MONICK, MARTHA MARY FULTZ**, Professor, Internal Medicine, 2009 (2009); BA 1986 Iowa; PHD 2007 Iceland

**MONSERUD, GERALD DALE**, Adjunct Associate Professor, Family Dentistry, 1985 (2000); BS 1974 Iowa; DDS 1980 Iowa

**MONTGOMERY, IAN**, Adjunct Associate Professor, Health Management & Policy, 2007 (2007); BA 1975 Iowa; MHA 1979 Iowa

**MONTGOMERY, JOHN C.**, Emeritus Professor, Oral & Maxillofacial Surgery, 1974 (1974); BA 1952 Missouri; DDS 1956 Missouri-Kansas City; MS 1959 Missouri-Kansas City

**MONTGOMERY, LOU ANN**, Clinical Adjunct Assistant Professor, Nursing, 2000 (2001); MA 1988 Iowa; PHD 2000 Iowa

**MONTGOMERY, REX**, Emeritus Professor, Biochemistry, 1955 (1964); BSC 1943 Birmingham; PHD 1946 Birmingham-England; DSC 1963 Birmingham-England

**MONTUORO, JAIME L.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2003 Utah

**MOON, JERALD B.**, Professor, Communication Sciences and Disorders, 1985 (2009); BS 1978 Western Ontario-Canada; MS 1980 Western Ontario-Canada; PHD 1985 Purdue

**MOON, KEVIN**, Lecturer, English as Second Language, 2010 (2010); BFA 1995 Western Illinois; MA 2004 Illinois Urbana-C

**MOONEY, BARBARA B.**, Associate Professor, International Programs/Art & Art History, 2002 (2006); BA 1975 Missouri-St. Louis; MA 1980 Illinois; PHD 1991 Illinois

**MOONJELY, ANITA J.**, Clinical Assistant Professor, Pediatrics, 2007 (2007); MBBS 1993 Coimbatore, India; MD 1995 Coimbatore, India

**MOONJELY, JOE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2003 (2003); BA 1984 Unif of Calicut, India; MD 1991 Trichur Medical College

**MOORE, BETTY MARGUERITE**, Adjunct Instructor, Psychiatry, 1999 (1999); BA 1980 Illinois; MSW 1983 Illinois

**MOORE, CATHLEEN M.**, Professor, Psychology, 2007 (2007); BA 1988 Hamilton; PHD 1994 California-San Diego

**MOORE, DANIEL**, Professor, Music, 1996 (2006); BME 1981 East Texas State; MM 1985 Wichita State; DMA 2000 Kentucky

**MOORE, DENNIS M.**, Emeritus Associate Professor, Rhetoric, 1980 (1988); BA 1974 Chicago; MA 1976 Princeton; PHD 1978 Princeton

**MOORE, DUNCAN**, Adjunct Lecturer, Health Management & Policy, 2003 (2008); BA 1963 Florida State; MA 1965 Iowa

**MOORE, JOSEPH P.**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 1994 Creighton

**MOORE, JOYCE L.**, Associate Professor, Psych & Quant Foundations, 1994 (2000); BS 1985 Pittsburgh; PHD 1993 Stanford

**MOORE, MICHAEL EDWARD**, Assistant Professor, History/International Programs, 2008 (2008); AB 1984 Michigan; AM 1987 Michigan; PHD 1993 Michigan

**MOORE, PAMELA SUE**, Adjunct Instructor, Social Work, 2000 (2000); BA 1982 Iowa; BBA 1983 Iowa; MSW 1987 Iowa

**MOORE, REBECCA ANN**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2007 South Dakota State

**MOORE, ROSEMARY**, Lecturer, Classics/History, 2003 (2009); AB 1990 Harvard; PHD 2002 Michigan

**MOORE, STEVEN A.**, Professor, Pathology, 1986 (1995); BS 1977 Purdue; PHD 1980 Indiana; MD 1982 Indiana

**MOORES, KEVIN GENE**, Clinical Associate Professor, Pharmacy, 1987 (2005); PHARMD 1979 Nebraska

**MOORHEAD, MICHAEL EDWIN**, Adjunct Lecturer, Management & Organizations, 2003 (2000); MBA 1995 Iowa

**MOORHEAD, SUE ANN PARMETER**, Associate Professor, Nursing, 1984 (1999); BSN 1972 Maryland; MA 1982 Iowa; PHD 1993 Iowa

**MORA, FRANCISCO**, Professor, , 2003 (2003); DPHIL 1978 Univ of Oxford (England)

**MORA, FRANCISCO**, Adjunct Professor, Physiology, 1995 (1995); BS 1970 Granada; MD 1974 Granada; PHD 1978 Oxford

**MORAN, MICHAEL E.**, Adjunct Instructor, Integrative Physiology, 1985 (1985); BA 1978 Northern Colorado; MA 1979 Northern Colorado

**MORCUENDE, JOSE A.**, Associate Professor, Orthopaedics and Rehabilitation/Pediatrics, 2001 (2007); MD 1981 Autonoma Madrid

**MORCUENDE, MARIA ANGELES**, Clinical Assistant Professor, Psychiatry, 2007 (2007); MD 1994 Autonoma DeMadrid

**MORDKOFF, JONATHAN TOBY**, Associate Professor, Psychology, 2007 (2007); MA 1988 Johns Hopkins; PHD 1992 Johns Hopkins

**MORELAND, JESSICA GERMOND**, Associate Professor, Pediatrics, 1998 (2006); BS 1988 Duke; MD 1992 Vanderbilt

**MORELLI, BRIAN A.**, Adjunct Instructor, General University College, 2009 (2009); AA 2002 Des Moines; BA 2005 Iowa

**MORENO URIBE, LINA MARIA**, Assistant Professor, Orthodontics, 2008 (2008); DDS 1991 Medellin Colombia; PHD 2005 Iowa

**MORGAN, DALE D.**, Clinical Adjunct Professor, Anesthesia, 2002 (2002); BA 1947 Coe; MD 1951 Iowa

**MORGAN, DONALD P.**, Emeritus Professor, Occupational & Environmental Health, 1973 (1983); BS 1944 Franklin & Marshall; MD 1947 Indiana; MS 1949 Northwestern; PHD 1953 Northwestern

**MORGAN, DOUGLAS EUGENE**, Adjunct Assistant Professor, Pharmacy, 1991 (1991); BSPH 1978 Iowa; MS 1980 Iowa

**MORGAN, JOHN D.**, Adjunct Assistant Professor, Family Dentistry, 2000 (2000); BS 1970 Iowa; DDS 1975 Iowa

**MORGAN, TERESA ANNE**, Clinical Associate Professor, Oral & Maxillofacial Surgery, 2001 (2007); BA 1990 Iowa; DDS 1993 Iowa; MS 1997 Iowa

**MORIO, DOMINIC GERARD**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2007 (2010); BS 1998 Iowa; DDS 2002 Iowa

**MORITA, CRAIG T.**, Associate Professor, Internal Medicine, 1998 (1998); MD 1990 Calif-San Francisco; PHD 1990 Calif-San Francisco

**MORITANI, TOSHIO**, Clinical Associate Professor, Radiology, 2004 (2010); MD 1987 Showa UNIV Tokyo; PHD 1991 Showa UNIV Tokyo

**MORPHEW, CHRISTOPHER C.**, Professor, Educ Policy & Leadership Studies, 2009 (2009); MED 1991 Harvard; MA 1994 Stanford; PHD 1996 Stanford

**MORRIS, ADALAIDE**, Professor, English, 1974 (1985); BA 1964 Wells; MA 1966 Minnesota; PHD 1972 Minnesota

**MORRIS, HUGHLETT**, Emeritus Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1957 (1969); BA 1952 Iowa; MA 1957 Iowa; PHD 1960 Iowa

**MORRIS, WOODROW W.**, Emeritus Professor, Nursing/Social Work/Medicine Administration, 1948 (1959);

**MORRISON, DIANNE R.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1972 Purdue

**MORRISS, MARY J.**, Clinical Professor, Pediatrics, 1987 (2003); BS 1965 Bucknell; MD 1969 Duke

**MORRISS JR, FRANK H.**, Professor, Pediatrics, 1987 (1987); BA 1962 Virginia; MD 1966 Duke

**MORROW, REGINALD THOMAS**, Adjunct Assistant Professor, Art & Art History, 2009 (2009); BA 1997 Iowa; MA 2008 Iowa

**MORSE, DALE CLAYTON**, Adjunct Professor, Accounting, 2008 (2008); BA 1969 Oregon; MBA 1975 Oregon; PHD 1978 Stanford

**MORTON, ROSCOE F.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2001 (2001); MD 1976 Kansas

**MORTON, SUSANNE MARIE**, Assistant Professor, Physical Therapy, 2008 (2008); BS 1994 Illinois; MS 1998 Washington; PHD 2003 Washington

**MOSER, DAVID JOHN**, Associate Professor, Psychiatry, 1999 (2005); BA 1989 Colby; MS 1995 Florida; PHD 1997 Florida

**MOSER, MARK G.**, Adjunct Assistant Professor, Health Management & Policy, 1994 (2003); BS 1986 University of Iowa; MA 1988 Iowa

**MOSHER, MARY A.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 2007 Iowa

**MOSS, KENTON KRAIG**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (2002); BS 1974 Iowa; MD 1978 Iowa

**MOTE, GALE J.**, Lecturer, Management & Organizations, 1995 (2000); BA 1981 Coe College; MBA 1994 Iowa

**MOTTO, DAVID GEORGE**, Assistant Professor, Pediatrics/Internal Medicine, 2006 (2006); MD 1996 Iowa; PHD 1996 Iowa

**MOULTON, JENNIFER RENEE PERTZBORN**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1991 Iowa

**MOUNT, MICHAEL K.**, Professor, Management & Organizations, 1981 (1993); BS 1973 Iowa; MS 1975 Iowa State; PHD 1977 Iowa State

**MOWERY, ANN E.**, Adjunct Assistant Professor, Nursing, 1984 (1992); MSN 1976 Penn State

**MOYE-ROWLEY, WILLIAM**, Professor, Physiology, 1989 (2002); BS 1981 Illinois-Urbana; PHD 1986 Purdue

**MOYERS, JOHN R.**, Professor, Anesthesia, 1979 (1990); BS 1969 Iowa; MD 1973 Iowa

**MOZENA, EMILY NICOLE RATZEL**, Lecturer, Division of Interdisciplinary Program, 2003 (2009); BFA 2001 Iowa; MA 2003 Iowa

**MRAZ, ROYANN C.**, Clinical Associate Professor, Pediatrics, 1999 (2008); BS 1973 Purdue; MD 1978 Maryland

**MUDUMBAI, RAGHURAMAN**, Assistant Professor, Electrical-Computer Engineering, 2009 (2009); BT 1998 Indian Inst of Tech Madras; BTECH 1998 Indian Inst of Tech Madras; MS 2000 Brooklyn Polytechnic; PHD 2007 UC Santa Barbara

**MUEHL, LOIS B.**, Emeritus Associate Professor, Rhetoric, 1965 (1975); BA 1941 Oberlin; MA 1967 Iowa

**MUEHL, SIEGMAR**, Emeritus Professor, Psych & Quant Foundations, 1958 (1966); MA 1948 Chicago; MS 1953 New York State Teachers; PHD 1959 Iowa

**MUELLER, CHARLES W.**, Emeritus Professor, Sociology, 1972 (1983); BS 1965 Iowa State; MS 1967 Iowa State; PHD 1973 Wisconsin

**MUELLER, KEITH**, Professor, Health Management & Policy, 2010 (2010); BA 1973 Wisconsin-Milwaukee; MA 1975 Wisconsin-Milwaukee; PHD 1979 Arizona

**MUELLER, MARTIN**, Clinical Assistant Professor, Anesthesia, 2008 (2008); MD 1998 Rostock, Germany

**MUELLER, RASHMI**, Clinical Associate Professor, Anesthesia, 2008 (2008); MD 1990 Bombay

**MUELLER, SONIA RAE**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1977 Mt. Mercy; MSN 1995 Iowa

**MUHL, PAUL S.**, Professor, Statistics & Actuarial Science/Mathematics, 1969 (1976); BA 1965 Iowa; MA 1966 Michigan; PHD 1969 Michigan

**MUILENBURG, ANN CHARLOTTE**, Clinical Adjunct Instructor, Nursing, 1988 (1988); BSN 1976 Iowa; MA 1986 Iowa

**MULDER, SHERYL**, Clinical Adjunct Instructor, Nursing, 2005 (2005); BSN 1992 Marycrest College; MSN 1998 Clarkson College

**MULFORD, HAROLD A.**, Emeritus Professor, Psychiatry, 1956 (1966); BS 1947 Morningside; MA 1950 Iowa; PHD 1955 Iowa

**MULHAUSEN, PAUL L.**, Clinical Professor, Internal Medicine, 1994 (2008); BA 1982 St. Olaf; MD 1987 Minnesota

**MULHOLLAND, TIMOTHY LLOYD**, Adjunct Assistant Professor, Urology, 2007 (2007); BS 1993 Iowa; MD 1997 Iowa

**MULLAN, BRIAN FRANCIS**, Clinical Professor, Radiology, 1996 (2009); BA 1985 Johns Hopkins; MS 1986 Northwestern; MD 1991 Chicago-Pritzker

**MULLER, BARBARA A.**, Clinical Adjunct Professor, Internal Medicine, 1991 (2003); BS 1978 St Peters College; MD 1982 Autonomous Univ of Guadalajara

**MULLER, MERLE M.**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (1994); MD 1982 Southern Illinois

**MULLIN, KAREN R.**, Adjunct Assistant Professor, Social Work, 2005 (2005); DR 1994 Cincinnati

**MULLINS, ROBERT F.**, Associate Professor, Ophthalmology & Visual Science/Physiology, 2001 (2007); BS 1989 Wheaton; MS 1991 Saint Louis; PHD 1998 Saint Louis

**MUMFORD, KEVIN**, Associate Professor, History/African-American Studies, 2003 (2006); BA 1986 Wisconsin; MA 1990 Stanford; PHD 1993 Stanford

**MUNOZ, KRISTINE L.**, Professor, Communication Studies/International Programs, 1995 (2005); BA 1980 Texas-Austin; BS 1980 Texas-Austin; MA 1982 Texas-Austin; PHD 1989 Washington

**MURHAMMER, DAVID W.**, Professor, Chemical & Biomedical Engineering, 1989 (2003); BS 1979 Oregon State; MS 1982 Oregon-State; PHD 1989 Houston

**MURHAMMER, JOAN MARIE**, Adjunct Assistant Professor, Pharmacy, 1997 (2003); BS 1990 Iowa; BSPH 1990 Iowa

**MURIELLO, JOHN R.**, Associate Professor, Music, 1997 (2006); BM 1980 Illinois State; MM 1982 Illinois State; DMA 1987 Michigan

**MURPH, JODY REED**, Associate Professor, Epidemiology/Pediatrics, 1985 (1992); BS 1975 Francis Marion; MD 1979

Medical Univ of South Carolina; MS 1985 Iowa

**MURPHY, BRIAN P.**, Lecturer, Nursing, 2007 (2007); BSN 2003 Iowa; MSN 2007 Iowa

**MURPHY, GREGORY LINCOLN**, Assistant Professor, Military Science, 2008 (2008); BBA 1996 Utah State; MBA 2002 Touro Univ International

**MURPHY, MARY M.**, Lecturer, Accounting, 2001 (2001); JD 1988 Iowa

**MURRAY, GERALD C.**, Lecturer, Counseling, Rehab & Stu Dev, 2000 (2000); BBA 1974 Iowa; MA 1993 Iowa; PHD 2000 Iowa

**MURRAY, JEFFREY CLARK**, Professor, Public Policy Center/Anatomy & Cell Biology/Epidemiology/Pediatric Dentistry/Department of Biology/Pediatrics/Inst for Clinical and Translational Science/International Programs, 1984 (1993); BS 1972 Massachusetts Inst of Technolo; MD 1978 Tufts

**MURRAY, KIRK STEPHEN**, Adjunct Instructor, Journalism & Mass Communication, 2006 (2006); BA 1994 Iowa; MA 2001 Iowa

**MURRAY, MARGARET**, Adjunct Professor, Mathematics, 2005 (2005); SCB 1979 Chicago; MS 1981 Yale; PHD 1983 Yale; MFA 2005 Iowa

**MURRAY, MICHAEL F.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1982 Iowa; BSPH 1982 Iowa

**MURRAY, WILLIAM M.**, Emeritus Professor, English, 1958 (1974); BS 1956 New Haven Teachers; MA 1958 Iowa; PHD 1964 Iowa

**MURRY, DARYL J.**, Associate Professor, Pharmacy, 2003 (2003); BS 1987 Iowa; PHARMD 1991 Iowa

**MURRY, JOHN P JR**, Associate Professor, Marketing, 1999 (1999); BS 1979 Kansas State; MBA 1987 Kansas; PHD 1988 Kansas

**MURTY, SUSAN**, Associate Professor, Social Work, 1994 (2000); BA 1968 Harvard; MSW 1973 California-Berkeley; PHD 1993 Washington

**MURUGANANDHAM, MANICKAM**, Clinical Assistant Professor, Radiation Oncology, 2006 (2006); BS 1987 Madras; MS 1989 Engineering/Cancer Inst; PHD 1999 Delhi

**MUSICK, JENNIFER**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); PHARMD 2001 Iowa

**MUSSON, ROBERT F.**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); BA 1969 Ohio State; MS 1985 Northwestern; PHD 1988 Northwestern

**MUSTE, MARIAN VALER-IOAN**, Adjunct Professor, International Programs/Civil-Environmental Engineering/Geography, 1996 (2008); MS 1990 Polytech-Cluj-Napoca; MS 1993 Iowa; PHD 1995 Iowa

**MUSTON, RAY A.**, Emeritus Associate Professor, Educ Policy & Leadership Studies, 1970 (1975); BS 1961 Indiana; MBA 1963 Indiana; EDD 1970 Indiana

**MUTEL, ROBERT L.**, Professor, Physics & Astronomy, 1975 (1986); AB 1968 Cornell; PHD 1975 Colorado

**MYERS, BILLIE JO**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2003 Iowa

**MYERS, DAVID ARTHUR**, Clinical Assistant Professor, Pediatrics, 2009 (2009); MD 1997 Vanderbilt

**MYERS, ELYSE GAIL**, Adjunct Assistant Professor, English, 2004 (2004); BA 1989 North Central College ; PHD 2003 Iowa

**MYERS, LAURA M.**, Adjunct Assistant Professor, Dermatology, 2003 (2003); BA 1995 Drake; MD 1999 Dartmouth Medical

**MYERS, TONY ARTHUR**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2000); MD 1990 Iowa

**MYERS, VIRGINIA A.**, Professor, Art & Art History, 1962 (1981); BA 1949 George Washington; MFA 1951 California College of Arts

**MYKLEBY, BRIAN A.**, Adjunct Assistant Professor, Endodontics, 1989 (1989); BS 1978 Iowa State; DDS 1981 Iowa; MS 1985 Iowa

**MYSNYK, MARK CHARLES**, Clinical Adjunct Assistant Professor, Orthopaedics and Rehabilitation, 1991 (1991); MD 1983 Iowa

**NACHTMAN, JANE MARIE**, Associate Professor, Physics & Astronomy, 2007 (2007); BS 1991 Iowa; MS 1993 Wisconsin; PHD 1997 Wisconsin

**NAGEL, ALAN F.**, Emeritus Professor, Cinema & Comparative Literature/English, 1968 (1980); AB 1963 Harvard; MA 1965 Cornell; PHD 1969 Cornell

**NAGEL, BENJAMIN JAMES**, Adjunct Instructor, Preventive & Community Dentistry, 2006 (2006); BA 2000 Drake; DDS 2004 Iowa

**NAGLE, MATTHEW J.**, Adjunct Lecturer, Law-Faculty, 2006 (2006); BA 1984 Loras; JD 1987 Iowa

**NAIR, RAMESH**, Clinical Associate Professor, Pathology, 2005 (2009); MBBS 1987 Calicut Medical College

**NAIR, VASU**, Emeritus Professor, Chemistry, 1969 (1980); BSC 1963 Otago-New Zealand; PHD 1966 Adelaide-Australia; ARACI 1967 Royal Australian Chemical Inst

**NAKAKUBO, TAKAKO**, Lecturer, Asian & Slavic Languages & Literature, 2007 (2009); BA 1993 Nanzan/Japan; MA 1995 Nanzan/Japan; PHD 2002 Iowa

**NAKATO, TATSUAKI**, Adjunct Professor, Civil-Environmental Engineering, 1977 (1996); BS 1966 Nagoya-Japan; MS 1968 Japan; PHD 1974 Iowa

**NARAINDAS, HARISH**, Adjunct Assistant Professor, International Programs, 2004 (2004); PHD 1998 Delhi

**NARASIMHAN, BALAJI**, Adjunct Professor, Chemical & Biomedical Engineering, 2010 (2010); BS 1992 Indian Institute of Tech; PHD 1996 Purdue

**NARAWONG, DUANGECHAI**, Clinical Adjunct Assistant Professor, Pediatrics, 2001 (2001); MD 1974 Mahidol

**NASHELSKY, MARCUS**, Clinical Professor, Pathology, 2003 (2006); BA 1984 Wyoming; MD 1989 Nebraska

**NASSIF, EDWARD G.**, Clinical Adjunct Assistant Professor, Pediatrics, 1981 (1981); MD 1975 Iowa

**NATHAN, JOHN E.**, Adjunct Professor, Pediatric Dentistry, 1999 (2007); DDS 1975 Northwestern; MS 1983 Connecticut

**NATHAN, PETER E.**, Emeritus Professor, Community & Behavioral Health, 1990 (1990); AB 1957 Harvard; PHD 1962 Washington University

**NAU, SCOTT K.**, Clinical Adjunct Associate Professor, Pediatrics, 1989 (2010); MD 1978 Iowa

**NAUMANN, SONYA**, Lecturer, Art & Art History, 2009 (2009); BFA 2001 Iowa; MA 2007 Iowa; MFA 2009 Iowa

**NAUSEEF, WILLIAM M.**, Professor, Microbiology/Internal Medicine, 1983 (1992); BA 1972 Hamilton; MD 1976 State U of NY-Upstate Med Ctr

**NAYAKANKUPPAM, DHANANJAY**, Associate Professor, Marketing, 2001 (2008); BS 1988 Shivaji; MBA 1990 Madras; MS 2000 Michigan

**NAYLOR, KENNETH L.**, Clinical Adjunct Lecturer, Obstetrics & Gynecology, 1991 (1991); MD 1986 Utah

**NAZARETH, PETER**, Professor, English, 1973 (1985); BA 1962 Honors English London-England

**NEAL, TED A.**, Clinical Instructor, Teaching and Learning, 2009 (2009); MS 2002 Drake

**NEFF, JOHN S.**, Emeritus Professor, Physics & Astronomy, 1964 (1979); BS 1957 Wisconsin; MS 1958 Wisconsin; PHD 1961 Wisconsin

**NEIMAN, MAURINE**, Assistant Professor, Department of Biology, 2007 (2007); BA 1999 Carleton College; PHD 2004 Indiana

**NELMS, WILLIAM F.**, Clinical Adjunct Associate Professor, Family Medicine, 1985 (2006); BA 1974 Minnesota; MD 1978 Minnesota

**NELSON, DAVID J.**, Professor, Music, 1991 (1991); BME 1969 Nebraska-Lincoln; MM 1973 Nebraska-Lincoln; PHD 1977 Texas-Austin

**NELSON, DONALD ANDERS FULLER**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (1999); MD 1975 Iowa

**NELSON, FORREST D.**, Professor, Economics, 1980 (1989); BS 1968 Colorado State; MS 1974 Rochester; PHD 1975 Rochester

**NELSON, GARY RANDALL**, Adjunct Associate Professor, Pediatric Dentistry, 2007 (2007); DDS 1978 Loma Linda; MS 1981 Iowa

**NELSON, GAYLE ANN**, Clinical Adjunct Instructor, Nursing, 2001 (2001); BSN 1991 St Francis; MHA 1995 St. Francis

**NELSON, GEORGE C.**, Emeritus Professor, Mathematics, 1968 (1982); BA 1964 Oberlin; MS 1965 Case Institute of

Technology; PHD 1968 Case Institute of Technology

**NELSON, HERBERT L.**, Emeritus Professor, Psychiatry, 1963 (1973); BA 1943 Iowa; MD 1946 Iowa

**NELSON, JOHN S.**, Professor, Political Science/International Programs, 1975 (1987); BA 1971 Kentucky; PHD 1977 North Carolina

**NELSON, KAREN A.**, Clinical Associate Professor, Psychiatry/Psych & Quant Foundations, 1999 (2005); BA 1987 Texas; MA 1991 Northwestern; PHD 1995 Northwestern

**NELSON, KATHRYN ELIZABETH**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2010 Iowa

**NELSON, LORI JEAN**, Lecturer, Psychology, 2002 (2002); BS 1986 Iowa; MA 1988 Princeton; PHD 1990 Princeton

**NELSON, PATRICIA A.**, Lecturer, Nursing, 1980 (1992); BSN 1980 Iowa; MA 1984 Iowa

**NELSON, STEVEN P.**, Adjunct Associate Professor, Pharmacy, 1994 (1994); BS 1971 North Dakota State; MS 1974 North Dakota State

**NELSON, WILLIAM R.**, Adjunct Lecturer, General University College, 2009 (2009); BBA 1984 Iowa State; MS 1986 Iowa State; PHD 2002 Iowa State

**NELSON-NORMAN, KENDRA**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2006 Iowa

**NEPOLA, JAMES V.**, Professor, Orthopaedics and Rehabilitation, 1984 (1993); BS 1974 Yale; MD 1978 Columbia

**NEPPALLI, KUMAR PHANI**, Clinical Assistant Professor, Periodontics, 2007 (2007); BDS 1987 Edinburgh, Scotland; DDS 2002 Alberta, CA

**NEPPALLI, VISHALA TAMIRISA**, Clinical Assistant Professor, Pathology, 2006 (2006); MBBS 1994 Siddhartha Medical

**NEPPL, KELLY M.**, Lecturer, Communication Sciences and Disorders, 2005 (2007); AB 1993 CORNELL

**NERHEIM, PAMELA LYNNE**, Clinical Adjunct Assistant Professor, Internal Medicine, 2002 (2002); ADN 1981 Scott Community; BS 1991 Iowa; MD 1995 Iowa

**NESBITT, JOHN A.**, Emeritus Professor, Health, & Sport Studies, 1972 (1975);

**NESSLER, RANDY ALAN**, Adjunct Instructor, Geoscience, 2009 (2009); BGS 1988 Iowa; MBA 2003 St. Ambrose

**NESTER, CARLA MARIE**, Clinical Assistant Professor, Internal Medicine/Pediatrics, 2007 (2007); BS 1987 Austin Peay State; MD 1998 Penn State

**NESTLER, JOHN M.**, Adjunct Associate Professor, Civil-Environmental Engineering, 1999 (1999); PHD 1980 Clemson

**NETTLETON, STEPHANIE**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); DDS 1994 Iowa

**NEU, STACEY KIRSTEN**, Clinical Adjunct Assistant Professor, Family Medicine, 2006 (2006); BA 1992 Central, Pella IA; MD 1996 Iowa

**NEUCOLLINS, MARK EVERETT**, Adjunct Assistant Professor, Art & Art History, 2007 (2007); BFA 1983 RI School of Design; MA 2005 Iowa; MFA 2006 Iowa

**NEUHAUSER, PAUL M.**, Emeritus Professor, Law-Faculty, 1963 (1969); BA 1955 Harvard; LLB 1958 Harvard; LLM 1963 Harvard

**NEUMANN, GEORGE R.**, Professor, Economics, 1984 (1984); BA 1968 Le Moyne; MA 1969 Northwestern; PHD 1974 Northwestern

**NEVINS, JUSTIN CHARLES**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2006 Iowa

**NEWCOMB, MARY A.**, Adjunct Instructor, Social Work, 1994 (1994); BS 1981 Illinois; MS 1985 Iowa

**NEWKIRK, GARRET L.**, Adjunct Assistant Professor, Pharmacy, 2004 (2004); PHARMD 2000 Wisconsin; MS 2002 Wisconsin

**NEWLAND, BRAND**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 2005 Iowa

**NEWMAN, KATHLEEN E.**, Associate Professor, Cinema & Comparative Literature/Spanish & Portuguese, 1988 (1993); BA 1975 Calif-Santa Cruz; MA 1980 Stanford; PHD 1983 Stanford

**NEWSOM, CHARLES R.**, Associate Professor, Physics & Astronomy, 1985 (1989); BS 1974 Texas-Austin; PHD 1980 Texas-Austin

**NGUYEN, HIEN M.**, Assistant Professor, Chemistry, 2009 (2009); BS 1996 Tufts; PHD 2003 Illinois @ Champaign

**NI, JUN**, Associate Professor, Mechanical Engineering/Biomedical Engineering/Radiology, 1998 (2003); BS 1982 Harbin Shipbuilding Engineerin; MS 1984 Shanghai Jan; PHD 1991 Iowa

**NIBBELINK, WILLIAM H.**, Emeritus Professor, Teaching and Learning, 1971 (1980); BA 1961 Michigan; MS 1965 Iowa; PHD 1971 Ohio State

**NICHOLS, ELIZABETH A.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BS 2001 Northern Iowa; PHARM D 2005 Iowa

**NICHOLS, POLLY JESSIE**, Adjunct Assistant Professor, Psychiatry, 1999 (1999); MA 1973 Iowa; PHD 1981 Iowa

**NICHOLSON, RACHAEL**, Clinical Assistant Professor, Surgery, 2009 (2009); MD 2002 Southern Illinois

**NICKEL, ELLEN J.**, Adjunct Assistant Professor, Pharmacy/Anesthesia, 1997 (1997); BS 1980 Carroll College; BS 1985 Wisconsin-Madison; PHARM D 1993 Illinois@Chicago

**NICKELSBURG, GEORGE W.**, Emeritus Professor, Religion, 1969 (1977); BA 1955 Valparaiso; BD 1960 Concordia Seminary; MA 1962 Concordia Seminary; PHD 1968 Harvard

**NIEBUHR, DIANE PATRICE**, Clinical Associate Professor, Communication Sciences and Disorders, 1983 (1992); BS 1980 Iowa; MA 1982 Iowa

**NIEBYL, JENNIFER R.**, Professor, Obstetrics & Gynecology, 1988 (1988); BS 1963 McGill; MD 1967 Yale

**NIEHAUS, MATTHEW WILLIAM**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1997 Iowa

**NIELSEN, DAVID H.**, Emeritus Professor, Physical Therapy, 1975 (1994); BS 1965 Maryland; MA 1967 Maryland; PHD 1974 Pennsylvania State

**NIELSEN, STEVEN RAY**, Professor, Aerospace Studies, 2007 (2007); BSIE 1987 Iowa State; MS 2000 Embry-Riddle

**NIERMAN, CRAIG L.**, Adjunct Lecturer, Law-Faculty, 2007 (2007); JD 1999 Iowa

**NIEVES, ERVIN**, Adjunct Assistant Professor, English, 2006 (2006); PHD 2004 Iowa

**NILSSON, MARIA ELISABETH**, Lecturer, Spanish & Portuguese, 2003 (2004); BSC 1983 Stockholm; MA 1993 Iowa; MFA 1998 Iowa

**NINO-MURCIA, M MERCEDES**, Associate Professor, Spanish & Portuguese/International Programs, 1990 (1997); BA 1973 Mariana-Colombia; MA 1983 Rice; PHD 1988 Michigan

**NISLY, NICOLE L.**, Clinical Professor, Internal Medicine, 1993 (2001); MD 1982 Universidade Federal de Permbu

**NIWAS, RAM**, Clinical Assistant Professor, Pediatrics, 2009 (2009); MD 1985 Sn Medical, Agra India

**NIXON, MARY WAGNER**, Clinical Adjunct Instructor, Nursing, 2004 (2004); BSN 1977 Iowa; MA 1990 Iowa

**NIXON, WILFRID A.**, Professor, Civil-Environmental Engineering, 1987 (1998); BA 1981 Cambridge; PHD 1984 Cambridge; MA 1985 Cambridge

**NJUE, JOHN GITAARI**, Lecturer, French & Italian, 2009 (2009); BED 1987 Kenyatta; MA 1989 Nairobi; PHD 2004 Iowa

**NOBILING, HEIDI ELISE**, Clinical Adjunct Instructor, Nursing, 2001 (2001); BSN 1986 University Center; MA 1994 Iowa; MBA 1994 Iowa

**NOBLETT-FELD, RETA**, Emeritus Professor, Law-Faculty, 1991 (2006); BA 1980 Iowa; JD 1983 Iowa

**NOISEUX, NICOLAS OLIVIER**, Assistant Professor, Orthopaedics and Rehabilitation, 2007 (2007); BSC 1996 McGill; MD 2000 McGill Medical School; MSC 2007 Mayo Grad Schl-Clin Res Trn Pr

**NOONAN, MARY CHRISTINE**, Associate Professor, Sociology, 2001 (2007); BA 1992 Boston

**NOONEY, GREGORY L.**, Adjunct Instructor, Social Work, 2001 (2001); MSW 1983 Loyola

**NOPOULOS, PEGGY COLLEEN**, Professor, Psychiatry/Pediatrics/Inst for Clinical and Translational Science, 1994 (2005); MD 1989 Iowa

**NORBECK, EDWIN**, Emeritus Professor, Physics & Astronomy, 1960 (1967); BA 1952 Reed; MA 1956 Chicago; PHD 1956 Chicago

**NORDQUIST, GERALD L.**, Emeritus Professor, Economics, 1954 (1968); BSC 1953 Iowa; MA 1956 Iowa; PHD 1960 Iowa



**NORDSTROM, J DAVID**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1975 Kansas

**NORING, TED EDMUND**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); BA 1996 Cornell; AB 1996 Cornell College; DDS 2001 Iowa

**NORRIS, ANDREW WILLIAM**, Assistant Professor, Pediatrics, 2005 (2005); BS 1989 Mass, Inst of Tech Cambri; PHD 1997 Wash St. Louis; MD 1997 Wash @ St. Louis

**NORRIS, CALVIN WALKER**, Adjunct Lecturer, Finance, 1998 (1998); BBA 1992 Iowa; MBA 2001 Iowa

**NORRIS, WILLIAM R.**, Adjunct Associate Professor, General University College, 2010 (2010); BS 1981 Lake Superior State; MS 1995 Iowa State; PHD 1999 Iowa State

**NORTHUP, JOHN**, Associate Professor, Psych & Quant Foundations, 2003 (2006); BA 1977 Iowa; MA 1987 Mankato State

**NOSIKOVA, KSENIA**, Professor, Music, 1998 (2010); BA 1985 Moscow State Tchaikovsky Conse; MA 1989 Moscow State Tchaikovsky Cons; DMA 1997 Colorado-Boulder

**NOTHNAGLE, JOHN**, Emeritus Professor, French & Italian, 1959 (1973); BA 1949 Rochester; BA 1950 Toulouse-France; MA 1954 Wisconsin; PHD 1959 Wisconsin

**NOTHWEHR, FARYLE**, Associate Professor, Community & Behavioral Health, 2001 (2007); BS 1981 Winona State; MA 1987 St Thomas; MPH 1993 Minnesota; PHD 1997 Michigan

**NOURSKI, KIRILL VADIMOVICH**, Assistant Professor, Neurosurgery, 2009 (2009); MD 2001 St. Petersburg State; PHD 2006 Iowa

**NOWAK, ARTHUR J.**, Emeritus Professor, Pediatrics/Pediatric Dentistry, 1973 (1977); DMD 1961 Pittsburgh; MA 1967 Columbia

**NOYES JR, RUSSELL**, Emeritus Professor, Psychiatry, 1965 (1978); BA 1956 DePauw; MD 1959 Indiana

**NUGENT, ANDREW S.**, Clinical Professor, Emergency Medicine, 1999 (2009); BS 1992 Iowa; MD 1996 Iowa

**NUNGE, MARK RICHARD**, Clinical Adjunct Assistant Professor, Emergency Medicine, 2007 (2007); MD 1993 Washington

**NUXOLL, ERIC EDWARD**, Assistant Professor, Chemical & Biomedical Engineering, 2008 (2008); BS 1998 Idaho; PHD 2003 Minnesota

**NYUNOYA, TORU**, Assistant Professor, Internal Medicine, 2004 (2006); MD 1991 Tokushima

**O ROURKE, BARBARA LEA WOLF**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 1985 (1996); BSN 1975 Iowa; MA 1985 Iowa; PHD 1996 Iowa

**O'BRIEN, ERIN KATHLEEN**, Assistant Professor, Otolaryngology-Head & Neck Surgery, 2008 (2008); MD 2007 Iowa

**O'BRIEN, MARY K.**, Adjunct Assistant Professor, Nursing, 2004 (2004); BSN 1998 Iowa; MSN 2002 Iowa; JD 2007 Concord Law

**O'CONNER, MICHAEL**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); DO 2000 Des Moines

**O'CONNER, TIMOTHY ROBERT**, Adjunct Assistant Professor, Marketing, 2000 (2000); BA 1995 Northern Iowa; MBA 1997 Iowa; JD 2000 Iowa

**O'CONNOR, ANNETTE MAREE**, Adjunct Associate Professor, Epidemiology, 2008 (2008); BVSC 1993 Sydney; UNKNOWN 1997 University of Queensland; DVM 2000 Guelph

**O'GRADY, PETER**, Professor, Industrial Engineering, 1995 (1995); BS 1973 Cambridge; MS 1977 Cambridge; PHD 1981 Nottingham

**O'HARA, MICHAEL WILLIAM**, Professor, Psychology, 1980 (1990); BA 1974 Memphis State; MS 1978 Pittsburgh; PHD 1980 Pittsburgh

**O'LEARY, DANIEL S.**, Professor, Psychiatry, 2002 (2002); PHD 1979 Louisville

**O'NEAL, KENDRA SUE JONES**, Clinical Adjunct Instructor, Nursing, 2006 (2006); BSN 1997 Iowa; MSN 2002 Pheonix

**O'SHAUGHNESSY, PATRICK T.**, Professor, Civil-Environmental Engineering/Occupational & Environmental Health, 1997 (2010); BS 1980 Vermont; MS 1993 Vermont; PHD 1996 Vermont

**O'TOOLE, DENNIS M.**, Adjunct Associate Professor, Economics, 2009 (2009); PHARMD 2008 Ohio State

**OAKES, ELIZABETH A.**, Lecturer, Music, 1998 (2001); MM 1991 Cleveland Institute

**OBR, CLARK JOSEPH**, Clinical Associate Professor, Anesthesia, 2006 (2007); MD 1986 South Dakota

**OBRECHT, ELDON**, Emeritus Professor, Music, 1947 (1967);

**OCHS, DONOVAN J.**, Emeritus Professor, Rhetoric/Communication Studies, 1967 (1975); BA 1960 Loras; MA 1963 Iowa; PHD 1966 Iowa

**ODEN, GREGG C.**, Professor, Computer Science/Psychology, 1990 (1990); BA 1969 South Dakota; PHD 1974 California-San Diego

**ODGAARD, A JACOB**, Professor, Civil-Environmental Engineering, 1977 (1989); MS 1966 Tech Univ of Denmark; PHD 1970 Tech Univ of Denmark

**ODONNELL, MICHAEL A.**, Professor, Urology, 2000 (2005); BA 1978 Northwestern; MD 1984 Duke

**ODORISIO, M SUE**, Professor, Pediatrics, 1999 (1999); BS 1967 Creighton; MS 1969 Nebraska; PHD 1972 Nebraska; MD 1985 Ohio State

**ODORISIO, THOMAS MICHAEL**, Professor, Internal Medicine, 1999 (1999); BS 1965 Regis; MS 1967 Creighton; MD 1971 Creighton

**OESMANN, ASTRID**, Associate Professor, Cinema & Comparative Literature/German, 1997 (2003); MA 1991 Johns Hopkins; MPHIL 1993 Columbia; PHD 1997 Columbia

**OETTING, MARGUERITE H.**, Clinical Assistant Professor, Pediatrics, 2008 (2008); MD 1988 Duke

**OETTING, THOMAS A.**, Clinical Professor, Ophthalmology & Visual Science, 1997 (2007); BSE 1982 Duke; MS 1987 Duke; MD 1991 Duke

**OGREN, CHRISTINE A.**, Associate Professor, Educ Policy & Leadership Studies, 1999 (2005); BA 1987 Carlton; MA 1993 Wisconsin; PHD 1996 Wisconsin

**OHASHI, KENJIROU**, Clinical Professor, Radiology, 2002 (2007); MD 1984 Yokohama; PHD 1998 St. Marianna University

**OHL, MICHAEL**, Assistant Professor, Internal Medicine, 2008 (2008); BS 1990 Wisconsin @ Eau Claire; MD 1996 Washington

**OHLMANN, JEFFREY W.**, Associate Professor, Management Sciences, 2003 (2009); BA 1998 Nebraska; MS 2000 Michigan; PHD 2003 Michigan

**OHMES, ALLEN F.**, Emeritus Professor, Music, 1964 (1970); BM 1953 Baldwin Wallace; MM 1959 Rochester

**OHNESORGE, KIMBERLY ARLENE ELIZABETH**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1996 Iowa

**OHRT, HEATHER JOY**, Clinical Adjunct Assistant Professor, Radiology, 1996 (1998); MD 1977 North Dakota

**OKEOMA, CHIOMA M.**, Assistant Professor, Microbiology, 2010 (2010); BS 1996 Federal of Agr-Nigeria; MS 2000 Federal of Agr-Nigeria; PHD 2006 Massey

**OLESON, JACOB J.**, Assistant Professor, Biostatistics, 2004 (2004); BA 1997 Central College, IA; MA 1999 Missouri-Columbia; PHD 2002 Missouri-Columbia

**OLIN, WILLIAM H.**, Emeritus Professor, Orthodontics/Otolaryngology-Head & Neck Surgery, 1948 (1963); DDS 1947 Marquette; MS 1948 Iowa

**OLIVEIRA, SUELY P.**, Professor, Computer Science/Mathematics, 1998 (2008); BS 1983 Pernambuco; MS 1988 Colorado-Denver; PHD 1993 Colorado-Denver

**OLIVER, SARAH ELIZABETH**, Adjunct Instructor, Social Work, 2002 (2002); BS 1995 Grand Valley State; MSW 2000 Iowa

**OLIVIER, ALICIA KATHLEEN**, Assistant Professor, Pathology, 2010 (2010); DVM 2005 Mississippi State

**OLIVO, HORACIO F.**, Associate Professor, Pharmacy, 1995 (2002); BS 1984 Universidad LaSalle-Mexico; MS 1988 Universidad Nacional-Mexico; PHD 1992 Virginia Tech

**OLMSTED, JOHN S.**, Adjunct Associate Professor, Endodontics, 1984 (1984); DDS 1975 Iowa

**OLSHANSKY, BRIAN**, Professor, Internal Medicine, 2000 (2000); AB 1974 Carleton; MD 1978 Arizona

**OLSON, DAVID ALAN**, Adjunct Lecturer, Pharmaceutics/Health Management & Policy, 2008 (2008); MHA 1986 Iowa; MBA 1987 Iowa

**OLSON, RICHARD J.**, Clinical Associate Professor, Pediatrics/Ophthalmology & Visual Science, 2002 (2002); BA 1984 Brigham Young; MD 1991 Utah

**OMAN, JENNIFER LOCK**, Adjunct Instructor, Social Work, 1991 (1991); BA 1978 Northwestern; MSW 1987 Iowa

**ONEL, YASAR**, Professor, Physics & Astronomy, 1987 (1992); BSC 1969 London-England; PHD 1975 London-England

**ONWUACHI WILLIG, ANGELA**, Professor, Law-Faculty, 2006 (2007); BA 1994 Grinnell; JD 1997 Michigan

**ORAL, RESMIYE**, Clinical Associate Professor, Pediatrics, 2001 (2006); MD 1983 Ege

**ORGREN, CARL F.**, Emeritus Associate Professor, Library & Information Science, 1970 (1976); PHB 1959 Detroit; AMLS 1962 Michigan; MA 1966 Detroit; PHD 1971 Michigan

**ORHON, VOLKAN**, Associate Professor, Music, 2002 (2008); BA 1989 Hacettepe; MM 1996 Hartford

**ORME, DANIEL R.**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); BM 1977 Millikin; MA 1982 Sangamon State; PHD 1986 Indiana State

**ORTON, DONNA J.**, Adjunct Instructor, Nursing, 1999 (1999); MSN 1991 Dubuque

**OSBORN, TRACY**, Assistant Professor, Political Science, 2007 (2007); BA 1998 Loyola; PHD 2004 Indiana

**OSBORN, VELVA J.**, Emeritus Professor, Library & Information Science, (1982);

**OSIEL, MARK J.**, Professor, Law-Faculty, 1992 (1992); BA 1977 Calif-Berkeley; JD 1987 Harvard; PHD 1987 Harvard

**OSLAND, CRAIG S.**, Adjunct Assistant Professor, Pharmacy, 1997 (1997); MS 1988 Wisconsin

**OSSOINIG, KARL C.**, Emeritus Professor, Ophthalmology & Visual Science, 1971 (1977); MD 1960 Vienna-Austria

**OSTERBERG, DAVID**, Clinical Associate Professor, Occupational & Environmental Health/Geography, 1985 (1991); BA 1966 Washington State; MA 1969 Wisconsin-Madison; MS 1972 Wisconsin-Madison; MS 1975 Wisconsin-Madison

**OSTERHAUS, JOELLE KOON**, Adjunct Instructor, Social Work, 2008 (2008); BSW 2006 Iowa; MSW 2008 Iowa

**OSTERHAUS, JULIE KATHRYN**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1983 Iowa; MA 1993 Iowa

**OSTERHAUS, MARILYN SLEE**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1980 Iowa

**OSTERHAUS, MATTHEW CHARLES**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1980 Iowa

**OSTERHAUS, ROBERT J.**, Adjunct Assistant Professor, Pharmacy, 1997 (1997); BSPH 1952 Iowa

**OSTREM, PHILIP M.**, Adjunct Instructor, Pharmacy, 1998 (1998); BSPH 1985 Iowa

**OSTREM, STEVEN FREDERICK**, Adjunct Instructor, Library & Information Science, 2001 (2001); BA 1975 California-Berkeley; MA 1990 Iowa

**OSTREM, WENDA S.**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1986 Iowa

**OSULLIVAN, CORMAC THOMAS**, Clinical Assistant Professor, Nursing, 1989 (2009); BSN 1987 Iowa; MSN 1997 DePaul; PHD 2008 Iowa

**OTTING, MICHAELA ANN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 1998 Iowa

**OTTO, SUE ELLEN KOVACIC**, Adjunct Associate Professor, Spanish & Portuguese/International Programs, 1986 (1992); BS 1969 Iowa State; MA 1972 Iowa; PHD 1977 Iowa

**OWEN, AMANDA J.**, Assistant Professor, Communication Sciences and Disorders, 2005 (2005); BS 1997 Texas @ Dallas; MS 1999 Texas@Dallas; PHD 2004 Purdue

**OWEN, BENJAMIN NATHAN**, Assistant Professor, Military Science, 2009 (2009); AB 2003 Norwich University; BA 2003 Norwich

**OYA, HIROYUKI**, Assistant Professor, Neurosurgery, 2003 (2006); MD 1981 Tottori, Japan

**OZAKI, LINDA**, Clinical Adjunct Assistant Professor, Pediatrics, 1998 (1998); MD 1979 Kansas

**PACHA, JENNIFER S.**, Clinical Adjunct Instructor, Nursing, 2009 (2009); BSN 1997 COE; MSN 2007 Iowa

**PACHOW, WANG**, Emeritus Professor, Religion, 1968 (1975); BA 1936 Shanghai China; PHD 1948 Bombay-India

**PACKER, AARON GRANT**, Adjunct Instructor, Communication Sciences and Disorders, 2003 (2003); BA 1996 Iowa; MA 2000 Iowa

**PADOMEK, MICHAEL T.**, Adjunct Instructor, Pharmacy, 1994 (1994); PHARMD 1987 Creighton

**PAETZOLD-DURUMERIC, ROBIN**, Adjunct Instructor, Pediatrics, 2006 (2006); MBA 1995 Iowa

**PAGE, MICHAEL**, Clinical Adjunct Assistant Professor, Surgery, 2006 (2006); BS 1990 Ohio State; MD 1994 Wright State

**PAGEDAR, NITIN AJITKUMAR**, Assistant Professor, Otolaryngology-Head & Neck Surgery, 2008 (2008); MD 2002 Case Western Reserve

**PAGON, MILAN**, Adjunct Professor, Management & Organizations, 2008 (2008); BA 1979 Ljubljana, Slovenia; MS 1988 Maribor, Slovenia; PHD 1990 Maribor, Slovenia; PHD 1994 Arkansas, Fayetteville

**PAIK, ANTHONY**, Assistant Professor, Sociology, 2003 (2003); BA 1988 Chicago; MA 1991 Chicago; PHD 2003 Chicago

**PANSERA, JEROME**, Assistant Professor, Statistics & Actuarial Science, 2008 (2008); BS 1997 Laval University; MSC 1999 Laval University; PHD 2008 Iowa

**PANTAZIS, NICHOLAS J.**, Professor, Anatomy & Cell Biology, 1979 (2000); BS 1970 Lehigh; PHD 1977 Harvard

**PAPANICOLAOU, ATHANASIOS NICHOLAS**, Professor, Civil-Environmental Engineering, 2003 (2009); BSE 1989 Aristoteles University; MS 1993 Virginia Tech; PHD 1997 Virginia Tech

**PAPWORTH, DAVID P.**, Clinical Associate Professor, Anesthesia, 2000 (2000); MD 1974 Kings College Medical

**PARADISO, SERGIO**, Associate Professor, Psychiatry, 2001 (2007); MD 1988 Catania

**PARCHER, KAREN**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1994 Drake

**PAREKH, KALPAJ R.**, Assistant Professor, Cardiothoracic Surgery, 2006 (2006); MBBS 1992 Seth G.S. Medical College

**PARK, EUN AE**, Adjunct Assistant Professor, Nursing, 2009 (2006); BSN 1993 Seoul National, Korea; MSN 2000 Seoul National, Korea; PHD 2006 Iowa

**PARK, EUN JUN**, Adjunct Assistant Professor, Nursing, 2006 (2006); BSN 1993 Seoul National, S. Korea; MSN 2000 Seoul National, S. Korea; PHD 2006 Iowa

**PARK, JEONG MI**, Clinical Professor, Radiology, 2005 (2005); MD 1985 Seoul National University

**PARK, JOON B.**, Professor, Biomedical Engineering/Mechanical Engineering, 1983 (1983); BS 1967 Boston University; MS 1969 Massachusetts Inst of Technolo; PHD 1972 Utah

**PARK, MYONGHWA**, Adjunct Assistant Professor, Nursing, 2004 (2004); BSN 1994 Keinyung, Korea; MSN 1997 Keinyung, Korea; PHD 2001 Iowa

**PARK, SOONHYE**, Assistant Professor, Teaching and Learning, 2006 (2006); BA 1994 Seoul National; MA 1999 Seoul National; PHD 2005 Georgia, Athens

**PARK, TRICIA**, Lecturer, Music, 2005 (2005); BM 1998 The Julliard School; MM 2000 The Julliard

**PARKER, ANDREW**, Assistant Professor, Music, 2009 (2009); MM 2003 Yale; DMA 2009 Michigan

**PARKER, CHRISTOPHER P.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BS 1997 Nebraska; PHARMD 2006 Iowa

**PARKER, EDITH A.**, Professor, Community & Behavioral Health, 2010 (2010); BA 1983 Davidson; MPH 1989 North Carolina; PHD 1995 North Carolina

**PARKER, I REED**, Adjunct Assistant Professor, Preventive & Community Dentistry/Family Dentistry, 1989 (2000); BA 1969 Northwestern; DDS 1978 Iowa

**PARKER, STAN**, Clinical Adjunct Assistant Professor, Radiology, 1991 (1991); MD 1982 Iowa

**PARKES, FORD B.**, Emeritus Associate Professor, German, 1969 (1976); BA 1964 Kent State; MA 1966 Kent State; PHD 1971 Michigan State

**PARKIN, GENE F.**, Professor, Civil-Environmental Engineering/Occupational & Environmental Health, 1986 (1988); BS 1970 Iowa; MS 1971 Iowa; PHD 1978 Stanford

**PARKS, BENJAMIN LOUIS**, Adjunct Lecturer, General University College, 2008 (2008); BA 2005 Wartburg College; MS 2007 Western Illinois

**PARRATT, CATRIONA**, Associate Professor, American Studies, 1989 (2001); BA 1977 Birmingham; MHK 1984

Windsor; PHD 1994 Ohio State

**PARROT, EUGENE L.**, Emeritus Professor, Pharmacy, 1962 (1974);

**PARROTT, RAY J.**, Emeritus Professor, Russian, 1971 (1985); BA 1963 Cornell-Iowa; MA 1967 Michigan; PHD 1974 Michigan

**PARROTT, STEVEN ROBERT**, Adjunct Lecturer, General University College, 2009 (2009); MA 1990 Iowa

**PARSONS, DONNA SUE**, Lecturer, Honors Program/Music, 2002 (2009); BM 1990 Iowa; MA 1993 Iowa; PHD 2001 Iowa

**PARTON, DAVID A.**, Emeritus Professor, Sociology, ();

**PARTON, DAVID A.**, Emeritus Professor, Sociology, 1965 (1976);

**PASCARELLA, ERNEST T.**, Professor, Educ Policy & Leadership Studies, 1997 (1997); BA 1965 Princeton; MS 1970 Pennsylvania; PHD 1973 Syracuse

**PASCOE, JUDITH MARIE**, Professor, English, 1993 (2006); BS 1982 Duke; MA 1984 Syracuse; PHD 1992 Pennsylvania

**PASTORINO, ELENA**, Assistant Professor, Economics, 2005 (2005); BA 1997 Bocconi, Italy; PHD 2003 U of Genoa (Italy); PHD 2005 Pennsylvania

**PATEL, HINA**, Lecturer, Teaching and Learning, 2010 (2010); PHD 2004 Iowa State

**PATEL, VIRENDRA C.**, Emeritus Professor, Civil-Environmental Engineering, 1971 (1975); BS 1962 A.C.G.I. London; PHD 1965 Cambridge

**PATERSON, GEORGE W.**, Emeritus Associate Professor, Internal Medicine/Religion, 1970 (1975); BA 1952 Simpson; BD 1955 Drew Theological Seminary; PHD 1969 Iowa

**PATHAN, MUHAMMAD ASHRAF**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MBBS 1967 Sind

**PATIL, SHIVANAND R.**, Emeritus Professor, Pediatrics, 1977 (1986); BS 1961 Karnatak-India; MS 1963 Karnatak-India; PHD 1969 Colorado

**PATRICK, JOSEPH A.**, Emeritus Professor, Art & Art History, 1965 (1984); BFA 1960 Georgia; MFA 1962 Colorado

**PATTERSON, JEROME**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1970 Coe College; JD 1973 Southern Methodist

**PATTERSON, KATHLEEN M.**, Adjunct Instructor, Preventive & Community Dentistry, 1993 (1993); BS 1974 Iowa

**PATTERSON, STEVEN**, Adjunct Lecturer, College Transition, 2005 (2010); BA 1990 Oberlin College; MFA 2002 Iowa

**PATTILLO, ROBIN ELIZABETH**, Clinical Associate Professor, Nursing, 2010 (2010); MSN 1993 Troy University; PHD 2000 Auburn University

**PATTON, EMILY HESS DONOVAN**, Clinical Adjunct Instructor, Nursing, 2007 (2007); BA 1977 Earlham; ADN 1991 Quinnipiac; MSN 1997 Illinois @ Chicago

**PAUL-PETERSEN, DOROTHY HELEN**, Lecturer, Teaching and Learning, 2000 (2000); BA 1972 Glassboro State; MS 1981 Iowa

**PAULSEN, BROOKE MARIE**, Adjunct Lecturer, College Transition, 2008 (2008); BA 2005 Northern Iowa; MA 2007 Iowa

**PAULSEN, GRANT L.**, Clinical Adjunct Associate Professor, Obstetrics & Gynecology, 1999 (1999); MD 1972 Iowa

**PAULSEN, JANE S.**, Professor, Neurology/Psychology/Psychiatry, 1996 (2001); BS 1983 Simpson; PHD 1989 Iowa

**PAULSEN, MICHAEL**, Professor, Educ Policy & Leadership Studies, 2004 (2004); BA 1973 St. Ambrose; MA 1974 University of Wisconsin-Milwau; PHD 1983 Iowa

**PAULSON, BRANDON SCOTT**, Adjunct Lecturer, College Transition, 2010 (2010); BSC 2005 UW-River Falls; MSED 2009 UW- La Crosse

**PAULSON, HENRY L.**, Adjunct Professor, Neurology, 1997 (2006); BS 1981 Yale; MD 1990 Yale; PHD 1990 Yale

**PAULSON, WAYNE L.**, Emeritus Professor, Civil-Environmental Engineering, 1960 (1972); BS 1959 Wisconsin; MS 1960 Wisconsin; PHD 1965 Iowa

**PAULUS, ERIC J.**, Adjunct Instructor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2010 Iowa

**PAULY, PETER J.**, Adjunct Associate Professor, Family Dentistry, 1986 (2000); DDS 1978 Iowa

**PAVLIK, CLAIRE E.**, Lecturer, Geography, 1990 (2005); BA 1981 Minnesota; MA 1985 Minnesota; PHD 1992 Minnesota

**PAYNE, GERALD L.**, Emeritus Professor, Physics & Astronomy, 1969 (1980); BS 1961 Ohio State; MS 1961 Ohio State; PHD 1967 California San Diego

**PAYNTER, DONALD E.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1980 Iowa

**PEARCE, ELIZABETH FLORENCE**, Adjunct Instructor, Communication Studies, 2005 (2005); BED 1981 St Paul & St Mary; MA 1990 Iowa; PHD 2004 Iowa

**PEARCY, DONNA LOUISE**, Adjunct Lecturer, Finance, 2007 (2007); BS 1977 SE Missouri State; MBA 1979 SE Missouri State

**PEARSON, C SUZANNE**, Adjunct Lecturer, Teaching and Learning, 2005 (2005); BS 1974 Iowa; MA 1983 Iowa

**PEARSON, KENT S.**, Associate Professor, Anesthesia, 1985 (1993); BS 1977 Illinois-Urbana; MD 1981 Illinois-Rockford

**PEATE, DAVID WILLIAM**, Associate Professor, Geoscience, 2004 (2009); BA 1985 Cambridge Univ; PHD 1989 Open Univ. UK

**PEDERSEN, DOUGLAS RAY**, Associate Professor, Orthopaedics and Rehabilitation/Biomedical Engineering, 2001 (2001); BSE 1979 Iowa; MS 1983 Iowa; PHD 1998 Iowa

**PEEK, THOMAS**, Adjunct Associate Professor, Family Dentistry, 2003 (2004); BS 1973 Oklahoma City; DDS 1976 Iowa; MS 1978 Iowa; JD 1989 Oklahoma City

**PEEK-ASA, CORINNE**, Professor, Public Policy Center/Epidemiology/Occupational & Environmental Health/Nursing, 2001 (2004); BA 1989 New Mexico; MPH 1990 California-Los Angeles; PHD 1995 Calif-Los Angeles

**PEEPLES, TONYA L.**, Professor, Chemical & Biomedical Engineering, 1995 (2009); BS 1988 North Carolina State; PHD 1994 Johns Hopkins

**PELENSKI, JAROSLAW**, Emeritus Professor, History, 1967 (1971); PHD 1957 Munich-Germany; PHD 1968 Columbia

**PELTON, ELIZABETH L.**, Emeritus Associate Professor, Health, & Sport Studies, 1974 (1980); BS 1970 Iowa; MS 1974 Iowa

**PELZER, GAY D.**, Adjunct Lecturer, Law-Faculty, 1995 (1995); BS 1990 Coe; JD 1993 Iowa

**PEMMARAJU, SRIRAM V.**, Professor, Computer Science, 2000 (2010); MSC 1987 Birla; MS 1989 Virginia Polytechnic; PHD 1992 Virginia Polytechnic

**PENDERGAST, JANE**, Professor, Biostatistics, 1999 (2005); BA 1974 Dayton; MS 1976 Iowa; PHD 1979 Iowa

**PENNEY, CINDY LOU**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BN 1982 Luther College; MA 1992 Iowa

**PENNINGROTH, R PAUL**, Clinical Adjunct Assistant Professor, Psychiatry, 1965 (1973); MD 1964 Iowa

**PENNO, MARK**, Professor, Accounting, 2004 (2004); BA 1973 Wisconsin; MS 1977 Wisconsin; PHD 1983 Northwestern

**PENNY, H GLENN**, Associate Professor, History/International Programs, 2003 (2006); BA 1987 Colorado; MA 1991 Colorado; PHD 1999 Illinois

**PENTELLA, MICHAEL A.**, Clinical Associate Professor, Epidemiology, 2003 (2008); BS 1972 Ohio State; MS 1980 Thomas Jefferson; PHD 2000 South Florida

**PENZINER, ANDREW J.**, Adjunct Instructor, Public Policy Center, 2008 (2008); BA 1974 Grinnell College; MD 1980 Iowa; MS 1980 Iowa

**PERENCEVICH, ELI**, Professor, Internal Medicine, 2010 (2010); MD 1994 Case Western Reserve U

**PERKINS, EDWARD S.**, Emeritus Professor, Ophthalmology & Visual Science, 1979 (1979); MBBS 1947 St. Bartholomew's-England; PHD 1957 London; MD 1959 London

**PERLMAN, STANLEY**, Professor, Microbiology/Pediatrics, 1983 (1993); AB 1968 Rochester; PHD 1972 MIT; MD 1979 Miami

**PERLMUTTER, DAVID DIMITRI**, Professor, Journalism & Mass Communication, 2009 (2009); BA 1985 Pennsylvania; MA 1991 Pennsylvania; PHD 1996 Minnesota-Twin Cities

**PERREAU, ANN ELIZABETH**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BA 2002 Iowa; MA 2004 Iowa

**PERRY, ERIC CHARLES**, Adjunct Lecturer, Finance, 2004 (2004); BA 1989 Iowa; MBA 1992 Iowa

**PERRY, PAUL J.**, Emeritus Professor, Psychiatry, 1973 (1987); BS 1969 Univ of the Pacific; MS 1971 Univ of the Pacific; PHD 1973 Univ of the Pacific

**PERRY, RICHARD E.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BA 1970 Luther; MD 1974 Illinois Medical Center

**PERSOON, THOMAS JOHN**, Adjunct Instructor, Industrial Engineering/Health Management & Policy, 2000 (2000); SCM 1972 Iowa; MSE 2002 Iowa

**PERSOON, DOROTHY MARIE**, Adjunct Assistant Professor, Educ Policy & Leadership Studies, 1989 (1989); BA 1971 Ohio; AMLS 1972 Indiana; PHD 1985 Iowa

**PESANTUBBEE, MICHELENE**, Associate Professor, Religion/American Studies, 2003 (2006); MA 1991 California; PHD 1994 California

**PESCE, LIUSKA MARIA**, Clinical Assistant Professor, Pediatrics, 2008 (2008); MD 1998 Central Univ of Venezuela

**PESKIN, MARGERY C.**, Adjunct Lecturer, Marketing, 2008 (2008); BA 1991 Trinity College; MA 1998 Wake Forest

**PESUT, DANIEL J.**, Adjunct Professor, Nursing, 2000 (2000); PHD 1984 Michigan

**PETASNICK, WILLIAM D.**, Adjunct Associate Professor, Health Management & Policy, 1992 (1992); MA 1970 Minnesota

**PETEFISH, DANIEL E.**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2010 (2010); PHARMD 2003 Drake University

**PETERS, ALAN H.**, Adjunct Professor, Urban & Regional Planning, 1989 (2004); BA 1980 Natal-South Africa; MS 1983 Natal-South Africa; PHD 1990 Rutgers

**PETERS, BOBBY XAVIER**, Clinical Assistant Professor, Emergency Medicine, 2001 (2001); BS 1990 Houston Baptist; MD 1996 Texas Medical

**PETERS, JOHN D.**, Professor, International Programs/Communication Studies, 1986 (2001); BA 1981 Utah; MA 1982 Utah; PHD 1986 Stanford

**PETERS, THOMAS MICHAEL**, Associate Professor, Occupational & Environmental Health, 2004 (2010); BS 1990 Florida; MS 1992 Florida; PHD 2004 N. Carolina

**PETERSEN, BRIAN MICHAEL**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 2004 Creighton

**PETERSEN, CHRISTINE A.**, Adjunct Assistant Professor, Epidemiology, 2006 (2006); BA 1994 Johns Hopkins; DVM 1998 Cornell; PHD 2004 Harvard

**PETERSEN, ELIZABETH-ANN FURR**, Adjunct Lecturer, Marketing, 2005 (2005); BA 1980 Iowa State; MA 1986 California State; MS 1986 California State; PHD 2000 Iowa

**PETERSEN, JOSHUA DOUGLAS**, Clinical Adjunct Instructor, Nursing, 2010 (2010); BSN 2004 Mt Mercy; MSN 2008 Iowa

**PETERSON, ANDREW ROBERT**, Clinical Assistant Professor, Pediatrics, 2010 (2010); BA 2000 Lawrence; MD 2004 Wisconsin

**PETERSON, CLAYTON ROBERT**, Lecturer, Integrative Physiology, 2008 (2008); BA 1995 Luther College; PHD 2009 University of Iowa

**PETERSON, CONNIE EDITH**, Adjunct Instructor, Journalism & Mass Communication, 2000 (2000); BFA 1967 Northern Iowa

**PETERSON, DEBORAH LYNN**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1982 Iowa

**PETERSON, ERIC M.**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMD 1997 Iowa

**PETERSON, JOHN D.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 1998 North Dakota State

**PETERSON, LAWRENCE C.**, Emeritus Associate Professor, Preventive & Community Dentistry, 1973 (1986); BSME 1962 General Motors Institute; MS 1970 Iowa

**PETERSON, NICOLE ELIZABETH**, Lecturer, Nursing, 2008 (2008); BSN 2003 Iowa; MSN 2008 Iowa

**PETERSON, RUSSELL LESLIE**, Adjunct Assistant Professor, American Studies, 2006 (2006); PHD 2005 Iowa

**PETERSON, STEWART NORMAN**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2001 Iowa

**PETROSINO, COURTENEY MICHELLE**, Adjunct Lecturer, General University College, 2008 (2008); BA 2001 Virginia; MA 2004 Chicago; MFA 2006 Iowa

**PETROVA, OLGA BORISOVNA**, Adjunct Assistant Professor, Linguistics, 2001 (2001); BA 1983 Russian Pedagogical; MA 1992 Northern Iowa; PHD 2001 Iowa

**PETTIBONE, ROY W.**, Lecturer, Finance, 2000 (2000); MA 1983 Northeast Missouri State

**PETTIT, JEFFREY E.**, Adjunct Instructor, Consultation & Res Med Educ/Neurosurgery/Psych & Quant Foundations, 1999 (1999); BS 1976 Naval Academy; MA 1987 Iowa; PHD 1993 Iowa

**PETTYS, TODD E.**, Professor, Law-Faculty, 1999 (2004); BA 1988 Seattle Pacific; JD 1995 North Carolina-Chapel Hill

**PFALLER, MICHAEL A.**, Emeritus Professor, Epidemiology, 1983 (1989); BA 1972 Linfield; MD 1976 Washington-St. Louis

**PFOHL, BRUCE MICHAEL**, Professor, Biostatistics/Psychiatry, 1981 (1993); BA 1973 Graceland; MD 1977 Iowa

**PHAN, KHANH PHUONG**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); BSPH 1995 Iowa; PHARMD 2006 Iowa

**PHELPS, MICHAEL ALLEN**, Clinical Adjunct Assistant Professor, Surgery, 1999 (2000); MD 1988 Iowa

**PHILIBERT, ROBERT ALAN**, Professor, Psychiatry, 1998 (2008); BS 1983 St. Ambrose; PHD 1989 Iowa; MD 1989 Iowa

**PHILLIPS, BRYAN T.**, Assistant Professor, Department of Biology, 2009 (2009); BS 1998 Illinois; DPHIL 2004 Texas A&M

**PHILLIPS, DARRELL G.**, Emeritus Associate Professor, Teaching and Learning, 1968 (1971); BM 1952 Sul Ross State; MA 1960 Texas; PHD 1967 Florida State

**PHILLIPS, GEORGE**, Clinical Associate Professor, Occupational & Environmental Health/Pediatrics, 2002 (2008); BS 1993 Duke; MD 1998 South Carolina

**PHILLIPS, KENNETH H.**, Emeritus Professor, Music/Teaching and Learning, 1985 (1997); BM 1967 Westminster; MM 1968 West Virginia; PHD 1983 Kent State

**PHILLIPS, KIRK TOLLEF**, Adjunct Instructor, Nursing/Epidemiology, 1992 (2006); BS 1975 Iowa State; MSW 1997 Minnesota; MS 2002 Iowa; PHD 2005 Iowa

**PHISITKUL, KANTIMA**, Clinical Assistant Professor, Internal Medicine, 2010 (2010); MD 1997 Medicine Chulalongkorn

**PHISITKUL, PHINIT**, Clinical Assistant Professor, Orthopaedics and Rehabilitation, 2008 (2008); MD 1996 Chulalongkorn

**PIANETTO, NATALIE**, Lecturer, Nursing, 2007 (2007); BSN 2005 Iowa; MSN 2008 Iowa

**PICKAR, JOEL**, Adjunct Associate Professor, Biomedical Engineering, 1999 (1999); PHD 1990 California-Davis

**PIDGEON, KATIE D.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2006 Drake

**PIEKARSKI, SHARI LYNN**, Adjunct Lecturer, College Transition, 2008 (2008); BA 1983 Iowa; MA 1991 Iowa

**PIENTA, NORBERT J.**, Professor, Chemistry, 1999 (2009); BS 1974 Rochester; PHD 1978 North Carolina

**PIERCE, LEIGHTON**, Professor, Cinema & Comparative Literature, 1985 (1997); BA 1981 University of Iowa; MFA 1984 Syracuse

**PIERICK, TRUDY ANN**, Clinical Adjunct Instructor, Nursing, 1994 (1994); BSN 1989 Iowa; MSN 1998 Iowa

**PIES, CARLA JEAN**, Clinical Adjunct Instructor, Nursing, 1997 (1997); BSN 1987 IOWA; MSN 2000 IOWA

**PIETRZYK, DONALD J.**, Emeritus Professor, Chemistry, 1961 (1971); BS 1956 Wayne State; PHD 1960 Iowa State

**PIGGE, FRED CHRISTOPHER**, Associate Professor, Chemistry, 2005 (2005); BA 1989 Wooster; PHD 1993 NC-Chapel Hill

**PIKE, SUSAN**, Clinical Assistant Professor, Psychiatry, 2009 (2009); MD 2003 Southern Illinois

**PINCKNEY, THOMAS W.**, Adjunct Assistant Professor, Preventive & Community Dentistry, 1985 (1985); DDS 1977 Iowa



**PINKHAM, JIMMY R.**, Emeritus Professor, Pediatric Dentistry, 1972 (1983); BS 1966 North Carolina; DDS 1970 North Carolina; MSCD 1972 North Carolina

**PINNEKE, STEVEN PAUL**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BSPH 1978 Iowa; MS 1988 Central Michigan; PHARM 1996 Creighton

**PINS, KATHARINE J.**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); AS 2002 Lorus; DDS 2006 Iowa

**PIPER, ROBERT C.**, Professor, Physiology/Internal Medicine, 1997 (2009); BS 1986 Reed; PHD 1992 Washington University

**PIPPIN, ZACHARY C.**, Lecturer, English as Second Language, 2010 (2010); BS 2004 Auburn; MA 2010 Iowa

**PIROS, JAMES G.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1974 (1980); MD 1971 Illinois

**PISARIK, PAULA JO**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM 1998 Iowa

**PISNEY, FRANCIS L.**, Clinical Adjunct Assistant Professor, Family Medicine, 1976 (2002); BS 1967 Iowa State; MD 1971 Iowa

**PITCHER, GRAEME**, Clinical Associate Professor, Surgery, 2009 (2009); MBBCH 1984 Witwatersrand; FSC 1993 Med of South Africa

**PITTMAN, CORY**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); BS 1997 Missouri; MD 2002 Illinois, Wesleyan

**PITTON, MICHAEL J.**, Adjunct Lecturer, Law-Faculty, 2002 (2002); BA 1974 CREIGHTON; JD 1977 IOWA

**PITZENBERGER, ABBEY MARIE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM 2006 Iowa

**PIZZIMENTI, MARC ANTHONY**, Lecturer, Integrative Physiology/Anatomy & Cell Biology, 1999 (1999); BED 1987 Western Ontario; MA 1989 Western Ontario; PHD 1999 Iowa

**PIZZINI, EDWARD L.**, Emeritus Professor, Teaching and Learning, 1973 (1990); BS 1963 Montana State; MS 1968 Houston; PHD 1973 Iowa

**PLAKANS, LIA MARGARET**, Assistant Professor, Teaching and Learning, 2000 (2009); BA 1991 Iowa; MA 1997 Iowa State; PHD 2007 Iowa

**PLAPP, BRYCE V.**, Professor, Biochemistry, 1970 (1979); BS 1961 Michigan State; PHD 1966 California-Berkeley

**PLAPP, ROSEMARY KUHN**, Lecturer, Linguistics, 2000 (2006); BA 1962 Michigan State; AM 1963 Stanford; MA 1990 Iowa; PHD 1999 Iowa

**PLATZ, CHARLES E.**, Emeritus Professor, Pathology, 1975 (1980); BA 1959 Kansas; MD 1963 Chicago

**PLINE, CONNIE JEAN**, Adjunct Instructor, Pharmacy Practice and Science, 2006 (2006); BSPH 1990 Iowa

**PLOEHN, LISA C.**, Adjunct Instructor, Pharmacy, 1997 (1997); PHARM 1980 Nebraska-Omaha

**PLUMERT, JODIE M.**, Professor, Psychology, 1990 (2004); BA 1985 Kalamazoo; PHD 1990 Minnesota

**PLUTH, JAYNE**, Clinical Adjunct Instructor, Nursing, 2008 (2008); DIP 1978 IA Luthern Hosp. Sch. of Nurse

**PODUSKA, KATHLEEN MARIE REIBOLD**, Lecturer, Teaching and Learning, 1999 (1999); BM 1973 Iowa State; BA 1988 Cornell; MA 1996 Iowa

**POE, MARSHALL**, Associate Professor, History, 2007 (2007); BA 1984 Grinnell College; MA 1986 U of California, Berkeley; PHD 1991 U of California, Berkeley

**POGUE, THOMAS F.**, Emeritus Professor, Economics, 1965 (1974); BS 1957 New Mexico State; MS 1962 Oklahoma State; MA 1963 Yale; PHD 1968 Yale

**POLASCHEK, KARLA A.**, Clinical Adjunct Lecturer, Obstetrics & Gynecology, 1998 (1998); MD 1993 Southern Illinois

**POLGREEN, PHILIP MATTHEW**, Assistant Professor, Internal Medicine/Epidemiology, 2004 (2006); BS 1992 Beloit; MD 1997 Cincinnati; MPH 2006 Iowa

**POLICENI, BRUNO**, Clinical Assistant Professor, Radiology, 2006 (2006); MD 2001 Faculdade de Medicina de Valen

**POLITANO, MARCELA SUSANA**, Adjunct Assistant Professor, Civil-Environmental Engineering, 2006 (2006); MSCHE 1993 UNRC Argentina; MSCHE 1999 UNRC, Argentina; PHE 2001 Inst. Balseiro, Argentina

**POLUMBAUM, JUDY**, Professor, International Programs/Journalism & Mass Communication, 1989 (2003); BA 1976

McGill; MS 1977 Columbia; PHD 1989 Stanford

**POLYAK, STEVEN**, Assistant Professor, Internal Medicine, 2009 (2009); BA 1993 Clark; MD 1998 Mount Sinai

**POLYZOU, WAYNE N.**, Professor, Physics & Astronomy, 1982 (1991); BS 1974 Pennsylvania State; MS 1978 Maryland; PHD 1979 Maryland

**POMEROY, DAN**, Adjunct Instructor, Pharmacy, 2002 (2002); BSPH 1981 Iowa

**POMREHN, PAUL RUDOLPH**, Adjunct Professor, Epidemiology, 1980 (1999); BA 1971 Iowa; MD 1975 Iowa; MS 1980 Iowa

**PONTARELLI, MICHEL SANDOM**, Adjunct Lecturer, Marketing, 2007 (2007); BA 1976 Connecticut; MBA 1999 St. Ambrose

**PONTO, JAMES ALLEN**, Clinical Professor, Pharmacy, 1978 (1992); BS 1977 Iowa; BSPH 1977 Iowa; MS 1978 Southern-California-Los Angeles

**PONTO, LAURA L.**, Associate Professor, Radiology, 2000 (2008); BSPH 1977 Iowa; MS 1981 Iowa; PHD 1988 Iowa

**POOCK, JAMES JOSEPH**, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BS 1995 Upper Iowa Univ, Fayette, IA; BS 1999 Upper Iowa; MD 1999 Iowa

**POPE, HALLOWELL**, Emeritus Associate Professor, Sociology, 1968 (1968);

**POPE, MELODY K.**, Adjunct Assistant Professor, Anthropology, 2007 (2007); MA 1989 Binghamton; PHD 2005 Binghamton

**POPESCU, IOANA**, Assistant Professor, Internal Medicine, 2006 (2009); MD 1992 Carol Davila; MPH 2004 Emory

**PORCELLA, ALETA ANNE**, Clinical Adjunct Instructor, Nursing, 2002 (2002); BA 1974 Iowa; BSN 1979 Morningside; MSN 2000 Iowa

**POREMB, AMY**, Associate Professor, Psychology, 2001 (2009); BS 1988 Illinois; PHD 1996 Illinois

**POROY, OGUZ**, Adjunct Lecturer, College Transition, 2002 (2009); BS 1992 Bogazici; MS 1995 Tuskegee; PHD 2000 ARKANSAS-LITTLE ROCK

**PORTER, HORACE A.**, Professor, English/American Studies/African-American Studies, 1999 (1999); BA 1972 Amherst; MA 1975 Yale; PHD 1981 Yale

**PORTER, JEFFREY L.**, Associate Professor, English, 1993 (2009); BA 1974 State Univ of NY-Buffalo; MA 1975 Oregon; PHD 1983 Oregon

**PORTER, KATHERINE M.**, Professor, Law-Faculty, 2005 (2010); BA 1996 Yale; JD 2001 Harvard

**PORTER, ROBERT**, Adjunct Lecturer, General University College, 2009 (2009); BA 1998 Doane; JD 2001 Iowa

**PORTER, SAMUEL D.**, Emeritus Associate Professor, Surgery, 1974 (1985); BA 1956 Grinnell; MD 1960 Creighton

**PORTMAN, TARRELL AWE AGAHE**, Associate Professor, Counseling, Rehab & Stu Dev, 1999 (2005); BS 1981 Southeast Missouri State; MA 1988 Southeast Missouri State; PHD 1999 Arkansas

**POSTHUMA, RICHARD DALE**, Clinical Adjunct Assistant Professor, Family Medicine, 2004 (2004); BA 1982 Dordt, IA; MD 1991 Iowa

**POTAPOVA, MARINA**, Adjunct Professor, General University College, 2010 (2010); PHD 1993 Limnological Inst

**POTESTIO, ARMAND J.**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BA 1980 Colorado; BSPH 1984 Colorado

**POTTER, ELIZABETH MARY**, Clinical Assistant Professor, Obstetrics & Gynecology, 2009 (2009); BA 2000 Pomona College; MS 2008 CA, San Francisco

**POTTER, KAREN S.**, Adjunct Assistant Professor, Endodontics, 2009 (2009); DDS 2007 UCLA

**POULAKOS, P TAKIS**, Associate Professor, Rhetoric, 1990 (1995); BA 1974 San Jose State; MA 1976 San Jose State; PHD 1988 Miami-Ohio

**POULSON, EVA-MARIA**, Adjunct Instructor, Preventive & Community Dentistry, 1993 (1994); DDS 1981 UCLA

**POULTON, JONATHAN E.**, Emeritus Professor, Department of Biology, 1979 (1992); BA 1971 Oxford-England; MA 1974 Oxford-England; DPHIL 1974 Oxford-England

**POUST, ROLLAND I.**, Emeritus Professor, Pharmacy, 1991 (1991); BS 1966 Pittsburgh; MS 1968 Pittsburgh; PHD 1971 Purdue

**POWELL, SANDRA RAE**, Emeritus Associate Professor, Nursing, 1969 (1980); BA 1963 Coe; MED 1969 Columbia Teachers College; PHD 1990 Iowa

**POWELL-RENNECKAR, BECKY SUE**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); BS 1979 Iowa

**POWERS, NATHAN LEE**, Adjunct Instructor, Physics & Astronomy, 2009 (2009); BS 2003 Nebraska @ Lincoln; PHD 2008 Iowa

**PRATER, NICOLA JANE**, Lecturer, Nursing, 2001 (2008); BSN 1986 Sangamon State; MSN 2000 Iowa

**PRESCOTT, WILLIAM CREGO**, Adjunct Assistant Professor, Mechanical Engineering, 2008 (2008); PHD 1993 Iowa

**PRESTON, BETH MARIE**, Adjunct Instructor, Nursing, 2001 (2001); MSN 1996 Grand View

**PRESTON, MARK ALLEN**, Clinical Adjunct Assistant Professor, Psychiatry, 2008 (2008); BS 1979 Iowa State; MD 1984 Iowa

**PREUCIL, WILLIAM W.**, Emeritus Professor, Music, 1958 (1971); BM 1952 Eastman School of Music; MM 1956 Rochester

**PRICE, DAVID H.**, Professor, Biochemistry, 1989 (1998); BS 1975 North Carolina State; PHD 1980 Florida State

**PRICE, KAREN L.**, Adjunct Instructor, Linguistics, 2009 (2009); BA 1994 Iowa; MA 2007 Iowa

**PRICKMAN, GREGORY J.**, Adjunct Instructor, Library & Information Science, 2008 (2008); BA 1994 Macalester; AMLS 1998 Indiana

**PRIES, CHRIS M.**, Adjunct Instructor, Nursing, 1983 (1983); MA 1975 Iowa

**PRINEAS, JOHN PAUL**, Associate Professor, Electrical-Computer Engineering/Physics & Astronomy, 2001 (2007); BA 1991 Carleton; PHD 2000 Arizona

**PROUDFIT, HERBERT K.**, Emeritus Professor, Pharmacology, 2000 (2000); BA 1964 Kansas; PHD 1971 Kansas-Kansas City

**PROVENZANO, ANTHONY A.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMMD 1992 Illinois Chicago

**PRULL, MICHELLE ANN**, Adjunct Assistant Professor, Pharmacy, 1997 (2010); BS 1993 Iowa

**PRUSSING, ERICA**, Assistant Professor, Community & Behavioral Health/Anthropology, 2002 (2002); BA 1988 Wellesley; MA 1992 California-San Diego; PHD 1999 California-San Diego; MPH 2000 California-Berkeley

**PRYBIL, LAWRENCE**, Emeritus Professor, Health Management & Policy, 1999 (1999); BA 1962 Iowa; MA 1964 Iowa; PHD 1970 Iowa

**PRYMEK, JENNIFER L.**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1997 Drake University

**PRYOR, CRAIG EARL**, Assistant Professor, Physics & Astronomy, 2005 (2005); PHD 1990 UCSB

**PUDERBAUGH, DAVID**, Assistant Professor, Music, 2006 (2006); BME 1994 Drake

**PUGHE, DEBRA**, Adjunct Instructor, Art & Art History, 2004 (2004); BA 1976 Hawaii, Honolulu; MA 1998 California State

**PURCELL, JESSICA LYNN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); MPH 2006 Iowa

**PURTLE, MARK WILLIAM**, Clinical Adjunct Associate Professor, Internal Medicine, 1990 (2005); MD 1981 Iowa

**PUSEY, ROBERT DRAKE**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine, 1994 (2000); DDS 1982 Iowa

**PUTNAM, SHANNON DENNIS**, Adjunct Assistant Professor, Epidemiology, 2005 (2005); BS 1987 Wayne State University; MS 1989 Northern Arizona University; PHD 1999 Iowa

**PYEVICH, ELANA NADINE**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMMD 1999 Iowa

**PYEVICH, VICKIE DIAMANDAKIS**, Clinical Associate Professor, Pediatrics, 1997 (2006); BS 1987 Iowa; MD 1991 Iowa

**QIAN, FANG**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2001 (2001); BA 1984 Chinese People's; MA 1989 Hunter; MPHIL 1990 City-New York; PHD 1994 City-New York

**QIAN, YIMING**, Associate Professor, Finance, 2002 (2010); BA 1995 Nankai; MA 1997 Fordham; PHD 2002 New York

**QUELLE, DAWN E.**, Associate Professor, Pathology/Pharmacology, 1997 (2005); BS 1987 Maine; PHD 1992

## Pennsylvania

**QUELLE, FREDERICK W.**, Associate Professor, Pharmacology, 1997 (2005); BA 1986 Middlebury; MA 1990 Pennsylvania State; PHD 1992 Pennsylvania State

**QUESTAD, DEANNA L.**, Clinical Adjunct Associate Professor, Internal Medicine, 1990 (2010); MD 1983 South Dakota ((Vermillion)

**QUIGLEY, PATRICIA DANIELLE**, Clinical Assistant Professor, Pediatrics, 2010 (2010); BS 2001 Wisconsin; MD 2006 Tufts School of Med

**QUINBY, GARY EDWIN**, Clinical Adjunct Assistant Professor, Dermatology, 2001 (2001); BS 1988 Iowa; MD 1996 Iowa; PHD 1996 Iowa

**QUINLISK, PATRICIA**, Adjunct Professor, Epidemiology, 1996 (2002); BS 1977 Wisconsin; MPH 1984 Johns Hopkins; MD 1988 Wisconsin-Madison

**QUINLIVAN, RAENA L.**, Lecturer, Communication Studies, 2008 (2008); BA 2002 Colorado State; MA 2004 Colorado State; PHD 2008 Penn State

**QUINN, DANIEL M.**, Professor, Chemistry, 1982 (1992); BS 1972 Quincy; PHD 1977 Kansas

**RABE, GLENDA K.**, Clinical Assistant Professor, Pediatrics, 2008 (2008); BS 1998 Iowa; MD 2002 Iowa

**RABEDEAUX, STEVEN GRANT**, Adjunct Instructor, Family Dentistry, 1992 (1992); BS 1980 Iowa; DDS 1984 Iowa

**RABER, ERICKA ARVIDSON**, Adjunct Instructor, Library & Information Science, 2003 (2009); BA 1991 IOWA; MA 1998 IOWA; MA 2000 IOWA

**RABINOVITZ, LAUREN**, Professor, Cinema & Comparative Literature/American Studies, 1986 (1998); BS 1972 Boston University; MA 1977 Texas-Austin; PHD 1982 Texas-Austin

**RACEVSKIS, ROLAND**, Professor, French & Italian, 1998 (2009); BA 1992 Michigan State; MA 1994 Pennsylvania; PHD 1997 Pennsylvania

**RACHOW, JOHN W.**, Clinical Assistant Professor, Internal Medicine, 1988 (1988); BS 1967 Nebraska-Lincoln; MS 1969 Nebraska-Lincoln; PHD 1976 Nebraska-Lincoln; MD 1976 Nebraska-Omaha

**RADEMACHER, BRUCE E.**, Adjunct Instructor, Pharmacy, 2003 (2003); BSPH 1980 Purdue

**RADIA, MARY A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1987 (2001); DO 1981 Drake

**RADLEY, JASON J.**, Assistant Professor, Psychology, 2011 (2011); BA 1995 Miami; MA 1997 Princeton; PHD 2001 Princeton

**RAEBURN, JOHN H.**, Emeritus Professor, American Studies/English, 1974 (1983); BA 1963 Indiana; PHD 1969 Pennsylvania

**RAGHAVAN, MADHAVAN LAKSHMI**, Associate Professor, Biomedical Engineering, 2000 (2006); BE 1992 Coimbatore; PHD 1998 Pittsburgh

**RAHEIM, SALOME**, Emeritus Associate Professor, IA Consortium Substance Abuse/Social Work, 1986 (1997); BSW 1974 Bowie State; MSW 1976 Catholic University of America; PHD 1990 Iowa

**RAHHAL, RIAD**, Clinical Assistant Professor, Pediatrics, 2007 (2007); BS 1996 Univ of Beirut; MD 2000 Univ of Beirut

**RAHMAN, SHARIF**, Professor, Mechanical Engineering, 1995 (2005); BS 1984 Bangladesh; MS 1986 Purdue; PHD 1991 Cornell

**RAHMATALLA, SALAM FAISAL**, Assistant Professor, Biomedical Engineering/Civil-Environmental Engineering, 2005 (2005); MME 1985 Technology; MCE 2002 Iowa; PHE 2004 Iowa

**RAHMOUNI, KAMAL**, Assistant Professor, Internal Medicine, 2005 (2005); PHARM 2001 Strasbourg

**RAHNER, KEVIN M.**, Clinical Adjunct Assistant Professor, Family Medicine, 2005 (2005); BS 1987 Peru State, NE; MS 1990 Iowa State IA; DO 1995 Des Moines IA

**RAIFE, THOMAS J.**, Clinical Professor, Pathology, 2001 (2009); BA 1980 Iowa State; MD 1989 Iowa

**RAILSBACK, LINDA DIANE**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 1993 (1993); MD 1974 Iowa

**RAINEY, EMMA**, Adjunct Lecturer, General University College/English, 2010 (2010); BA 2006 Iowa; MFA 2009 Iowa

**RAINVILLE, EDWARD CHARLES**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); MS 1988 Iowa

**RAJAGOPAL, RANGASWAMY**, Professor, Geography/Civil-Environmental Engineering/International Programs, 1979 (1987); BS 1964 Bombay-India; ME 1969 Florida; PHD 1973 Michigan

**RAJAGOPAL, SRINIVASAN**, Clinical Assistant Professor, Anesthesia, 2005 (2007); MD 2000 Wayne State

**RAJPUT, MAHEEN**, Clinical Assistant Professor, Radiology, 2008 (2008); MD 2000 Illinois

**RAKEL, BARBARA ANN**, Assistant Professor, Physical Therapy/Nursing, 2000 (2000); BSN 1979 Iowa; MA 1988 Iowa; PHD 2002 Iowa

**RAMAKRISHNAN, PREM SUBRAMANIAN**, Adjunct Assistant Professor, Biomedical Engineering, 2009 (2009); MS 2003 Illinois-Chicago; PHD 2006 Iowa

**RAMEY, SANDRA L.**, Assistant Professor, Community & Behavioral Health/Nursing, 2006 (2006); BS 1992 St Francis; MSN 1995 Iowa; PHD 2002 Iowa State

**RAMIG, LORRAINE**, Adjunct Professor, Communication Sciences and Disorders, 1999 (1999); PHD 1980 Purdue

**RAMIREZ, MARIZEN ROJAS**, Assistant Professor, Occupational & Environmental Health, 2007 (2007); BA 1995 California at Berkeley; MPH 1998 California - Los Angeles; PHD 2002 California - Los Angeles

**RAND, JACKI THOMPSON**, Associate Professor, History, 1998 (2007); BA 1982 Maine; MS 1993 Oklahoma; PHD 1998 Oklahoma

**RANDAK, CHRISTOPH OSKAR**, Assistant Professor, Pediatrics, 2009 (2009); MD 1992 Wurzburg, Germany; MSC 1996 Hagen, Germany

**RANDALL, ERIC WAYNE**, Adjunct Instructor, Integrative Physiology, 2007 (2007); BS 2000 Iowa; MA 2004 Iowa

**RANDEL, PATRICIA ANN**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1993 Iowa

**RANDELL, RICHARD C.**, Professor, Mathematics, 1981 (1981); BA 1968 Iowa; MA 1971 Wisconsin; PHD 1973 Wisconsin

**RAO, MIRLE SRINIVASA NAGARAJA**, Adjunct Professor, International Programs, 2009 (2009); BA 1954 Mysore, India; MA 1955 Mysore, India; PHD 1966 Poona, India

**RAO, SATISH S-C**, Professor, Internal Medicine, 1991 (2002); MBBS 1978 Osmania Medical College; PHD 1987 Sheffield - United Kingdom

**RAPERT, MOLLY I.**, Adjunct Associate Professor, Marketing, 2009 (2009); PHD 1992 Memphis

**RAPSON, IRA J.**, Professor, Music, 1993 (2003); BA 1976 Westmont; MA 1981 California State

**RASMUSSEN, ETTA H.**, Emeritus Associate Professor, Nursing, 1952 (1959); BA 1932 Cornell; MS 1957 Iowa

**RASMUSSEN, MARYANN**, Lecturer, English, 1992 (1994); PHD 1991 Iowa

**RATLIFF, TIMOTHY L.**, Emeritus Professor, Urology, 1997 (1997); BS 1971 Texas-Arlington; MS 1974 East Texas State; PHD 1977 Arkansas-Fayetteville

**RATNER, ALBERT**, Assistant Professor, Mechanical Engineering, 2003 (2003); BS 1995 California; MS 1996 Michigan; MS 1999 Michigan; PHD 2000 Michigan

**RAW, ROBERT MAURICE**, Clinical Associate Professor, Anesthesia, 2004 (2004); MBCHB 1979 Pretoria, South Africa

**RAY, ALISON**, Adjunct Assistant Professor, Family Dentistry, 2006 (2006); DDS 2002 Iowa

**RAY, THOMAS L.**, Professor, Dermatology, 1979 (1991); BA 1968 Williams; MD 1972 Oregon

**RAYMOND, MARGARET**, Professor, Law-Faculty, 1995 (1999); BA 1980 Carleton; JD 1985 Columbia

**RAZA, HASSAN**, Assistant Professor, Electrical-Computer Engineering, 2009 (2009); BS 2001 England and Tech Lahore; MS 2002 Purdue; PHD 2007 Purdue

**READ, CHARLES H.**, Emeritus Professor, Pediatrics, 1954 (1959); BSC 1939 ACADIA-Nova Scotia; MD 1943 McGill-Canada

**REAGAN, MARK K.**, Professor, Geoscience, 1987 (2007); BA 1978 California-Santa Barbara; MS 1982 Arizona; PHD 1987 California-Santa Cruz

**REAMS, ANGELA AILEEN**, Adjunct Instructor, Health, & Sport Studies, 2007 (2007); BA 2002 Northern Iowa; MA 2005 Iowa

**REASONER, CARROLL JANE**, Adjunct Lecturer, General University College, 2009 (2009); BA 1973 Iowa; JD 1976

## Iowa

**REBELLO LIMA, VINICIUS**, Lecturer, Art & Art History, 2009 (2009); BA 2005 Federal Univ of Rio De; MA 2007 Iowa; MFA 2009 University of Iowa

**REBOUCHE, CHARLES J.**, Associate Professor, Pediatrics, 1984 (1988); BS 1970 Tulane; PHD 1974 Vanderbilt

**RECHKEMMER, MOLLY RENEE**, Lecturer, Counseling, Rehab & Stu Dev, 2004 (2004); BS 1997 Iowa State; MS 2002 Tennessee

**RECKER, BRYAN MARK**, Adjunct Assistant Professor, Periodontics, 2009 (2009); DDS 2006 Iowa; MS 2009 Iowa

**RECOBER-MONTILLA, ANA**, Assistant Professor, Neurology, 2007 (2009); MD 1997 Malaga

**REDDY, SUDHAKAR M.**, Professor, Electrical-Computer Engineering, 1968 (1977); BSEE 1962 Osmania; ME 1963 Indian Institute of Science; PHD 1968 Iowa

**REED, ALAN I.**, Professor, Surgery, 2007 (2007); BS 1980 Hobart College; MD 1984 Cornell

**REED, DAVID A.**, Adjunct Assistant Professor, Nursing, 2003 (2003); BA 1970 Indiana; MA 1972 Indiana; PHD 1989 Indiana

**REED, RONALD ROSS**, Adjunct Lecturer, Health Management & Policy, 2000 (2000); MPH 1983 Pittsburgh

**REESE, JEAN LADORA**, Emeritus Associate Professor, Nursing, 1969 (1980); BSN 1961 Nebraska; MN 1968 Washington; PHD 1984 Iowa

**REGO, LOPO LEOTTE**, Associate Professor, Marketing, 2000 (2010); BS 1991 Nove DE Lisboa, Portugal; MBA 1993 Lisbon; PHD 2000 Michigan

**REGO, SONJA OLHOFT**, Associate Professor, Accounting, 1999 (2007); BS 1989 Illinois; MBA 1991 Illinois; MAE 1999 Michigan; PHD 1999 Michigan

**REHMANN, JOSHUA JOHN**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BS 2000 Grinnel; DO 2006 Des Moines, IA

**REICHARDT, CARINA LEE**, Adjunct Instructor, Pharmacy, 2010 (2010); BSPH 1989 Drake

**REID, RONDA**, Lecturer, Teaching and Learning, 2010 (2010); BA 1981 Northern Iowa; MED 1984 Northern Iowa

**REIDER, RONALD**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1971 Virginia

**REIFF, TAMMY LYNN**, Adjunct Instructor, Social Work, 2008 (2008); BS 1997 Mankato State; MSW 2008 Iowa

**REIMER, TONI TRIPP**, Professor, Anthropology/Nursing, 1977 (1986); BSN 1969 Maryland; MSN 1973 Ohio State; MA 1974 Ohio State; PHD 1977 Ohio State

**REINHARDT, JOSEPH M.**, Professor, Biomedical Engineering, 1995 (2009); BS 1985 Carnegie Mellon; MS 1988 Northeastern; PHD 1994 Penn State

**REINHART, REBECCA MAUREEN**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1993 Iowa

**REINKING, BENJAMIN EVERS**, Clinical Assistant Professor, Pediatrics, 2006 (2006); BA 1996 UNI; MD 2000 Iowa

**REINS-SCHWEER, LORIE ELAINE**, Lecturer, Law-Faculty, 2007 (2007); BA 1985 Northern Iowa; JD 2003 Iowa

**REISINGER, HEATHER SCHACHT**, Adjunct Assistant Professor, Internal Medicine, 2008 (2008); BA 1998 Luther College; PHD 2004 American Univ

**REISINGER, WILLIAM M.**, Professor, International Programs/Political Science, 1985 (1996); BA 1979 Oregon; MA 1981 Michigan; PHD 1986 Michigan

**REIST, JEFFREY CLARK**, Clinical Assistant Professor, Pharmacy, 1993 (2005); BS 1982 Iowa; PHARMD 2007 Florida

**REITZ, JOHN C.**, Professor, International Programs/Law-Faculty, 1983 (1988); BA 1970 Harvard; JD 1975 Michigan

**REMBOLD, ELIZABETH MARIE STANAGE**, Adjunct Instructor, Social Work, 2006 (2006); MSW 2005 Iowa

**RENNER, LYNETTE MICHELLE**, Assistant Professor, Social Work, 2008 (2008); BS 1994 Mary; MSW 1995 Kentucky; PHD 2005 Wisconsin

**RENO, MARY HALL**, Professor, Physics & Astronomy, 1990 (2002); BA 1980 Reed; PHD 1985 Stanford

**RENWICK, RICK F.**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 1995 (1995); MD 1976 Wisconsin-Madison

**RETHWISCH, DAVID GERARD**, Professor, Chemical & Biomedical Engineering, 1985 (1995); BS 1979 Iowa; PHD 1985 Madison, WI

**RETISH, PAUL M.**, Professor, Teaching and Learning, 1967 (1976); BS 1960 New York State-Geneseo; MS 1965 Indiana; EDD 1967 Indiana

**RETTENMAIER, LAWRENCE JOSEPH**, Clinical Adjunct Instructor, Internal Medicine, 2005 (2005); MD 1984 UIHC

**REYES, RAMON**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); MD 1991 Santo Thomas

**REYNOLDS, DAVID R.**, Emeritus Professor, Geography, 1968 (1974); BS 1962 Pennsylvania State; MS 1963 Northwestern; PHD 1966 Northwestern

**REZAI, KARIM**, Emeritus Associate Professor, Radiology, 1984 (1988); MD 1971 Shiraz Meidical School-Iran

**RHOADS, SHARI M.**, Lecturer, Music, 2000 (2000); BM 1981 Southern California

**RHODES, ANN MARIE**, Clinical Associate Professor, Law-Faculty/Nursing, 1983 (1993); BSN 1975 St Teresa; MA 1976 Iowa; JD 1982 Iowa

**RHODES, HOWARD BURGOYNE**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1995 North Carolina; MA 1998 MTS@Harvard; MA 2000 Princeton; PHD 2006 Princeton

**RICE, JAMES G.**, Emeritus Associate Professor, Library & Information Science, 2004 (1984);

**RICE, JOHN OSCAR**, Clinical Associate Professor, Oral & Maxillofacial Surgery, 2004 (2008); DDS 1971 Iowa

**RICE, KEVIN G.**, Professor, Pharmacy, 2001 (2001); BS 1983 Marycrest; PHD 1987 Iowa

**RICE, TOM W.**, Professor, Political Science, 1999 (1999); BA 1979 Iowa State; PHD 1983 Iowa

**RICH-CHAPPELL, MEREDITH LEE**, Adjunct Lecturer, Law-Faculty, 2010 (2010); JD

**RICHARD, LARRY W.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BA 1971 Morningside; MD 1975 Iowa

**RICHARDS, LARRY**, Clinical Adjunct Assistant Professor, Psychiatry, 1994 (1994); DO 1967 Kansas City Osteopathic

**RICHARDSON, BRAD B.**, Adjunct Associate Professor, Social Work, 1997 (1997); BA 1976 Mt. Mercy; MA 1978 Nebraska; PHD 1984 Minnesota

**RICHARDSON, SHOSHONE ALLEINA**, Clinical Assistant Professor, Emergency Medicine, 2009 (2009); MD 2002 Ohio State; BSN Arizona State

**RICHARDSON, THOMAS**, Clinical Adjunct Assistant Professor, Urology, 2002 (2002); BS 1988 Nortre Dame; MD 1992 Indiana

**RICHENBACHER, WAYNE E.**, Professor, Anatomy & Cell Biology/Cardiothoracic Surgery, 1993 (1999); BS 1976 Case Western Reserve; MD 1980 Cincinnati

**RICHERSON, GEORGE B.**, Professor, Neurology/Physiology, 2010 (2010); MD 1987 Iowa

**RICHERSON, HAL B.**, Emeritus Professor, Internal Medicine, 1964 (1974); BS 1950 University of Arizona; MD 1954 Northwestern Univ Med School

**RICHMAN, BRIAN D.**, Lecturer, Finance, 2003 (2003); AB 1987 PENNSYLVANIA; BS 1987 PENNSYLVANIA; MFA 2003 IOWA

**RICHMAN, LYNN CHARLES**, Professor, Pediatrics, 1973 (1984); BA 1967 Grinnell; MA 1970 Iowa; PHD 1973 Iowa

**RICHTER, SANDRA S.**, Clinical Associate Professor, Pathology, 2001 (2004); BS 1982 Missouri-Columbia; MD 1996 Missouri-Columbia

**RICK, EDWARD L.**, Adjunct Assistant Professor, Pediatric Dentistry, 1995 (1995); BS 1969 Illinois-Champaign-Urbana; DDS 1973 Illinois-Chicago; MS 1975 Illinois-Chicago

**RICKERT, JULIE MARIE**, Adjunct Instructor, Nursing, 1993 (1993); MA 1989 Instr Media State U

**RICKERTSEN, HEATHER MARCELLE**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2005 Iowa

**RICKERTSEN, SHARON**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMD 1997 Iowa

**RIDGEWAY, RANDI LEA**, Adjunct Instructor, Pharmacy, 2010 (2010); PHARMD 2010 Drake

**RIEF-ELKS, AMY**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BS 1998 St Mary, NE; DO

2003 Kansas; UNKNOWN 2006 Residency, Siouxland Med

**RIEPE, PATRICK JOSEPH**, Adjunct Instructor, Journalism & Mass Communication, 2003 (2003); BA 1996 Missouri-Columbia

**RIER, KEVIN RAY**, Clinical Adjunct Assistant Professor, Urology, 1999 (1999); BS 1985 Iowa; MD 1989 Iowa

**RIES, PAMELA**, Clinical Associate Professor, Teaching and Learning, 2000 (2008); BA 1977 Northern Iowa; MA 1979 Northern Iowa; EDD 2000 Drake

**RIESZ, PETER C.**, Emeritus Professor, Marketing, 1968 (1980); BS 1958 Rutgers; MBA 1963 Columbia; PHD 1971 Columbia

**RIETZ, THOMAS A.**, Associate Professor, Finance, 1993 (1996); BA 1983 Northern Iowa; PHD 1988 Iowa

**RIEZMAN, RAYMOND G.**, Professor, Economics, 1976 (1990); BA 1969 Washington-Missouri; PHD 1977 Minnesota

**RIGAL, LAURA**, Associate Professor, English/American Studies, 1997 (1997); BA 1982 Oberlin; PHD 1989 Stanford

**RIGGS, SHEILA MARIE**, Adjunct Assistant Professor, Epidemiology, 1993 (1993); DDS 1986 Iowa; MS 1987 Harvard; MD 1991 Harvard

**RIJHSINGHANI, ASHA**, Associate Professor, Obstetrics & Gynecology, 1992 (1997); ISC 1973 Jaihind College; MD 1979 ECFMG; MBBS 1979 Grand Medical College

**RILEY, ANN LOUISE**, Adjunct Instructor, Nursing, 1995 (1995); BSN 1976 Mt. Mercy; MA 1991 Iowa

**RILEY, RYAN LEE**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); BA 2004 Simpson; DDS 2007 Iowa

**RILEY, TERRANCE PATRICK**, Adjunct Assistant Professor, Operative Dentistry, 2007 (2008); BS 1977 Arkansas; DDS 1982 Iowa

**RILEY, WALTER J.**, Clinical Adjunct Assistant Professor, Surgery, 1971 (1981); MD 1964 Meharry Medical College

**RIM, KWAN**, Professor, Mechanical Engineering/Orthopaedics and Rehabilitation/Biomedical Engineering, 1960 (1968); BSME 1955 Tri-State; MSME 1958 Northwestern; PHD 1960 Northwestern

**RINDERSPACHER, EMIL LEE**, Adjunct Lecturer, College Transition, 2002 (2002); BA 1970 Iowa; MA 1974 Iowa

**RINEHART, JUDITH**, Clinical Associate Professor, Social Work, 1978 (2005); BA 1966 Central; MSW 1970 Iowa

**RINEHART, KATHY J.**, Adjunct Assistant Professor, Pharmacy, 1986 (1986); PHARMD 1985 Iowa

**RINEHART, RICHARD H.**, Clinical Assistant Professor, Psychiatry, 2002 (2002); MD 1985 Ohio State; BA 1985 Ohio State

**RINEHART, RICHARD JOHN**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 2006 (2006); BS 1987 Iowa State; MD 1992 Iowa Methodist Medical Ctr

**RINGDAHL, JOEL E.**, Assistant Professor, Pediatrics/Psych & Quant Foundations, 2000 (2000); BS 1992 Florida; PHD 1999 Louisiana State

**RINGEN, CATHERINE**, Professor, Linguistics, 1975 (1988); BA 1970 Indiana; MA 1972 Indiana; PHD 1975 Indiana

**RINGEN, JON**, Professor, Integrative Physiology/Honors Program, 1993 (1993); BA 1965 North Dakota; MA 1969 Indiana; PHD 1971 Indiana

**RINGGOLD, CHARLES**, Clinical Professor, Oral & Maxillofacial Surgery, 2007 (2007); BS 1973 Duke; DDS 1977 Maryland

**RIPLEY, ROBERT G.**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); BS 1984 St Louis; PHARMD 1994 St Louis

**RIPPENTROP, JONATHAN MARK**, Clinical Adjunct Assistant Professor, Urology, 2006 (2006); MD 1999 Iowa

**RISSMAN, LAWRENCE JEFFREY**, Clinical Adjunct Assistant Professor, Pathology, 2004 (2004); BA 1973 Northern Iowa; MD 1977 Iowa

**RIZZO, MATTHEW**, Professor, Industrial Engineering/Neurology, 1985 (1996); BA 1975 Columbia; MD 1979 Johns Hopkins

**ROBBINS, STEVEN B.**, Adjunct Lecturer, Management & Organizations, 2000 (2000); PHD 1983 Utah

**ROBERTS, MARY ANN**, Clinical Professor, Pediatrics, 1991 (2006); BA 1973 Oberlin; MS 1976 Wisconsin-Madison; PHD 1980 Wisconsin-Madison



**ROBERTS, PETER W.**, Adjunct Associate Professor, Health Management & Policy, 2003 (2003); BA 1974 California; MED 1978 Worcester; MHA 1982 Colorado

**ROBERTS, RALPH R JR**, Emeritus Associate Professor, Counseling, Rehab & Stu Dev, 1968 (1970); BA 1950 Lebanon Vally; MA 1961 Missouri; PHD 1962 Southern Illinois

**ROBERTS, REBECCA S.**, Emeritus Associate Professor, Geography, 1987 (1992); BA 1969 Calif State-Northridge; MS 1976 Oregon State; PHD 1982 Oregon State

**ROBERTSON, LARRY**, Professor, Occupational & Environmental Health/Radiation Oncology, 2003 (2003); BA 1969 Stetson; MS 1971 Florida; MPH 1972 Michigan; PHD 1981 Michigan

**ROBERTSON, MAUREEN**, Associate Professor, Cinema & Comparative Literature/Asian & Slavic Languages & Literature, 1976 (1976); BA 1958 Indiana; MA 1960 Indiana; PHD 1970 Washington

**ROBERTSON, TERRY DALE**, Adjunct Associate Professor, Finance, 2008 (2008); BBA 1969 Georgia; PHD 1975 Georgia

**ROBILLARD, JEAN E.**, Professor, Pediatrics, 2003 (2003); BA 1964 Montreal; MD 1968 Montreal

**ROBIN, DEBRA KAY**, Adjunct Instructor, Communication Sciences and Disorders, 1995 (1996); BA 1976 San Diego State; MS 1981 Redlands

**ROBINSON, ARA**, Clinical Adjunct Assistant Professor, Psychiatry, 2008 (2008); BA 1997 Drake; DO 2003 Des Moines

**ROBINSON, ARLYN K.**, Adjunct Associate Professor, Family Dentistry, 1978 (1989); BS 1973 Upper Iowa; DDS 1977 Iowa

**ROBINSON, JENNIFER G.**, Professor, Internal Medicine/Epidemiology, 1998 (2010); BA 1982 Northwestern University; MD 1987 Minnesota; MPH 1995 Minnesota

**ROBINSON, JOHN P.**, Emeritus Professor, Electrical-Computer Engineering, 1965 (1972); BS 1960 Iowa State; MS 1962 Princeton; PHD 1966 Princeton

**ROBINSON, MARILYNNE**, Professor, English/Creative Writing, 1983 (1993); BA 1966 Brown; PHD 1975 Washington

**ROBINSON, ROBERT G.**, Professor, Psychiatry, 1990 (1990); BS 1967 Cornell-Ithaca; MD 1971 Cornell-Ithaca

**ROBINSON, ROBERT A.**, Professor, Pathology/Oral Path, Radiology & Medicine, 1982 (1993); MD 1976 Missouri; BA 1976 Missouri; PHD 1982 Minnesota

**ROBNETT, MICHELLE K.**, Clinical Adjunct Associate Professor, Nursing/Health Management & Policy, 2000 (2000); BA 1979 Marycrest; BSN 1979 Marycrest; MA 1986 Iowa; MBA 1989 Iowa; PHD 1992 Iowa

**ROBUS, RICHARD**, Clinical Adjunct Associate Professor, Pediatrics, 2003 (2006); BS 1994 Texas Christian; MD 1998 Iowa

**ROCHA, RENE ROLANDO**, Assistant Professor, Political Science, 2006 (2006); BA 2002 Texas-Pan American; PHD 2006 Texas A & M Univ

**ROCKLAND, KATHLEEN L.**, Adjunct Professor, Neurology, 1991 (1994); BA 1969 Wellesley; MA 1972 Princeton; MA 1976 Boston; PHD 1979 Boston

**ROCKLIN, THOMAS R.**, Professor, Psych & Quant Foundations, 1986 (1995); AB 1977 Calif-Berkeley; MS 1980 Northwestern; PHD 1981 Northwestern

**RODER, KERIANNE MARJORIE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2007 Drake

**RODGERS, TRACY A.**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); BS 1986 Iowa

**RODGERS, VINCENT G.**, Professor, Physics & Astronomy, 1989 (2004); BS 1980 Dayton; MS 1982 Syracuse; PHD 1985 Syracuse

**RODNITZKY, ROBERT L.**, Professor, Neurology, 1972 (1982); BS 1963 Chicago; MD 1966 Chicago

**RODRIGUEZ, JOSE E.**, Emeritus Associate Professor, Microbiology, 1968 (1974); BS 1955 Yale; PHD 1963 Pennsylvania

**RODRIGUEZ RODRIGUEZ, ANA M.**, Assistant Professor, Spanish & Portuguese, 2008 (2008); BA 1995 Univ de Santiago de Compostela; MA 1997 Colorado-Boulder; PHD 2007 Wisconsin @ Madison

**ROE, SHAWN CURTIS**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BS 1997 Northern Iowa; PHARMD 2002 Iowa

**ROEDER, SUSAN L.**, Clinical Associate Professor, Internal Medicine, 2002 (2009); BS 1984 Iowa State; MS 1989 Iowa State; DO 1993 Osteopathic-Des Moines

**ROEHRKASSE, DONALD LEE**, Adjunct Instructor, Pharmacy, 2006 (2006); BSPH 1977 Iowa

**ROEWE, RAYMOND F.**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2004 (2004); BA 1978 Iowa State; DDS 1982 Iowa; MS 1986 Iowa

**ROGAN, DAVID M.**, Clinical Adjunct Assistant Professor, Family Medicine, 2001 (2001); MD 1986 Iowa

**ROGERS, JANETTE LYNN**, Adjunct Instructor, Communication Sciences and Disorders, 2005 (1999); MA 1996 Iowa

**ROGERS, MEAGHAN MARIE**, Adjunct Assistant Professor, Pharmacy, 2007 (2009); PHAR 2007 Iowa

**ROGHAIR, ROBERT DEAN**, Assistant Professor, Pediatrics, 2005 (2006); BS 1995 Iowa; MD 1999 Iowa

**ROGOVIN, HOWARD**, Emeritus Professor, Art & Art History, 1969 (1984);

**ROHDE, JAN-UWE**, Assistant Professor, Chemistry, 2005 (2005); PHD 1999 Univ. of Kiel, Germany

**ROHRBOUGH, MALCOLM J.**, Emeritus Professor, History, 1964 (1971); AB 1954 Harvard; MA 1958 Wisconsin; PHD 1963 Wisconsin

**ROKHLIN, OSKAR W.**, Clinical Adjunct Professor, Pathology, 1999 (1999); MS 1960 Moscow medical; PHD 1977 Inst of Molecular Biology

**ROLLAND, BRIAN E.**, Adjunct Lecturer, Management & Organizations, 2009 (2009); MAC 1989 Iowa

**ROLLER, RICHARD JOHN**, Professor, Microbiology, 1994 (2007); BA 1980 Lawrence; PHD 1987 Harvard

**ROLOFF, JAMES S.**, Clinical Adjunct Associate Professor, Pediatrics, 2010 (2010); MD 1972 Missouri

**ROMAN, DAVID L.**, Assistant Professor, Pharmacy, 2008 (2008); PHD 2004 Purdue

**ROMANOWSKI, ANN WEGENER**, Adjunct Assistant Professor, Periodontics, 1993 (1998); DDS 1987 Iowa; CER 1994 Iowa; PHD 1994 Iowa

**ROMITTI, PAUL ANTHONY**, Associate Professor, Epidemiology, 1998 (2007); BA 1985 Iowa State; BS 1985 Iowa State; MS 1987 Iowa State; PHD 1994 Iowa

**RONKAR, CHRISTOPHER J.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BS 1992 Nebraska; MD 1997 Nebraska

**ROOF, JOHN DEAN**, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2002); BS 1976 Iowa State; MD 1985 Iowa

**ROPER, MARTIN THOMAS**, Adjunct Assistant Professor, International Programs, 2009 (2009); MFA 1998 Iowa

**ROREX, ROBERT A.**, Associate Professor, Art & Art History, 1970 (1979); BA 1956 Hendrix; MFA 1960 Arkansas; MFA 1968 Princeton; PHD 1975 Princeton

**ROSAZZA, JOHN P.**, Emeritus Professor, Pharmacy, 1969 (1977); BS 1962 Connecticut; MS 1966 Connecticut; PHD 1968 Connecticut

**ROSBURG, THOMAS R.**, Adjunct Associate Professor, General University College, 2010 (2010); BS 1977 Iowa State; MS 1990 Iowa State; PHD 1994 Iowa State

**ROSE, DENNIS RAY**, Adjunct Associate Professor, Family Dentistry, 1974 (2000); DDS 1964 Iowa

**ROSE, GERALD L.**, Emeritus Professor, Management & Organizations, 1967 (1982); BA 1960 Minnesota; MBA 1962 Cornell; PHD 1969 California-Berkeley

**ROSE, ROGER**, Adjunct Instructor, Pharmacy, 2003 (2003); BS 1980 Iowa

**ROSECRANCE, JOHN C.**, Adjunct Assistant Professor, Occupational & Environmental Health, 1995 (1995); BS 1981 Calif State; MS 1986 North Carolina; PHD 1993 Iowa

**ROSEMAN, DENNIS M.**, Professor, Mathematics, 1970 (1993); BS 1961 Wisconsin; MS 1962 Wisconsin; PHD 1968 Michigan

**ROSENBAUM, MARCY ELLEN**, Associate Professor, Family Medicine, 1998 (2005); BA 1986 Indiana; MA 1990 Kentucky; PHD 1994 Kentucky

**ROSENBERGER, JAY A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1995 (2001); DO 1986 Osteopathic Med & Hlth

**ROSENFELD, SANDRA R.**, Clinical Assistant Professor, Family Medicine, 2008 (2008); MD 1990 Ntnl Univ Rosario, Argentina

**ROSENHAMER, JESSICA ANN**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARMD 2008 Drake

**ROSENKRANS, KURT ANDRE**, Clinical Adjunct Associate Professor, Family Medicine, 1999 (2003); BS 1989 Creighton; MD 1993 Creighton

**ROSENQUIST, RICHARD W.**, Clinical Professor, Anesthesia, 1998 (2004); BA 1980 North Park College; MD 1984 Northwestern

**ROSENSTEIN, LORI JEAN**, Clinical Assistant Professor, Internal Medicine, 2009 (2009); BS 1996 Wisconsin @ Madison; MD 2002 Iowa

**ROSENTHAL, GARY E.**, Professor, Health Management & Policy/Epidemiology/Internal Medicine/Inst for Clinical and Translational Science, 1998 (2000); BA 1978 John Hopkins; MD 1983 Pennsylvania

**ROSENTHAL, NANCY**, Clinical Professor, Pathology, 1998 (2003); BA 1975 Emory; MD 1983 Pennsylvania

**ROSMANN, MICHAEL RAY**, Adjunct Associate Professor, Occupational & Environmental Health, 2000 (2000); PHD 1976 Utah

**ROSNER, SUE R.**, Emeritus Associate Professor, Psychology, 1969 (1975);

**ROSS, ALAN F.**, Associate Professor, Anesthesia, 1985 (1995); BA 1976 Calif-Berkeley; MD 1980 Northwestern

**ROSS, MARY BISINGER**, Adjunct Associate Professor, Pharmacy, 1993 (2003); BS 1974 Iowa; BSPH 1974 Iowa; MBA 1985 Eastern Michigan

**ROSS-SHEEHY, SHANNON**, Adjunct Assistant Professor, Psychology, 2007 (2007); BS 1996 Iowa; MS 1998 Wisconsin; PHD 2005 Iowa

**ROSSEN, JAMES D.**, Professor, Neurosurgery/Internal Medicine, 1986 (2005); BS 1975 Michigan; MD 1980 Chicago

**ROSSETTI, ROGER ALLAN**, Adjunct Instructor, Pharmacy, 1994 (1994); BS 1976 Iowa

**ROSSI, CHRIS**, Adjunct Lecturer, Law-Faculty, 1999 (1999); JD 1982 Iowa; PHD 1992 John Hopkins

**ROSSI, NICHOLAS P.**, Emeritus Professor, Cardiothoracic Surgery, 1960 (1972); BA 1951 Pennsylvania; MD 1955 Hahnemann Medical

**ROSSITER, ELIZABETH ANNE**, Adjunct Lecturer, Nursing, 2009 (2009); BSN 2006 Iowa; MSN 2009 Iowa

**ROTELLA, DIANE LOUISE**, Adjunct Instructor, Integrative Physiology, 1999 (1999); BS 1983 State U of NY-Brockport; MS 1995 Iowa

**ROTH, JAMES A.**, Adjunct Professor, Epidemiology, 2006 (2006); DVM 1975 Iowa State; MS 1979 Iowa State; PHD 1981 Iowa State

**ROTHMAN, PAUL BENNETT**, Professor, Microbiology/Physiology/Internal Medicine, 2004 (2004); BS 1980 Massachusetts Inst of Tech; MD 1984 Yale

**ROUMAN, MARCO**, Clinical Assistant Professor, Preventive & Community Dentistry, 2007 (2007); BDS 2001 Cairo University

**ROUND, PHILLIP**, Professor, Division of Interdisciplinary Program/English, 1993 (2009); BA 1980 Humboldt State; MA 1982 Calif-Los Angeles; PHD 1990 Calif-Los Angeles

**ROUSSEL, BERNARD**, Adjunct Professor, Religion, 2008 (2008); BA 1959 Marseille; PHB 1959 Marseille; DR 1970 Strasbourg; PHD 1970 Strasbourg

**ROUWENHORST, ROBERT MARK**, Lecturer, Marketing, 2009 (2009); MBA 2004 Iowa; PHD 2009 Iowa

**ROY, CHRISTOPHER**, Professor, Art & Art History, 1978 (1992); BA 1970 St. Lawrence; MA 1975 Indiana; PHD 1979 Indiana

**RUBACH, JERZY**, Professor, Linguistics, 1990 (1990); MA 1971 Warsaw; PHD 1975 Warsaw

**RUBENSTEIN, PETER A.**, Professor, Biochemistry/Internal Medicine, 1977 (1987); AB 1968 California; MA 1971 Harvard; PHD 1973 Harvard

**RUBRIGHT, WILLIAM CAMPBELL**, Emeritus Professor, Periodontics, 1967 (1979); BA 1957 Westminster-Missouri; DDS 1962 Missouri; MS 1964 Missouri; MS 1965 Chicago

**RUDE, MATHEW BEM**, Assistant Professor, Art & Art History, 2008 (2008); BA 1998 Luther College; MFA 2007

## Montana State

- RUDEN, BRIDGID MARIE FREYMAN**, Adjunct Instructor, Nursing, 1989 (1989); BS 1986 Mt. Mercy; MA 1994 Iowa
- RUDOLPH, PAUL H.**, Lecturer, Department of Biology, 1989 (1997); PHD 1976 Michigan
- RUDRAUF, DAVID**, Assistant Professor, Neurology/Radiology, 2008 (2008); PHD 2005 Iowa
- RUEN, DAVID ARTHUR**, Clinical Adjunct Assistant Professor, Family Medicine, 1988 (2002); BA 1977 St Mary's; MD 1981 Iowa
- RUMMELHART, JO ANNE MARIE**, Adjunct Assistant Professor, Periodontics, 2009 (2009); DDS 1981 Iowa; CER 1988 Naval Medical Command
- RUNDE, MARK P.**, Clinical Adjunct Instructor, Internal Medicine, 1995 (1995); MD 1983 Illinois
- RUNGE, RICHARD M.**, Emeritus Associate Professor, German, 1964 (1974); BA 1961 Iowa; MA 1963 Iowa; PHD 1967 Iowa
- RUPE, KERRI LYNN ARTER**, Clinical Associate Professor, Nursing, 2000 (2000); BSN 1984 Northeast Missouri; MSN 1994 Clarkson; DNP 2008 Iowa
- RUPRECHT, AXEL**, Professor, Anatomy & Cell Biology/Radiology/Oral Path, Radiology&Medicine, 1987 (1987); DDS 1968 Toronto; MSCD 1972 Toronto
- RUS, TEODOR**, Professor, Computer Science, 1982 (1993); DMATH 1965 Romanian Academy
- RUSCH, MICHELLE L.**, Adjunct Instructor, Industrial Engineering, 2008 (2008); MCL 2002 DePaul; PHD 2008 Iowa State
- RUSHTON, GERARD**, Professor, Geography/Health Management & Policy, 1969 (1974); BA 1959 Wales-United Kingdom; MA 1962 Wales-United Kingdom; PHD 1964 Iowa
- RUSSELL, BOBBY**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2005 (2005); DDS 1988 Loyola - Chicago
- RUSSELL, GARY J.**, Professor, Marketing, 1996 (1999); BA 1976 Virginia; PHD 1985 Chicago
- RUSSELL, STEPHEN R.**, Professor, Ophthalmology & Visual Science, 1996 (2005); BS 1978 Stanford; MD 1982 Calif-Los Angeles
- RUSSO, ANDREW F.**, Professor, Physiology, 1988 (2000); BA 1979 California-San Diego; PHD 1984 California-Berkeley
- RUSSO, MARY D.**, Lecturer, Statistics & Actuarial Science, 1983 (2006); MAT 1976 SUNY AT Binghamton
- RUSSO, RALPH P.**, Professor, Statistics & Actuarial Science, 1983 (1995); BA 1974 State Univ of NY-Binghamton; PHD 1980 State Univ-NY-Binghamton
- RUTH, DENISE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BSPH 1984 Iowa
- RUTKOWSKI, DAVID THOMAS**, Assistant Professor, Anatomy & Cell Biology, 2008 (2008); BS 1997 Delaware; PHD 2002 California @ San Francisco
- RUTLEDGE-RUSSELL, CHRISTINE MARION**, Professor, Music, 1998 (2010); BA 1984 Curtis Institute of Music; MA 1988 Iowa
- RUYLE, KATHLEEN ANN**, Adjunct Instructor, Social Work, 1997 (1997); MSW 1993 Iowa
- RYAN BURESH, GINNY L.**, Assistant Professor, Obstetrics & Gynecology, 2006 (2009); BS 1995 Cornell; MD 1999 Washington Univ.
- RYANG, SOON**, Professor, International Programs/Anthropology, 2006 (2010); PHD 1995 Cambridge, UK
- RYBERG, JACALYN L.**, Adjunct Associate Professor, Nursing, 2004 (2004); MA 1973 Chapman University; MA 1977 Iowa; PHD 2002 Saint Louis
- RYDER, JON SCOTT**, Adjunct Assistant Professor, Operative Dentistry, 1996 (2000); DDS 1996 Iowa
- RYDZEWSKI, FRANCIS CHESTER**, Lecturer, Marketing, 2006 (2006); BA 1973 Rutgers; MBA 1974 Drexel
- RYNES-WELLER, SARA L.**, Professor, Management & Organizations, 1990 (1990); BA 1974 Wisconsin-Madison; MS 1977 Wisconsin-Madison; PHD 1981 Wisconsin-Madison
- RZONCA, CHESTER S.**, Associate Professor, Educ Policy & Leadership Studies/Teaching and Learning, 1972 (1977); BS 1965 Central Connecticut; MA 1967 Morehead State; EDD 1972 Illinois

**SA-AADU, JARJISU**, Professor, Finance, 1981 (1994); BS 1973 Univ of Science & Tech-Ghana; MS 1976 Wisconsin; PHD 1981 Wisconsin

**SABISTON, CHARLES B.**, Emeritus Professor, Family Dentistry, 1972 (1977); BS 1953 Wake Forest; DDS 1957 North Carolina; PHD 1968 Virginia

**SABOE, BEVERLY J.**, Assistant Professor, Nursing, 1968 (1973); BSN 1965 Iowa; MN 1971 Washington

**SADLER, ANNE**, Adjunct Assistant Professor, Nursing, 2003 (2003); BN 1978 Old Dominion; MS 1980 Virginia Commonwealth; DPHIL 1990 Iowa

**SAFTLAS, AUDREY**, Professor, Epidemiology, 1998 (2004); BA 1977 Clark; MPH 1979 Michigan; PHD 1986 Johns Hopkins

**SAGEN, H BRADLEY**, Emeritus Professor, Educ Policy & Leadership Studies, 1964 (1973); BA 1957 Grinnell; PHD 1962 Minnesota

**SAHA, PUNAM KUMAR**, Associate Professor, Radiology/Electrical-Computer Engineering, 2006 (2006); BE 1987 Jadavpur; ME 1989 Jadavpur; PHE 1997 Indian Statistical Institute; PHD 1997 Indian Statistical Institute

**SAHAI, SUBHASH C.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BS 1967 Pantab; MS 1970 Northern Iowa; MD 1973 Iowa

**SALEEM, USMAN**, Clinical Assistant Professor, Anesthesia, 2010 (2010); BA 1994 New York; MA 1999 New York; MD 2005 Ross, New Jersey

**SALEM, ALIASGER KARIMJEE**, Associate Professor, Chemical & Biomedical Engineering/Pharmacy/Biomedical Engineering, 2004 (2009); BS 1994 Birmingham UK; PHD 2002 Nottingham, England

**SALTZMAN, CHARLES L.**, Adjunct Professor, Orthopaedics and Rehabilitation, 1991 (2001); BA 1978 Brown; MD 1985 North Carolina-Chapel Hill

**SAMUEL, ISAAC**, Associate Professor, Surgery, 1999 (2009); MD 1981 Bangalore Medical; FRACS 1989 Royal Coll of Physicians & Sur

**SAMUELSON, LARISSA K.**, Associate Professor, Psychology, 2000 (2009); BS 1993 Indiana; PHD 2000 Indiana

**SANCHEZ, ANTONIO JAIME**, Clinical Assistant Professor, Internal Medicine, 2006 (2006); MD 2000 Guayaquil SOM

**SANCHEZ, THANIA**, Assistant Professor, Political Science, 2009 (2009); MA 2004 Columbia; MPHIL 2006 Columbia; PHD 2009 Columbia

**SANDERS, KATRINA MARIE**, Associate Professor, Educ Policy & Leadership Studies/African-American Studies, 1999 (2005); BA 1987 Louisiana Tech; MA 1989 Louisiana Tech; PHD 1997 Illinois

**SANDERS, SARA**, Assistant Professor, Social Work, 2003 (2003); BS 1994 St. Olaf; MSW 1995 Washington; PHD 2002 Maryland

**SANDERSON, WAYNE T.**, Adjunct Professor, Occupational & Environmental Health/Epidemiology, 2002 (2005); BA 1977 Missouri; MS 1978 Central Missouri State; PHD 1997 North Carolina

**SANDLER, LEONARD**, Clinical Professor, Law-Faculty, 1990 (1997); BS 1978 Northeastern Univ; JD 1981 Maryland

**SANDRA, ALEXANDER**, Professor, Anatomy & Cell Biology, 1978 (1990); BS 1968 Loyola; MS 1972 DePaul; PHD 1976 Case Western Reserve

**SANDROCK, JAMES P.**, Emeritus Professor, German, 1960 (1977); BA 1951 Iowa; MA 1958 Iowa; PHD 1961 Iowa

**SANDY, BRENT**, Lecturer, Music, 2000 (2000); BFA 1981 Northern Iowa

**SANKEY, RICHARD R.**, Adjunct Associate Professor, Family Dentistry, 1972 (1982); BS 1967 Kansas State; DDS 1971 Iowa

**SANTOS, ANN MARIE GARCIA**, Clinical Assistant Professor, Psych & Quant Foundations, 2008 (2008); BA 1991 Texas A&M; MA 1996 Iowa; PHD 2005 Iowa

**SARASIN, DANIEL SCOTT**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine, 1988 (1993); DDS 1988 Iowa

**SARDZINSKI, JOEL PAUL**, Adjunct Assistant Professor, Oral Path,Radiology&Medicine, 1999 (2000); BA 1982 Mid America Nazarene; DDS 1994 Missouri-Kansas City

**SARGENT, DANIEL**, Adjunct Professor, Biostatistics, 2003 (2006); BS 1992 Minnesota; MS 1994 Minnesota; PHD 1996 Minnesota

**SATHER, BETHANY CAROL**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2003 Iowa

**SATISKY, KEVIN**, Clinical Adjunct Assistant Professor, Psychiatry, 2006 (2006); BS 1996 North Carolina; MD 2001 Brody, East Carolina

**SATO, KENZO**, Emeritus Professor, Dermatology, 1978 (1988); MD 1964 Hokkaido-Japan; PHD 1977 Tohoku-Japan

**SATO, YUTAKA**, Professor, Radiology, 1986 (1992); MD 1973 Nippon Medical School-Japan

**SAUDER, MICHAEL EDWARD**, Assistant Professor, Sociology, 2005 (2005); BA 1993 Truman State; MA 1998 Penn State; PHD 2005 Northwestern

**SAUERS, SARA THURBER**, Adjunct Assistant Professor, Interdisciplinary Programs, 2003 (2007); AA 1977 Dupage; BS 1981 Wisconsin-Madison; MA 2003 Iowa

**SAUNDERS, EDWARD J.**, Associate Professor, Social Work, 1985 (1991); BA 1974 Villanova; MSW 1979 St. Louis; MPH 1985 Pittsburgh; PHD 1985 Pittsburgh

**SAUNDERS, JEANNE**, Associate Professor, Social Work, 2001 (2008); BA 1976 Augustana; MSW 1981 Wisconsin; PHD 2001 Washington

**SAUNDERS, JODI L.**, Associate Professor, Counseling, Rehab & Stu Dev, 2003 (2006); BA 1986 Michigan State; MA 1988 Michigan State; PHD 1998 Michigan State

**SAVIN, NATHAN EUGENE**, Professor, Economics, 1986 (1986); BA 1956 California-Berkeley; MA 1960 California-Berkeley; PHD 1969 California-Berkeley

**SAYRE, ROBERT F.**, Emeritus Professor, English, 1965 (1972); BA 1955 Wesleyan; MA 1958 Yale; PHD 1962 Yale

**SCAHILL, JEANNETTE L.**, Emeritus Associate Professor, Health, & Sport Studies/Teaching and Learning, 1965 (1970); BS 1950 Central Methodist; MA 1955 Wyoming; PHD 1963 Iowa

**SCAMMAN, FRANKLIN L.**, Professor, Anesthesia, 1978 (1995); BS 1966 Kansas; MD 1970 Kansas

**SCANDRETT, FORREST R.**, Emeritus Professor, Prosthodontics, 1970 (1982); DDS 1965 Iowa; MS 1970 Texas

**SCANLAN, SEAN**, Adjunct Assistant Professor, English, 2008 (2008); BA 1990 Missouri-Columbia; MA 1999 Missouri-St Louis

**SCHAAL, DAVID**, Emeritus Professor, Theatre Arts, 1956 (1969); BA 1942 Geneva; MA 1946 Western Reserve

**SCHABILION, JEFFRY T.**, Emeritus Professor, Department of Biology, 1968 (1980); BS 1965 Iowa State; MA 1967 Kansas; PHD 1969 Kansas

**SCHACHT, ELIZABETH ANN TRACY**, Adjunct Associate Professor, Nursing, 1979 (2004); BSN 1972 Iowa; MA 1978 Iowa; PHD 2003 Iowa

**SCHAFER, JAMES MICHAEL**, Adjunct Lecturer, College Transition, 2005 (2005); BA 1990 Truman State; MA 1996 Memphis

**SCHAFER, MAUREEN M.**, Adjunct Lecturer, College Transition, 2005 (2005); BA 1991 Northeast Missouri State; MS 1998 Memphis

**SCHANTZ, MARK E.**, Adjunct Professor, Law-Faculty, 2010 (2010); BA 1963 Iowa; MA 1965 Oxford; LLM 1968 Yale

**SCHARES, DENISE K.**, Lecturer, Teaching and Learning, 2010 (2010); DED 1994 Northern Iowa

**SCHARTZ, KEVIN MICHAEL**, Assistant Professor, Radiology, 2009 (2009); MA 1988 Iowa; PHD 1994 Iowa; MCS 2001 Iowa

**SCHATTEMAN, GINA C.**, Associate Professor, Integrative Physiology, 2001 (2005); BA 1975 New College; PHD 1985 Johns Hopkins

**SCHAUBERGER, CHARLES WILLIAM**, Clinical Adjunct Professor, Obstetrics & Gynecology, 1985 (2010); MD 1978 Iowa

**SCHEDL, NAOMI M.**, Emeritus Professor, , (1991);

**SCHEER-COHEN, ALISON R.**, Adjunct Instructor, Communication Sciences and Disorders, 2010 (2010); BA 2001 UCLA; MS 2003 WI @ Madison; PHD 2006 WI @ Madison

**SCHEETZ, TODD EDWARD**, Associate Professor, Ophthalmology & Visual Science/Biomedical Engineering, 2002 (2008); BS 1993 Iowa; MS 1995 Iowa; PHD 2001 Iowa

**SCHEMMELE, KATE E.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2007 Creighton

**SCHENDEL, AMY**, Assistant Professor, Music, 2009 (2009); BM 1998 Wisconsin @ Eau Claire; MM 2001 Indiana; DMA 2007 Wisconsin @ Madison

**SCHENDEL, TODD**, Adjunct Assistant Professor, Music, 2009 (2009); BME 1998 Wisconsin-Eau Claire; MM 2002 Indiana-Bloomington; DMA 2007 Wisconsin-Madison

**SCHEPANSKI, ALBERT A.**, Professor, Accounting, 1978 (1996); BA 1961 Saskatchewan-Canada; MA 1966 Saskatchewan-Canada; PHD 1978 Illinois

**SCHERB, CINDY A.**, Adjunct Assistant Professor, Nursing, 2003 (2003); BS 1979 Mount Mercy; MS 1989 Minnesota; PHD 2001 Iowa

**SCHERER, MICHELLE M.**, Professor, Civil-Environmental Engineering, 1998 (2010); BS 1989 Virginia; MS 1994 Connecticut; PHD 1998 Oregon

**SCHERER, RONALD C.**, Adjunct Associate Professor, Communication Sciences and Disorders, 1983 (1988); PHD 1981 Iowa

**SCHERMER, SHIRLEY J.**, Adjunct Instructor, Anthropology, 1987 (1987); BA 1968 North Park; MA 1982 Iowa

**SCHEY, RON**, Clinical Assistant Professor, Internal Medicine, 2009 (2009); MD 1991 Tel Aviv, SOM

**SCHIFF, ROBYN**, Associate Professor, English, 2008 (2008); MFA 1999 Iowa; MA 2000 Bristol

**SCHILLING, KEITH EDWIN**, Adjunct Assistant Professor, Geoscience, 2010 (2010); PHD 2009 Iowa

**SCHILLING, MARGO LIN**, Clinical Professor, Internal Medicine, 1998 (2010); BA 1981 Wartburg; MD 1985 Iowa

**SCHLAPKOHL, MARY LYNN**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1984 Iowa; MA 1993 Iowa

**SCHLECHTE, JANET A.**, Professor, Inst for Clinical and Translational Science/Internal Medicine, 1981 (1993); BS 1967 Nebraska; MA 1969 California-Santa Barbara; MD 1975 Nebraska

**SCHLIEVERT, SARALYN**, Adjunct Instructor, Preventive & Community Dentistry, 2004 (2004); BS 1977 Iowa

**SCHLUETER, ANNETTE**, Associate Professor, Pathology, 1998 (2004); BS 1984 Valparaiso; MS 1989 Illinois; PHD 1991 Illinois-Urbana; MD 1993 Illinois-Urbana

**SCHLUETER, RENEE JEANE**, Adjunct Lecturer, Management & Organizations, 2009 (2009); MA 1989 St. Louis, English; PHD 1996 St. Louis, English

**SCHLUTTER, MORTEN**, Associate Professor, International Programs/Religion, 2003 (2008); BA 1982 Copenhagen; MA 1985 Copenhagen; PHD 1998 Yale

**SCHMID, PHILLIP**, Emeritus Professor, Internal Medicine, 1968 (1975); BA 1957 Carleton; MD 1961 Chicago

**SCHMIDT, DUANE ARTHUR**, Adjunct Instructor, Family Dentistry, 2006 (2006); DDS 1954 Iowa

**SCHMIDT, FRANK L.**, Professor, Management & Organizations, 1985 (1985); BA 1966 Bellarmine; MS 1968 Purdue; PHD 1970 Purdue

**SCHMIDT, GREGORY ALAN**, Professor, Internal Medicine, 2006 (2006); BA 1977 St. Louis; MD 1981 Chicago

**SCHMIDT, JENNIFER SUE**, Adjunct Assistant Professor, Educ Policy & Leadership Studies, 2008 (2008); BA 1987 Earlham College, Richmond/IN; MA 1990 Lesley Univ; MA

**SCHMIDT, JULIUS**, Emeritus Professor, Art & Art History, 1970 (1972); BFA 1953 Cranbrook Academy of Art; MFA 1955 Cranbrook Academy of Art

**SCHMIDT, THOMAS J.**, Professor, Physiology/Obstetrics & Gynecology, 1983 (1999); BA 1969 Delaware; MS 1973 Cornell; PHD 1976 Cornell

**SCHMIDT, WARREN**, Professor, Internal Medicine, 1992 (2007); BA 1973 Augustana; MS 1974 Illinois; PHD 1978 Illinois; MD 1989 Tennessee

**SCHMIDT CLAY, KELLY M.**, Adjunct Assistant Professor, Communication Sciences and Disorders, 2003 (2005); BA 1992 North Dakota; MA 1994 N Colorado; PHD 2003 Iowa

**SCHMIT, CHERI ROCHELLE ROCKHOLD**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BSPH 1993 Iowa

**SCHMOLCK, JOHANN**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); MD 1999 Albert Ludwigs Univ. Germany

**SCHNASE, EDWARD A.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2001 Creighton

**SCHNEIDER, GALEN BELMONT**, Professor, Prosthodontics, 1999 (2009); BS 1987 Iowa; DDS 1991 Iowa; PHD 1996 North Carolina

**SCHNEIDER, KATHLEEN MARIE**, Adjunct Assistant Professor, Epidemiology, 2009 (2009); MA 1992 Illinois @ Chicago; PHD 1995 Illinois @ Chicago

**SCHNEIDER, ROBERT L.**, Clinical Professor, Prosthodontics, 1984 (1999); DDS 1976 Southern California; MS 1983 Iowa

**SCHNELL, SCOTT R.**, Associate Professor, Anthropology, 1993 (1999); BS 1976 Ohio State; MS 1979 Ohio State; MA 1987 Ohio State; PHD 1993 Ohio State

**SCHNELL, THOMAS**, Associate Professor, Neurology/Occupational & Environmental Health/Electrical-Computer Engineering/Industrial Engineering, 1998 (2004); BS 1992 Tech-Bern-Switzerland; MS 1994 Ohio; PHD 1998 Ohio

**SCHNOEBELEN, DOUG**, Adjunct Assistant Professor, Geoscience/Civil-Environmental Engineering, 2000 (2000); PHD 1999 Indiana

**SCHNOOR, JERALD L.**, Professor, Occupational & Environmental Health/Civil-Environmental Engineering, 1977 (1983); BS 1972 Iowa State; MS 1974 Texas; PHD 1975 Texas

**SCHODERBEK, PETER**, Emeritus Professor, Management & Organizations, 1964 (1971); BA 1954 Pennsylvania State; MS Pennsylvania State

**SCHOEN, EVA GISELA**, Adjunct Instructor, Psych & Quant Foundations, 2006 (2008); MA 1996 Northern Iowa; MA 1999 Northern Iowa; PHD 2003 Ball State

**SCHOEN, HAROLD L.**, Emeritus Professor, Mathematics/Teaching and Learning, 1974 (1978); BS 1963 Dayton; MS 1966 Indiana; MS 1969 Dayton; PHD 1971 Ohio State

**SCHOEN, JOHANNA**, Associate Professor, Women's Studies/History, 1999 (2005); MA 1989 North Carolina; PHD 1996 North Carolina

**SCHOENBAUM, DAVID L.**, Emeritus Professor, History, 1967 (1971); BA 1955 Wisconsin; MA 1958 Wisconsin; DPHIL 1965 Oxford-England

**SCHOENFELDER, DEBORAH PERRY**, Clinical Associate Professor, Nursing, 1983 (2006); BSN 1975 Iowa; MA 1982 Iowa; PHD 1990 Iowa

**SCHOENWALD, RONALD D.**, Emeritus Professor, Pharmacy, 1978 (1986); BS 1963 Arizona; MS 1969 Purdue; PHD 1971 Purdue

**SCHOER, LOWELL A.**, Emeritus Professor, Psych & Quant Foundations, 1961 (1967); BA 1958 Iowa; MA 1959 Iowa; PHD 1961 Iowa

**SCHOLZ, THOMAS DEAN**, Professor, Pediatrics, 1993 (2004); BS 1981 Swathmore College; MD 1985 Washington

**SCHOMBERG, JANIE RUTH GARNER**, Adjunct Instructor, Library & Information Science, 2009 (2009); BA 1967 Iowa; MA 1970 Minnesota

**SCHOOLEY, ED**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2003 (2003); DDS 1974 Iowa; MHA 1981 Colorado

**SCHOOTMAN, MARIO**, Adjunct Associate Professor, Epidemiology, 1995 (2005); PHD 1993 Iowa

**SCHOTT, KATHARINE SUE**, Adjunct Assistant Professor, Nursing, 1992 (1992); PHD 1991 Iowa

**SCHRAG, DENNIS MICHAEL**, Lecturer, Management & Organizations, 1998 (2000); MA 1972 Iowa; EDD 1982 Drake

**SCHRIER, LESLIE**, Associate Professor, Teaching and Learning/Spanish & Portuguese/International Programs, 1989 (1995); BA 1973 California State; MA 1979 Drake; PHD 1989 Ohio State

**SCHRIMPER, GEORGE DAVID**, Emeritus Assistant Professor, Division of Interdisciplinary Program, 1966 (1973); BS 1964 Iowa; MA 1965 Iowa

**SCHROCK, CHRISTIAN E.**, Emeritus Associate Professor, Internal Medicine, 1974 (1974); BA 1941 Iowa; MD 1944 Iowa

**SCHROEDER, MERRIE**, Lecturer, Teaching and Learning, 2010 (2010); MA 1983 Iowa; PHD 2002 Nevada

**SCHROEDER, R SCOTT**, Adjunct Instructor, Pharmacy, 2005 (2005); BS 1977 Luther College; BSPH 1981 Iowa

**SCHROEDER, THOMAS J.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BA 1968 Marquette; MD 1974 Loyola



**SCHROTT, HELMUT GUNTHER**, Emeritus Professor, Internal Medicine/Epidemiology, 1973 (1998); BA 1962 Western Reserve; MD 1966 State Univ of NY-Buffalo

**SCHUESSLER, BARBARA ANN**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1989 Iowa; MSN 1995 Iowa; MBA 1995 Iowa

**SCHUH, KATHY L.**, Associate Professor, International Programs/Psych & Quant Foundations, 2000 (2006); AA 1979 Bismarck State; BS 1981 North Dakota State; BS 1995 North Dakota State; MS 1996 North Dakota State

**SCHULEIN, THOMAS MICHAEL**, Emeritus Associate Professor, Operative Dentistry, 1979 (1988); BS 1968 Illinois; DDS 1970 Illinois; MS 1982 Illinois

**SCHULT, MARIA LYNN**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 2000 Drake

**SCHULTZ, CHERYL**, Adjunct Lecturer, College Transition, 2005 (2005); BA 1999 Iowa State; MED 2004 Iowa State

**SCHULTZ, KAREN SUE**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 2000 Iowa

**SCHULTZ, MICHAEL KING**, Assistant Professor, Internal Medicine/Radiation Oncology/Psychiatry, 2006 (2009); BA 1990 South Florida; MS 1996 Florida State; PHD 2002 Florida State

**SCHULTZ, RANDALL L.**, Emeritus Professor, Marketing, 1988 (1988); BSC 1965 Ohio State; MBA 1967 Wayne State; PHD 1970 Northwestern

**SCHULTZ, SUSAN KAY**, Professor, Psychiatry/IA Consortium Substance Abuse, 1995 (2007); BS 1986 Nebraska Wesleyan; MD 1990 Nebraska

**SCHULZ, RUDOLPH W.**, Emeritus Professor, Psychology, 1960 (1966); BS 1954 Northwestern; MS 1955 Stanford; PHD 1958 Northwestern

**SCHULZE, KONRAD S.**, Professor, Internal Medicine, 1975 (1991); BS 1965 Munich; MD 1968 Heidelberg

**SCHURTZ, STEVEN HAROLD**, Clinical Adjunct Assistant Professor, Urology, 1985 (1985); MD 1975 Iowa

**SCHUTTE, BRIAN C.**, Adjunct Associate Professor, Pediatrics, 1991 (2005); BS 1983 Creighton; PHD 1988 Wisconsin

**SCHWAB, JAMES C.**, Adjunct Lecturer, Urban & Regional Planning, 2008 (2008); MA 1985 Iowa

**SCHWABBAUER, MARIAN HISTAND**, Emeritus Professor, Pathology, 1971 (1997); BA 1961 Goshen; MA 1975 Iowa; PHD 1990 Iowa

**SCHWALM, LESLIE A.**, Professor, African-American Studies/Women's Studies/History, 1991 (2010); BA 1979 Massachusetts; MA 1984 Wisconsin-Madison; PHD 1991 Wisconsin-Madison

**SCHWARTZ, BARBARA A.**, Clinical Professor, Law-Faculty, 1977 (1985); BA 1967 Michigan; MA 1968 Michigan; JD 1975 Wayne State

**SCHWARTZ, DAVID ASA**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); BA 1997 Iowa; MS 1998 Northwestern

**SCHWEITZER, JOHN W.**, Emeritus Professor, Physics & Astronomy, 1966 (1978); BA 1960 Thomas More; MS 1962 Cincinnati; PHD 1966 Cincinnati

**SCHWESER, G CARL**, Emeritus Associate Professor, Finance, 1976 (1982); BS 1966 Missouri School of Mines; MBA 1968 Missouri; PHD 1976 Georgia

**SCHWIESOW, TYLER MICHAEL**, Clinical Adjunct Instructor, Internal Medicine, 2007 (2007); BS 1999 Drake; MD 2003 Iowa

**SCHWOERER, CATHERINE ETHEL**, Adjunct Associate Professor, Management & Organizations, 2010 (2010); PHD 1990 North Carolina

**SCIESZINSKI, JOHN JOSEPH**, Adjunct Assistant Professor, Family Dentistry, 2008 (2008); BS 1977 Iowa; DDS 1981 Iowa

**SCOTT, ERIC CHRISTOPHER**, Clinical Adjunct Assistant Professor, Surgery, 2009 (2009); BA 1996 Luther College; MD 2000 Iowa

**SCOTT, GERALD LEE**, Emeritus Assistant Professor, Endodontics, 1979 (1979); DDS 1967 University of the Pacific

**SCOTT, JOHN BELDON**, Professor, Art & Art History, 1982 (1998); BA 1968 Indiana; MA 1975 Rutgers; PHD 1982 Rutgers

**SCOTT, WILLIAM EDWIN**, Emeritus Professor, Ophthalmology & Visual Science, 1971 (1979); BA 1959 Iowa; MS 1962 Iowa; MD 1964 Iowa

**SCOTT-CONNER, CAROL**, Professor, Surgery, 1995 (1995); MD 1976 New York University; PHD 1988 Kentucky; BS 1990 Massachusetts Institute of Tec

**SCRANTON, ALEC B.**, Professor, Chemical & Biomedical Engineering, 2000 (2000); BS 1984 Iowa; PHD 1990 Purdue

**SCRANTON, LISA CAROL**, Adjunct Lecturer, Biomedical Engineering, 2001 (2001); MS 1997 Michigan State

**SCRUGGS, THOMAS M.**, Associate Professor, Music, 1991 (2003); BA 1981 Chicago State; MM 1985 Texas-Austin; PHD 1994 Texas-Austin

**SCUDDER, JACK D.**, Professor, Physics & Astronomy, 1993 (1993); BA 1969 Williams; MS 1971 Maryland; PHD 1975 Maryland

**SCULLION, ROSEMARIE**, Associate Professor, French & Italian/Cinema & Comparative Literature/International Programs/Women's Studies, 1987 (1994); BA 1978 Wisconsin-Madison; MA 1982 Wisconsin-Madison; PHD 1987 Wisconsin-Madison

**SEABA, HAZEL H.**, Clinical Professor, Pharmacy, 1971 (1995); BSPH 1967 Ferris State; MS 1971 Iowa

**SEABOLD, JAMES E.**, Emeritus Professor, Radiology, 1982 (1996); BS 1964 Michigan State; MD 1968 Michigan

**SEAMAN, WALTER I.**, Associate Professor, Mathematics/Teaching and Learning, 1983 (1991); BA 1976 Beloit; PHD 1982 Massachusetts

**SEASE, EDMUND JOHN**, Adjunct Lecturer, Law-Faculty, 2009 (2009); AA 1962 Iowa Central Community; BA 1964 Drake; JD 1967 Drake

**SEDENKA, SHANE THOMAS**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 2004 Iowa

**SEEBOHM, PAUL M.**, Emeritus Professor, Internal Medicine, 1949 (1959); BA 1938 Cincinnati; MD 1941 Cincinnati

**SEEDORFF, LEANNE MARIE**, Adjunct Lecturer, College Transition, 2006 (2006); BA 1993 Iowa; MSW 1998 Iowa

**SEERVELD, KATHERINE ANN EMERICH**, Adjunct Instructor, Communication Sciences and Disorders, 1999 (1999); MS 1993 Wisconsin-Madison

**SEETHARAM, M R.**, Adjunct Associate Professor, International Programs, 2009 (2009); MENG 1974 university of Pune; MBBS 1989 Mysore University; MS 1996 PGIMER, Chandigarh

**SEETHARAM, SRIDEVI**, Adjunct Associate Professor, International Programs, 2009 (2009); MD 1996 Pgimer, Chandigarh; MA 2007 Katholieke, Leuven

**SEGAL, NEIL A.**, Associate Professor, Radiology/Orthopaedics and Rehabilitation/Epidemiology, 2004 (2009); BA 1994 Brown; MD 2000 Vanderbilt; MS 2008 Iowa

**SEGALOFF, DEBORAH L.**, Professor, Physiology/Obstetrics & Gynecology, 1990 (1997); BS 1976 Pennsylvania State; PHD 1980 Vanderbilt

**SEGAR, JEFFREY L.**, Professor, Pediatrics, 1992 (2004); BS 1982 Wisconsin-Madison; MD 1986 Wisconsin-Madison

**SEGRE, ALBERTO M.**, Professor, Computer Science/Nursing, 1994 (2001); BS 1980 Illinois; AB 1980 Illinois; MS 1983 Illinois; PHD 1987 Illinois

**SEGRE, LISA SHARON**, Assistant Professor, IA Consortium Substance Abuse/Nursing, 1998 (1998); BA 1979 Mount Holyoke; MA 1981 Maryland; PHD 1993 Illinois-Urbana Champaign

**SEIBERT, SCOTT EDWARD**, Associate Professor, Management & Organizations, 2008 (2008); BS 1983 State University of New York; MS 1988 Cornell University; PHD 1994 Cornell University

**SEIM, ARNE ROLF**, Lecturer, French & Italian, 2005 (2005); BS 1982 IOWA STATE; BA 1989 IOWA; MA 2004 Souty Dakota

**SEMELROTH, TIMOTHY SAMUEL**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1994 Drake; JD 1997 IOWA

**SEMKEN, HOLMES A.**, Emeritus Professor, Geoscience, 1965 (1973); BS 1958 Texas; MS 1960 Texas; PHD 1965 Michigan

**SENER, ALAN**, Professor, Dance, 1991 (2005); BA 1976 Penn State

**SEPEHRI, SOHILA**, Adjunct Instructor, Pharmacy, 2003 (2003); BA 1990 Grand View; BS 1995 Drake

**SERRANO, MARIATELLA**, Clinical Adjunct Assistant Professor, Pediatrics, 2005 (2005); MA 1992 Med Univ del Norte

**SERTTERH, JENNIE L.**, Adjunct Instructor, Integrative Physiology, 2001 (2001); BS 1996 Southern Illinois; MED 1998 Nebraska

**SESSIONS, JENNIFER E.**, Assistant Professor, History, 2005 (2005); AB 1996 Harvard; PHD 2005 Pennsylvania

**SEVERIDT, LARRY A.**, Clinical Adjunct Associate Professor, Family Medicine, 1987 (2001); MD 1977 Iowa

**SEVERINO, CAROL J.**, Associate Professor, International Programs/Rhetoric, 1990 (1996); BA 1971 Valparaiso; MA 1976 Illinois-Chicago; PHD 1989 Illinois-Chicago

**SEWELL, ROBERT PATRICK**, Adjunct Instructor, Preventive & Community Dentistry, 2006 (2006); BS 1990 Georgia; DMD 1994 Medical College of Georgia

**SEXTON, JONATHAN MERLE**, Adjunct Lecturer, College Transition, 2006 (2006); BA 2004 Central College; MA 2006 Iowa

**SEXTON, NICOLE ELIZABETH**, Adjunct Lecturer, College Transition, 2008 (2008); BA 2006 Coe College; MA 2008 Iowa

**SGONTZ, LARRY G.**, Emeritus Professor, Economics, 1964 (1982); BA 1958 Wooster; MA 1960 Illinois; PHD 1964 Illinois

**SHAABAN, AIMEN**, Associate Professor, Surgery, 2008 (2008); MD 1991 Illinois

**SHADUR, CRAIG A.**, Clinical Adjunct Associate Professor, Internal Medicine, 1981 (1996); MD 1974 Iowa

**SHAFFER, MICHAEL A.**, Adjunct Instructor, Integrative Physiology/Physical Therapy, 2003 (2003); BS 1992 Iowa; MS 1994 Beaver College

**SHAFTEL, JULIA S.**, Adjunct Professor, Management & Organizations, 2009 (2009); BA 1973 Arizona; MED 1979 Arizona; PHD 1999 Kansas

**SHAFTEL, MATTHEW**, Adjunct Associate Professor, Music, 2008 (2008); MPHIL 1997 Yale; PHD 2000 Yale

**SHAFTEL, TIMOTHY LEE**, Adjunct Professor, Accounting, 2009 (2009); MS 1971 Carengie Mellon; PHARM 1972 Carnegie Mellon; PHD 1972 Carnegie Mellon

**SHAH, RIZWAN Z.**, Clinical Adjunct Associate Professor, Pediatrics, 1977 (2002); MBBS 1965 F J Medical College

**SHAIK, JAFFAR**, Clinical Adjunct Assistant Professor, Pediatrics, 2001 (2001); MD 1993 Royal College London LONDON

**SHAMMAS, NICOLAS W.**, Clinical Adjunct Associate Professor, Internal Medicine, 2000 (2006); MD 1987 American

**SHANK, GLENACE B.**, Clinical Adjunct Assistant Professor, Family Medicine, 2005 (2005); BA 1978 McPherson; MS 1981 Iowa State; PHD 1986 Iowa State; DO 1997 Iowa State

**SHARAFUDDIN, MELHEM J.**, Assistant Professor, Radiology/Surgery, 1997 (1997); BS 1983 American University of Beirut; MD 1988 American University of Beirut

**SHARP, JAMIE DEE**, Emeritus Associate Professor, Dentistry Administration, 1995 (1994); BA 1976 San Francisco State; MS 1978 Iowa

**SHARP, VICTORIA JEAN ALLEN**, Clinical Professor, Urology/Family Medicine, 2002 (2010); BS 1983 George Mason; MD 1993 Arizona; MBA 2003 Iowa

**SHARP, WILLIAM J.**, Professor, Radiology/Surgery, 1989 (2007); BS 1978 Michigan State; MD 1982 Michigan

**SHASBY, DOUGLAS MICHAEL**, Emeritus Professor, Internal Medicine, 1982 (1989); BA 1967 Duke; MD 1973 Duke

**SHAUB, MELISSA E.**, Adjunct Lecturer, General University College, 2010 (2010); BS 2002 Washington State; MA 2007 Seattle

**SHAW, IAN KELLOREN**, Adjunct Instructor, Family Dentistry, 2010 (2010); BA 2001 Iowa; DDS 2005 Iowa

**SHAW, KRISTIN MARKWAY**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); MSJ 2006 Northwestern

**SHAW, REBECCA D.**, Clinical Adjunct Associate Professor, Obstetrics & Gynecology, 1999 (1999); MD 1975 Iowa

**SHAW, ROBERT F.**, Clinical Assistant Professor, Pharmacy, 2005 (2005); PHARM 1994 Illinois; MPH 2004 South Florida

**SHCHELOCHKOV, OLEG ANATOLYEVICH**, Assistant Professor, Pediatrics, 2009 (2009); MD 1997 Tashkent, USSR

**SHEA, MADELINE A.**, Professor, Biochemistry, 1989 (2002); BS 1977 California Inst of Technology; PHD 1984 Johns

## Hopkins

**SHEELEY, NEAL**, Clinical Adjunct Assistant Professor, Family Medicine, 2007 (2007); MA 1984 Loras College

**SHEERIN, CAROLINE**, Lecturer, Law-Faculty, 2006 (2006); BA 1993 Barnard, Columbia; MA 1996 Washington; JD 1999 Michigan

**SHEETS, JAMES STEVEN**, Adjunct Assistant Professor, Management & Organizations, 2008 (2008); MAT 1983 University of St. Thomas; PHD 1992 Rochester; JD 2002 Iowa

**SHEETS, SCOTT J.**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); DO 1993 Univ of Osteo Med, Des Moines

**SHEETZ, CAROLITA THERESA**, Adjunct Lecturer, Nursing, 2003 (2007); BSN 1989 Mt. Pleasant, IA; MSN 1999 Iowa

**SHEFF, DAVID ROLAND**, Assistant Professor, Pharmacology/Radiation Oncology, 2003 (2003); BA 1984 Bowdoin College, Maine; PHD 1992 Iowa; MD 1992 Iowa

**SHEFFIELD, VAL C.**, Professor, Pediatrics, 1990 (1998); MS 1974 Brigham Young; BS 1977 Brigham Young; PHD 1983 Chicago; MD 1985 Chicago

**SHELDON, DANIEL S.**, Emeritus Associate Professor, Teaching and Learning, 1973 (1980); BS 1960 Northern State; MS 1961 Northern State; PHD 1973 Iowa

**SHELMAN, RICK ALLEN**, Clinical Adjunct Assistant Professor, Surgery, 1999 (1999); MD 1990 Iowa

**SHELTON, VANESSA**, Adjunct Assistant Professor, Journalism & Mass Communication, 2001 (2007); BA 1977 COE; MA 1994 Iowa; PHD 2007 Iowa

**SHEN, BERN**, Adjunct Associate Professor, Management Sciences/Emergency Medicine, 2008 (2008); MPHIL 1981 Yale; MD 1981 Yale

**SHEN, HELEN**, Associate Professor, Asian & Slavic Languages & Literature/International Programs, 2002 (2008); BA 1981 Ningbo, China; MA 1990 Zhejiang, China; PHD 1997 Nevada-Reno

**SHEN, WENDY WEIYIN**, Clinical Assistant Professor, Family Medicine, 2005 (2008); MD 1992 Beijing Medical

**SHEPARDSON, RICHARD D.**, Emeritus Professor, Teaching and Learning, 1972 (1981); BA 1960 Chico State; MA 1968 San Jose State; PHD 1972 Texas

**SHEPHERD, RHODA**, Adjunct Instructor, Nursing, 1995 (1995); MA 1976 Iowa

**SHEPLEY, ALAN MARTIN**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1971 Iowa

**SHERER, JENNIFER KRISTENE**, Adjunct Lecturer, General University College/International Programs, 2009 (2009); BA 1995 Oberlin; MA 2001 Iowa; PHD 2008 Iowa

**SHERIDAN, CHARLENE**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); AA 1991 Des Moines Area Comm College; BA 2002 Simpson College

**SHERIFF, DON D.**, Associate Professor, Integrative Physiology, 1998 (2004); BA 1981 Washington-Seattle; PHD 1987 Washington-Seattle

**SHEVER, LEAH LYNN**, Adjunct Lecturer, Nursing, 2008 (2008); BSN 2002 Iowa; MSN 2005 Iowa; PHD 2007 University of Iowa

**SHEY, KATHLEEN SUZANNE**, Adjunct Instructor, Social Work, 2007 (2007); BSW 1995 Iowa; MSW 1999 Iowa

**SHIBATA, ERWIN F.**, Associate Professor, Physiology, 1986 (1994); BSEE 1974 Washington; MSE 1980 Washington; PHD 1984 Texas Medical Branch-Galveston

**SHIBLI-RAHHAL, AMAL ALI**, Clinical Assistant Professor, Internal Medicine, 2007 (2007); BS 1996 American Univ of Beirut; MD 2000 American Univ of Beirut

**SHIELDS, RICHARD KEMP**, Professor, Orthopaedics and Rehabilitation/Physical Therapy, 1986 (2004); BA 1976 Cabawba; MA 1985 Iowa; PHD 1992 Iowa

**SHIH, MING-CHE**, Emeritus Professor, Department of Biology, 1988 (2003); BS 1976 Tunghai-Taiwan; PHD 1983 Iowa

**SHILYANSKY, JOEL**, Associate Professor, Surgery/Pediatrics, (2007); MD 1988 California

**SHIRANI, AFSHIN**, Clinical Assistant Professor, Psychiatry, 2009 (2009); MD 1996 Vienna/Austria

**SHIRAZI, SIROOS S.**, Professor, Surgery, 1972 (1981); PCB 1959 Shiraz; MD 1965 Shiraz-Iran

**SHIRES, ROBERT STEVEN**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BS 1972 Nebraska Wesleyan; MD 1975 Nebraska

**SHIRES, THOMAS K.**, Emeritus Professor, Pharmacology, 1972 (1981); AB 1957 Colgate; MS 1962 Oklahoma; PHD 1965 Oklahoma

**SHIRK, GERALD JOSEPH**, Clinical Adjunct Associate Professor, Obstetrics & Gynecology, 1996 (1996); MD 1969 Iowa

**SHIRK, RONALD A.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BS 1970 Drake; DO 1973 Coll of Osteopathic Med

**SHIU, ELIAS S.**, Professor, Statistics & Actuarial Science, 1992 (1992); BS 1971 Manitoba-Canada; MS 1971 Manitoba-Canada; PHD 1975 Calif Inst of Technology

**SHIVAPOUR, EZZATOLLAH TORAGE**, Clinical Professor, Neurology, 1980 (2005); MD 1972 Tabriz

**SHIVERS, MATTHEW**, Adjunct Instructor, Pharmacy, 2003 (2003); BS 1978 Iowa

**SHOEMAKER, JOEL**, Adjunct Instructor, Library & Information Science, 2005 (2009); BS 1972 Illinois-Urbana Champaign; MED 1975 Illinois-Urbana Champaign; MA 1989 Northern Iowa

**SHOEMAKER, PATRICK G.**, Adjunct Lecturer, General University College, 2003 (2003); BA 1978 Dartmouth

**SHOKOOHI-YEKTA, MOHSEN**, Lecturer, Teaching and Learning, 1999 (2002); BA 1984 TEHRAN; MA 1989 ROOSEVELT; PHD 1993 Iowa

**SHOSTROM, F LARRY**, Adjunct Assistant Professor, Family Medicine, 1997 (1997); PHD 1985 Kansas State

**SHOTWELL, VIVIEN**, Adjunct Assistant Professor, Creative Writing, 2007 (2007); BA 2003 Williams; MFA 2007 Iowa

**SHOUKIH, TAMEEM**, Clinical Adjunct Assistant Professor, Pediatrics, 2002 (2002); MD 1985 Damascus

**SHOULTZ, AMY KATHLEEN ENGELBERT**, Clinical Associate Professor, Teaching and Learning, 2002 (2010); BA 1985 Coe; MAT 1990 Iowa; PHD 2002 Iowa

**SHOW, SANDRA D.**, Adjunct Instructor, Communication Sciences and Disorders, 1984 (1996); MA 1977 Iowa

**SHOWERS, JANICE ANN**, Lecturer, English as Second Language, 2008 (2010); MA 2008 Iowa

**SHREEVES, CHARLES E.**, Adjunct Instructor, Library & Information Science, 2005 (2005); BA 1968 William and Mary; PHD 1978 North Carolina; AMLS 1978 North Carolina

**SHURR, DONALD GLENN**, Adjunct Lecturer, Physical Therapy, 1979 (1984); MA 1971 Iowa

**SHUTT, DAMON C.**, Adjunct Assistant Professor, Radiation Oncology, 2009 (2009); BA 1983 Iowa; MS 1990 Chicago; PHD 1993 Chicago

**SHYAMALKUMAR, NARIANKADU DATATREYA**, Assistant Professor, Statistics & Actuarial Science, 2004 (2004); BS 1989 Loyola, India; MS 1991 Indian Stat Inst, India; PHD 1996 Purdue Univ, IN, USA

**SIDEL, MARK**, Professor, International Programs/Law-Faculty, 2000 (2005); AB 1979 Princeton; MA 1982 Yale; JD 1985 Columbia

**SIDNEY, REBECCA SUE**, Clinical Adjunct Instructor, Internal Medicine, 1997 (1997); DO 1989 Osteopathic Med & Hlth

**SIDWELL, RICHARD ALLEN**, Clinical Adjunct Associate Professor, Surgery, 2004 (2007); BS 1988 Iowa; MD 1993 Iowa

**SIEBERT, CALVIN D.**, Emeritus Professor, Economics, 1965 (1975); BA 1958 Kansas; MA 1960 Kansas; PHD 1966 California-Berkeley

**SIELENI, BRUCE A.**, Clinical Adjunct Assistant Professor, Psychiatry, 2007 (2007); MD 1982 Minnesota

**SIEPERDA, KENDRA B.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMMD 2006 Iowa

**SIEREN, JESSICA CORINNE**, Adjunct Assistant Professor, Biomedical Engineering, 2009 (2009); BENG 2002 Flinders Univ; BS 2002 Flinders Univ; PHD 2008 Iowa

**SIEWERT, REBECCA**, Clinical Assistant Professor, Nursing, 2004 (2004); BSN 1985 St Xavier ,ILL; MS 1990 Illinois@Chicago; DR 2002 Rush, ILL

**SIGMUND, CURT D.**, Professor, Physiology/Pharmacology, 1991 (2000); BA 1982 State Univ of NY-Buffalo; MA 1984 State Univ of NY-Buffalo; PHD 1987 State Univ of NY-Buffalo

**SIGURDSSON, GARDAR**, Clinical Assistant Professor, Radiology/Internal Medicine, 2008 (2008); MD 1993 Iceland, Reykjavik

**SILBERMANN, NEIL N.**, Clinical Adjunct Professor, Ophthalmology & Visual Science, 2007 (2007); BS 1970 Yale; MD 1974 Connecticut

**SILVA-MARTINEZ, ELITHET**, Adjunct Assistant Professor, Social Work, 2009 (2009); MSW 2001 Puerto Rico; DR 2009 Iowa

**SILVERMAN, WILLIAM B.**, Clinical Professor, Internal Medicine, 1997 (2003); BA 1976 Colby College; MD 1984 University of Brussels-Belgium

**SILVERS, ANDREA J.**, Clinical Adjunct Assistant Professor, Family Medicine, 2003 (2003); BS 1994 Iowa State; MD 1999 Iowa

**SIMISON, ANITA TSAI**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); BS 2000 Wellesley College; MD 2004 Drexel Univ School of Med

**SIMMONS, DONALD L.**, Adjunct Assistant Professor, Occupational & Environmental Health, 2000 (2000); BS 1985 Oklahoma; MS 1989 Oklahoma; PHD 1994 Oklahoma

**SIMMONS, JONATHAN S.**, Clinical Associate Professor, Emergency Medicine/Anesthesia, 2004 (2009); SCB 1994 Truman State MO; DO 1999 Kirksville/ Osteopathic Med

**SIMMONS, SHAWN T.**, Clinical Associate Professor, Anesthesia, 1999 (2003); BA 1990 Kansas; MD 1994 Kansas

**SIMMONS, TOM**, Associate Professor, English, 1992 (1994); AB 1978 Stanford; MA 1983 Calif-Berkeley; PHD 1988 Calif-Berkeley

**SIMON, CHRISTIAN**, Associate Professor, Internal Medicine/Creative Writing, 2008 (2008); PHD 1997 California

**SIMON, J RICHARD**, Emeritus Professor, Industrial Engineering/Psychology, 1957 (1968); BBA 1951 Wisconsin; MA 1953 Wisconsin; PHD 1955 Wisconsin

**SIMON, JONATHAN K.**, Professor, Mathematics, 1969 (1980); AB 1964 Columbia; MA 1965 Wisconsin; PHD 1969 Wisconsin

**SIMPSON, CHRISTOPHER MILES**, Adjunct Instructor, Pharmacy, 2005 (2005); BSPH 1991 Iowa

**SIMS, HALLIE J.**, Assistant Professor, Geoscience, 2005 (2005); PHD 2000 Chicago

**SIMS, JOHNNIE MORROW**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 1995 (1995); BS 1971 Alabama State; MS 1973 Indiana University; PHD 1981 University of Iowa

**SIMS, LESLIE B.**, Emeritus Professor, Chemistry, 1991 (1991); BA 1958 Southern Illinois; MS 1961 Illinois; PHD 1967 Illinois

**SINDT, CHRISTINE W.**, Clinical Associate Professor, Ophthalmology & Visual Science, 1997 (2007); BS 1990 State Univ of NY- Geneseo; OD 1994 Ohio State

**SINGER, JANE B.**, Associate Professor, Journalism & Mass Communication, 1999 (2005); MA 1990 New York; PHD 1996 Missouri-Columbia

**SINGERMAN, KATHI WIEGAND**, Adjunct Lecturer, Management & Organizations, 2003 (2003); MBA 1994 CHICAGO

**SINGH, BALJIT**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DMD 1990 Boston

**SINGH, HARINDER**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009); DDS 2004 NYU School of Dentistry

**SINGH, MADHU V.**, Assistant Professor, Internal Medicine, 2009 (2009); BSC 1981 Gorakhpur, India; MSC 1986 GBP, Ag & Tech, India; PHD 1995 Alberta, Canada

**SINGH, MANMOHAN**, Clinical Adjunct Assistant Professor, Psychiatry, 1987 (1991); MD 1979 Magadh-India

**SINGH, MINATI**, Assistant Professor, Internal Medicine, 2010 (2010); PHD 1995 Albena

**SINGH, SARABDEEP**, Adjunct Lecturer, Health Management & Policy, 2007 (2007); MAE 1991 Punjab; MS 1995 Western Michigan

**SINN, PATRICK LADD**, Assistant Professor, Pediatrics, 2009 (2009); PHD 1999 Iowa

**SIOCHI, R ALFREDO C**, Assistant Professor, Radiation Oncology/Electrical-Computer Engineering, 2005 (2005); BS 1985 Ateneo dE Manila; MS 1988 Virginia Tech; PHD 1990 Virginia Polytech Institute; MS 1995 Cincinnati

**SIPLA, JUSTIN SCOTT**, Lecturer, Anatomy & Cell Biology, 2010 (2010); MS 2004 Stony Brook University; MPhil 2004 Stony Brook University; PHD 2007 Stony Brook University

**SIRIWETCHADARAK, RAPIPEN**, Clinical Assistant Professor, Anesthesia, 2008 (2008); MD 1999 Mahidol Univ, Thailand

**SIVITZ, WILLIAM I.**, Professor, Internal Medicine, 1987 (2001); BS 1966 Pittsburgh; MD 1972 Hahnemann

**SIX, ERICH W.**, Emeritus Professor, Microbiology, 1960 (1973); MA 1949 Frankfurt-Germany; PHD 1954 Frankfurt-Germany

**SJOLUND, RICHARD D.**, Emeritus Professor, Department of Biology, 1968 (1997); BS 1963 Wisconsin; PHD 1968 California-Davis

**SKASKIW, ROMAN**, Adjunct Assistant Professor, Division of Interdisciplinary Program, 2009 (2009); BS 2000 Stanford; MFA 2007 Iowa

**SKEETE, DIONNE A.**, Clinical Associate Professor, Surgery, 2001 (2010); MD 1996 Washington-St. Louis

**SKELLY KUEHN, KELLY SUE**, Clinical Associate Professor, Family Medicine, 2002 (2010); BS 1988 Iowa; MD 1992 Iowa

**SKEMP, LISA**, Associate Professor, International Programs/Nursing, 2002 (2008); BS 1977 Viterbo; MA 1998 Iowa; PHD 2002 Iowa

**SKIFF, FREDERICK N.**, Professor, Physics & Astronomy, 1998 (2000); BS 1979 Cornell; MA 1981 Princeton; PHD 1985 Princeton

**SKINSTAD, ANNE H.**, Clinical Associate Professor, Community & Behavioral Health, 1993 (2006); BA 1971 Bergen; PSYD 1977 Bergen

**SKOGSBERGH, JAMES H.**, Adjunct Lecturer, Health Management & Policy, 1990 (1990); MA 1982 Iowa

**SKOPEC, GREGORY S.**, Clinical Assistant Professor, Obstetrics & Gynecology, 2002 (2002); BA 1984 Northern Iowa; MD 1990 Iowa

**SKOPEC, MARY P.**, Adjunct Assistant Professor, Geography, 2001 (2001); PHD 1999 Iowa

**SLABAKOVA, ROUMYANA**, Professor, International Programs/Linguistics, 1998 (2010); BA 1981 Sofia; MA 1981 Sofia; PHD 1998 McGill

**SLADE, DANIEL HOPKINS**, Adjunct Lecturer, Management & Organizations, 2009 (2009); BAS 2005 Illinois; MBA 2009 Iowa; JD 2009 Iowa

**SLADEK, STEPHEN MICHAEL**, Clinical Adjunct Assistant Professor, Family Medicine, 2000 (2000); MD 1984 California

**SLATTON, YVONNE L.**, Emeritus Associate Professor, Health, & Sport Studies, 1964 (1981); BS 1960 Middle Tennessee State; MS 1965 North Carolina; PHD 1970 Iowa

**SLAUGHTER, WENDI SUE**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BS 1991 Iowa State; PHARM D 2001 Iowa

**SLAVIN, MICHAEL J.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MBA 1997 Widener

**SLAYTON, REBECCA LYNN**, Professor, Pediatric Dentistry, 1998 (2008); BA 1980 Earlham; MS 1983 Iowa; DDS 1992 Iowa; PHD 1998 Iowa

**SLONNEGER, KENNETH RAY**, Adjunct Lecturer, Computer Science, 1982 (1999); PHD 1971 Illinois; MS 1984 University of Iowa

**SLOVEN, DANIEL**, Clinical Adjunct Assistant Professor, Pediatrics, 2002 (2002); BS 1979 Stanford; MD 1984 Case Western Reserve

**SLUKA, KATHLEEN A.**, Professor, Physical Therapy, 1996 (2006); BS 1985 Georgia State; PHD 1993 Texas-Galveston

**SLUSARSKI, DIANE C.**, Professor, Department of Biology, 1998 (2010); BA 1986 Illinois-Urbana; BS 1986 Illinois-Urbana; PHD 1993 Northwestern

**SMALL, ARNOLD M JR**, Emeritus Professor, Psychology/Communication Sciences and Disorders, 1958 (1964); BA 1951 San Diego State; MS 1953 Wisconsin; PHD 1954 Wisconsin

**SMALL, GARY**, Professor, Chemistry, 2002 (2002); BS 1979 North Carolina; PHD 1984 Pennsylvania State

**SMELSER, JAMIE MICHELLE**, Adjunct Associate Professor, Physical Therapy/Pharmacy, 2008 (2008); BSPH 1994 Iowa; PHARMD 1996 Iowa

**SMESTAD, CAROL BRENDA**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); BSPH 1986 North Dakota State; PHARMD 2001 Iowa

**SMIDT, GARY L.**, Emeritus Professor, Physical Therapy, 1969 (1977);

**SMIRL, ARTHUR L.**, Professor, Physics & Astronomy/Electrical-Computer Engineering, 1988 (1988); BS 1968 Lamar; MSE 1969 Michigan; MS 1974 Arizona; PHD 1975 Arizona

**SMITH, AMANDA MARIE**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2005 Iowa

**SMITH, ANN E.**, Adjunct Assistant Professor, Nursing, 2004 (2004); BSN 1989 Mount Mercy; MSN 2000 MN School of Anesthesia

**SMITH, BRIAN JOSEPH**, Associate Professor, Biostatistics, 2001 (2008); BA 1993 St. Louis; MS 1995 Texas @ Austin; PHD 2001 Iowa

**SMITH, CAROL MARIE**, Clinical Assistant Professor, Counseling, Rehab & Stu Dev, 2008 (2008); BS 1986 North Dakota State; MS 1992 Western Illinois; PHD 2007 Iowa

**SMITH, DARYL DEE**, Adjunct Professor, General University College, 2009 (2009); AA 1958 Keokuk Community; BA 1960 Iowa; PHD 1967 South Dakota

**SMITH, DONALD D.**, Emeritus Professor, Journalism & Mass Communication, 1980 (1980); BA 1955 Syracuse; MA 1957 Nebraska; PHD 1964 North Carolina

**SMITH, DOROTHY L.**, Adjunct Associate Professor, Pharmacy, 2005 (2005); PHARMD 1972 Cincinnati

**SMITH, EDGAR**, Adjunct Instructor, Preventive & Community Dentistry, 2007 (2007); DDS 1965 Iowa

**SMITH, ELAINE M.**, Professor, Obstetrics & Gynecology/Preventive & Community Dentistry/Epidemiology, 1979 (1998); BA 1968 Ohio State; MPH 1971 Michigan; PHD 1977 State Univ of New York-Buffalo

**SMITH, FREDERICK M.**, Professor, Asian & Slavic Languages & Literature/International Programs/Religion, 1989 (2008); BA 1969 Coe; MA 1976 Poona-India; PHD 1984 Pennsylvania

**SMITH, IAN MACLEAN**, Emeritus Professor, Internal Medicine, 1955 (1965);

**SMITH, J CHRISTOPHER**, Adjunct Lecturer, College Transition, 2002 (2002); BA 1973 Saginaw Valley State; MA 1984 Iowa; MSW 1993 Iowa

**SMITH, JEFFREY J.**, Clinical Associate Professor, Pediatrics, 1988 (1995); BA 1972 Minnesota; MD 1976 Mayo Medical

**SMITH, JESSICA**, Clinical Assistant Professor, Surgery, 2009 (2009); MD 2003 California-Davis

**SMITH, JORDAN ANDREW**, Lecturer, Religion, 2008 (2008); BA 2000 Memphis; MA 2002 Florida State; PHD 2008 Florida State

**SMITH, JULIE COBB**, Adjunct Instructor, Interdisciplinary Programs, 2004 (2004); BA 1995 North Carolina State; MA 1997 Chicago

**SMITH, KELLY**, Clinical Instructor, Nursing, 1998 (2006); MSN 1993 St Louis

**SMITH, KELLY A.**, Adjunct Instructor, Library & Information Science, 2007 (2007); MS 2006 Iowa

**SMITH, MARIANNE**, Assistant Professor, Nursing, 1984 (2001); BSN 1978 Iowa; MS 1983 Colorado; PHD 2006 Iowa

**SMITH, MARK CHARLES**, Clinical Assistant Professor, Radiation Oncology, 2004 (2004); BS 1993 Iowa State; MD 1999 Iowa

**SMITH, MAX L.**, Adjunct Professor, Prosthodontics, 1975 (1975); DDS 1946 Iowa

**SMITH, MEGAN M.**, Assistant Professor, Psychiatry, 2009 (2009); MS 2003 Pennsylvania State; PHD 2007 Pennsylvania State

**SMITH, MELINDA A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1988 Iowa

**SMITH, PAUL RUSSELL**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2005 (2005); DDS 1984 Maryland

**SMITH, RICHARD J.**, Professor, Pediatrics/Internal Medicine/Otolaryngology-Head & Neck Surgery/Physiology, 1990 (1990); BA 1974 Rice; MD 1977 Baylor

**SMITH, TABARIUS L.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHD 2003 Pharmacy; PHARMD 2003



## Wisconsin

**SMITH, TARA**, Assistant Professor, Epidemiology, 2004 (2004); BS 1998 Yale; PHD 2002 Ohio

**SMITH, THEODORE F.**, Emeritus Professor, Mechanical Engineering, 1971 (1981); BSME 1963 Illinois; MSME 1965 Illinois; PHD 1972 Illinois

**SMITH, TIMOTHY JAMES**, Adjunct Assistant Professor, Family Dentistry, 2006 (2009); DDS 1993 Iowa

**SMITH, TRISHA ANN**, Adjunct Assistant Professor, Pharmacy, 2000 (2000); PHARMMD 1998 Iowa

**SMITH, WILLIAM JAMES**, Adjunct Assistant Professor, Geography, 2003 (2003); BA 1992 Delaware; MA 1999 Towson; PHD 2003 Delaware

**SMOKER, WENDY RUE**, Professor, Neurology/Neurosurgery/Radiology, 2001 (2001); BS 1971 Iowa; MS 1972 Iowa; MD 1977 Iowa

**SMOLIKOVE, SARIT**, Assistant Professor, Department of Biology, 2009 (2009); BSC 1998 Tel Aviv University; BS 1998 Tel Aviv; MS 2000 Tel Aviv; PHD 2004 Tel Aviv

**SMOOT, MILTON KYLE**, Clinical Assistant Professor, Orthopaedics and Rehabilitation/Family Medicine, 2009 (2009); BS 2000 Louisville, Kentucky; MD 2005 Wright State, OH

**SMUCKER, JOSEPH DOUGLAS**, Assistant Professor, Orthopaedics and Rehabilitation, 2005 (2006); BA 1995 Goshen; MD 1999 Indiana

**SNETSELAAR, LINDA G.**, Professor, Internal Medicine/Epidemiology, 1985 (2005); BS 1972 Iowa State; MS 1975 Iowa; PHD 1983 Iowa

**SNIDER, ALVIN**, Associate Professor, English, 1986 (1992); BA 1977 Toronto; MA 1978 Toronto; PHD 1984 Chicago

**SNIDER, JACQUELINE**, Adjunct Instructor, Library & Information Science, 2007 (2007); BA 1975 Toronto; AMLS 1977 Toronto

**SNITZER, JAMES G.**, Professor, Art & Art History/Interdisciplinary Programs, 1976 (2007); BA 1973 Calif-Los Angeles; MFA 1976 Art Inst of Chicago

**SNYDER, JEANNE M.**, Emeritus Professor, Pediatrics/Anatomy & Cell Biology, 1988 (1993); BS 1968 Northwestern; PHD 1972 Pennsylvania

**SNYDER, PETER M.**, Professor, Physiology/Internal Medicine, 1996 (2004); BA 1984 Luther; MD 1989 Iowa

**SODAWASSER, SARA**, Adjunct Instructor, Preventive & Community Dentistry, 2003 (2003); BS 1988 University of Iowa

**SODERBERG, GARY L.**, Emeritus Professor, Physical Therapy, 1978 (1986); BA 1960 Augustana College/Rock Island; MA 1962 Iowa; PHD 1971 Pennsylvania State

**SOENEN, ANN K.**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BS 2001 Iowa; DO 2005 Des Moines, IA

**SOHN, STEVEN DAVID**, Clinical Adjunct Assistant Professor, Family Medicine, 1997 (2002); BA 1979 Drake; MD 1983 Iowa

**SOJKA, KATHRYN E.**, Adjunct Lecturer, College Transition/General University College, 2005 (2005); AS 1991 Corning Community; BA 1993 SUNY @Owsego; MSED 1999 SUNY -@Brockpoint

**SOKOLL, MARTIN**, Emeritus Professor, Anesthesia, 1963 (1973); BS 1954 Steubenville; MD 1958 Pittsburgh

**SOKOLOWSKI, ALAN M.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMMD 1992 Nova Southeastern

**SOKRATOVA, OLGA**, Lecturer, Mathematics, 2001 (2007); BS 1994 TARTU; MS 1994 TARTU; PHD 2001 TARTU

**SOLBRIG, INGEBORG H.**, Emeritus Professor, German, 1975 (1981); BA 1964 Cal. State San Francisco; MA 1966 Stanford; PHD 1969 Stanford

**SOLDOFSKY, ROBERT M.**, Emeritus Professor, Finance, 1954 (1963); BSC 1942 St Louis; MA 1948 Washington-Missouri; PHD 1954 Washington-Missouri

**SOLIZ, PETER**, Adjunct Associate Professor, Ophthalmology & Visual Science, 2007 (2007); BS 1966 Oklahoma City; MS 1971 Oklahoma; PHD 1977 Oklahoma

**SOLL, DAVID R.**, Professor, Department of Biology, 1972 (1982); BA 1964 Wisconsin; MA 1968 Wisconsin; PHD 1969 Wisconsin

**SOLOMON, ALLISON**, Adjunct Instructor, Preventive & Community Dentistry, 2006 (2006); DDS 2002 Colorado School of Dentistry

**SOLOMONS, GERALD**, Emeritus Professor, Pediatrics, 1962 (1969); MD 1943 Royal College-Edinburgh

**SOLOMONS, HOPE**, Emeritus Professor, Nursing, 1967 (1982); BA 1952 Clark; AM 1954 Wellesley; EDD 1957 Boston

**SOLOW, CATHERINE MITIGUY**, Clinical Assistant Professor, Preventive & Community Dentistry, 1986 (2009); BA ALBERTUS MAGNUS; MA IOWA

**SOLOW, JOHN L.**, Associate Professor, Economics, 1981 (1988); BA 1976 Yale; MA 1981 Stanford; PHD 1983 Stanford

**SOMEK, ALEXANDER**, Professor, Law-Faculty/International Programs, 2002 (2003); JD 1984 Vienna; LLM 1984 Vienna

**SOMERS, DOUGLAS L.**, Clinical Associate Professor, Internal Medicine, 1992 (2002); BS 1982 Washington; MD 1986 St. Louis

**SOMMERS, JAMES H.**, Adjunct Instructor, Preventive & Community Dentistry, 2002 (2002); BA 1950 Iowa; DDS 1952 Iowa

**SONG, LONG-SHENG**, Assistant Professor, Internal Medicine, 2006 (2006); MD 1993 North China Coal; MS 1996 Kunming Medical, China

**SONKA, MILAN**, Professor, Radiation Oncology/Ophthalmology & Visual Science/Electrical-Computer Engineering, 1990 (2000); MS 1979 Prague; PHD 1983 Prague

**SONKOVA, JITKA**, Lecturer, Asian & Slavic Languages & Literature, 1998 (2006); MA 1981 Charles; EDD 1982 Charles; PHD 1996 Charles

**SONNEVILLE, DIANE E.**, Adjunct Instructor, Social Work, 1996 (1996); MSW 1985 Iowa

**SOPER, ROBERT T.**, Emeritus Professor, Surgery, 1957 (1968); AB 1949 Cornell-Iowa; MD 1952 Iowa

**SORENSEN, STEPHEN MARTIN**, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BS 1989 Iowa; MD 1995 Iowa College of Medicine

**SORENSEN, MARK KEVIN**, Adjunct Assistant Professor, Pharmacy, 1987 (2002); BS 1982 Iowa; BSPH 1982 Iowa

**SORENSEN, SUSAN R.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1983 Iowa; BSPH 1983 Iowa

**SOROFMAN, BERNARD A.**, Professor, Pharmacy, 1984 (2001); BA 1972 Nevada; BS 1979 Oklahoma; PHD 1984 Minnesota

**SOSALE, SUJATHA**, Associate Professor, Journalism & Mass Communication, 2003 (2007); MS 1986 Bangalore, India; MS 1990 Purdue; PHD 1998 Minnesota

**SOUAIAIA, AHMED**, Associate Professor, Law-Faculty/Religion, 2003 (2009); BA 1995 Washington; MA 1996 Washington; PHD 2002 Washington

**SOUKUP, MAURITA**, Adjunct Assistant Professor, Nursing, 1981 (1991); BSN 1973 Marycrest College; MSN 1975 Alabama-Birmingham; PHD 1989 The Catholic Univ of America

**SOUTHARD, KARIN A.**, Emeritus Professor, Orthodontics, 1990 (2000); BS 1975 Ohio State; DDS 1981 Medical College of Virginia; MS 1986 Northwestern

**SOUTHARD, THOMAS E.**, Professor, Orthodontics, 1990 (2000); BS 1973 Old Dominion; MS 1974 Ohio State; DDS 1980 Medical College of Virginia; MS 1988 Tennessee

**SPADING, KIMBERLY A.**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1996 Iowa; BSPH 1996 Iowa

**SPAIGHT, PAULA MARIE**, Adjunct Instructor, Preventive & Community Dentistry, 2009 (2009);

**SPANGLER, HEATHER JEAN**, Adjunct Instructor, Journalism & Mass Communication, 2008 (2008); BA 2003 Iowa; MA 2005 Iowa

**SPANGLER, STEVEN R.**, Professor, Physics & Astronomy, 1982 (1988); BA 1972 Iowa; MS 1972 Iowa; PHD 1975 Iowa

**SPAZIANI, EUGENE**, Emeritus Professor, Department of Biology/Integrative Physiology, 1959 (1968); BA 1952 UCLA; MA 1954 UCLA; PHD 1958 UCLA

**SPECHT, JANET KAY PRINGLE**, Professor, Nursing, 1984 (2009); BSN 1973 Iowa; MA 1981 Iowa; PHD 1996 Iowa

**SPECTOR, ARTHUR A.**, Emeritus Professor, Internal Medicine/Biochemistry, 1968 (1975); BA 1956 Pennsylvania; MD 1960 Pennsylvania

**SPECTOR, ERIN MICHELLE LACEY**, Clinical Assistant Professor, Preventive & Community Dentistry, 2005 (2005); DDS 1998 Iowa

**SPECTOR, MICHAEL**, Clinical Assistant Professor, Family Dentistry, 2005 (2005); BS 1992 Binghamton; DMD 1999 Temple; MS 2002 Columbia

**SPENCER, BRUCE H.**, Assistant Professor, German/International Programs, 2000 (2003); BA 1993 Virginia; MA 1995 Michigan; PHD 2000 Michigan

**SPENCER, JOHN P.**, Professor, Psychology, 1997 (2009); BSC 1991 Brown; PHD 1998 Indiana

**SPETH, DANIEL LEE**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); BS 1970 Iowa; DDS 1974 Iowa

**SPICER, LAURA**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1987 North Dakota State-Fargo

**SPIEKER, RUTH D.**, Clinical Assistant Professor, Oral Path,Radiology&Medicine, 2002 (2002); BA 1979 Toronto; DDS 1983 Toronto

**SPIES, LEON FRED**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BBA 1972 Iowa; JD 1975 Iowa

**SPINKS, RUTH A.**, Adjunct Assistant Professor, Psychology, 2001 (2001); BS 1987 Wichita State; MA 1996 Case Western; PHD 1999 Case Western

**SPITZ, DOUGLAS R.**, Professor, Radiation Oncology, 2000 (2006); BA 1978 Grinnell; PHD 1984 Iowa

**SPITZER, ALAN B.**, Emeritus Professor, History, 1957 (1963); BA 1948 Swarthmore; MA 1949 Columbia; PHD 1955 Columbia

**SPITZER, JOHN HERBERT**, Clinical Professor, Finance, 1995 (1997); BS 1966 Stanford; MS 1967 Iowa; PHD 1975 Duke

**SPONSLER, CLAIRE**, Professor, English, 1993 (2004); BS 1982 Duke; MA 1984 Syracuse; PHD 1992 Pennsylvania

**SPOON, JAE-JAE MICHELLE**, Assistant Professor, Political Science, 2005 (2005); BA 1997 Michigan; PHD 2005 Michigan

**SPOTTS, ELIZABETH HAILEY**, Adjunct Lecturer, College Transition, 2010 (2010); BA 2006 Iowa; MA 2009 Iowa

**SPRATT, JAMES L.**, Emeritus Professor, Pharmacology, 1961 (1971); AB 1953 Chicago; PHD 1957 Chicago; MD 1961 Chicago

**SPRIESTERSBACH, DUANE C.**, Emeritus Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1948 (1957); BED 1939 Winona State Teachers; MA 1940 Iowa; PHD 1948 Iowa

**SPRINCE, NANCY L.**, Emeritus Professor, Nursing/Occupational & Environmental Health, 1990 (1999); BA 1971 Boston; MD 1971 Boston; MPH 1980 Harvard

**SPRINGER, ERIN L.**, Lecturer, Nursing, 2005 (2006); BSN 2002 Iowa; MSN 2006 Iowa

**SQUIER, CHRISTOPHER A.**, Professor, Oral Path,Radiology&Medicine, 1975 (1980); BA 1963 Cambridge - England; MA 1967 Cambridge - England; PHD 1967 London Hospital - England

**SQUIRE, LARRY J.**, Clinical Associate Professor, Family Dentistry, 1978 (1983); BS 1972 St. Ambrose; DDS 1976 Iowa

**SRINIVASAN, PADMINI**, Professor, Management Sciences/Nursing/Computer Science, 1989 (2005); MSC 1978 Birla Inst of Tech and Science; PHD 1985 Syracuse

**STACHOWIAK, JAMES ROBERT**, Adjunct Lecturer, Counseling,Rehab & Stu Dev, 2010 (2010); BSE 2003 Michigan; MSE 2004 Michigan

**STAFFEY, KIMBERLY**, Clinical Assistant Professor, Internal Medicine/Radiology, 2007 (2010); MD 2001 Illinois, Rockford

**STAFFORD, HARALDINE A.**, Clinical Professor, Internal Medicine, 2001 (2010); BA 1975 Case Western Reserve; PHD 1981 Case Western Reserve; MD 1983 Case Western Reserve

**STAHLER, REBECCA S.**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2000 Iowa

**STAHLIN, ROBERT**, Adjunct Lecturer, Marketing, 2000 (2000); MBA 1999 Iowa

- STAHLY, DONALD P.**, Emeritus Professor, Microbiology, 1966 (1979); BS 1959 Ohio State; MS 1961 Ohio State; PHD 1964 Illinois
- STALEY, JOHN H.**, Adjunct Professor, Health Management & Policy, 1973 (2005); BA 1966 Cornell-Iowa; MA 1969 Iowa; PHD 1974 Iowa
- STALEY, ROBERT N.**, Professor, Orthodontics, 1970 (1985); BS 1957 Minnesota; DDS 1959 Minnesota; MA 1967 Chicago; MA 1970 State Univ of New York
- STALTER, TIMOTHY JOHN**, Associate Professor, Music, 1999 (1999); BA 1985 Goshen College; MM 1989 Illinois-Urbana; DMA 1996 Wisconsin-Madison
- STAMLER, JOHN FREDERIC**, Clinical Adjunct Instructor, Ophthalmology & Visual Science, 1996 (1996); PHD 1980 Iowa; MD 1982 Iowa
- STAMNES, MARK A.**, Associate Professor, Internal Medicine/Physiology, 1997 (2004); BS 1986 Washington; PHD 1992 California-San Diego
- STANDING, CHERYL**, Clinical Adjunct Assistant Professor, Pediatrics, 2004 (2004); BS 1978 Iowa; MD 1983 Iowa
- STANDISH, DOMINIC**, Adjunct Lecturer, Management & Organizations/Communication Studies/Journalism & Mass Communication, 2008 (2008); MA 2002 Kent, UK; PHD 2007 Kent, UK
- STANFORD, CLARK MITCHELL**, Professor, Biomedical Engineering/Prosthodontics/Orthopaedics and Rehabilitation/Clinical Research Resources, 1992 (2001); BS 1984 Iowa; DDS 1987 Iowa; PHD 1992 Iowa
- STANFORD, WILLIAM**, Emeritus Professor, Radiology, 1985 (1991); BSPH 1952 Iowa; MD 1956 Iowa
- STANGE, SCOTT WILLIAM**, Adjunct Instructor, Social Work, 2001 (2001); MSW 1993 Iowa
- STANGE, VON**, Adjunct Assistant Professor, Educ Policy & Leadership Studies, 2004 (2004); BS 1983 South Dakota; MED 1987 Texas Tech; EDD 2002 South Dakota
- STANIER, CHARLES O.**, Assistant Professor, Chemical & Biomedical Engineering, 2004 (2004); BSE 1994 Princeton; ME 1998 Johns Hopkins; PHE 2003 Carnegie Mellon
- STAPLES, LAWRENCE F.**, Emeritus Associate Professor, Internal Medicine, 1967 (1979); BS 1949 New Hampshire; MS 1950 New Hampshire; MD 1956 Iowa
- STAPLETON, ANNE MCKEE**, Lecturer, English, 2001 (2005); BS 1979 Kansas; BA 1991 Iowa; MA 1997 Iowa; PHD 2001 Iowa
- STAPLETON, JACK T.**, Professor, Internal Medicine, 1986 (1996); BA 1977 Iowa; MD 1980 Kansas
- STARCK, KENNETH**, Emeritus Professor, Journalism & Mass Communication, 1974 (1976); BA 1956 Wartburg; MA 1960 Missouri; PHD 1968 Southern Illinois
- STARK, CRAIG A.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1987 (1991); MD 1982 Wayne State
- STARK, DAVID WAYNE**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1977 Iowa
- STARK, THOMAS MICHAEL**, Adjunct Assistant Professor, Orthodontics, 2006 (2006); BS 1980 Iowa State; DDS 1983 Iowa; MS 1985 Baylor College of Dentistry
- STARLIN, CRYSTAL S.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 1999 Creighton
- STARNER, TIMOTHY DUANE**, Associate Professor, Pediatrics, 2001 (2010); BS 1987 Colorado State; BS 1991 Colorado State; MD 1995 Colorado-Denver
- STARRY, MARY J.**, Clinical Instructor, Pharmacy, 1991 (1991); BSPH 1980 Iowa
- STASHEFF, STEVEN F.**, Assistant Professor, Ophthalmology & Visual Science/Biomedical Engineering/Pediatrics, 2007 (2007); PHD 1991 Duke; MD 1992 Duke
- STAUFFER, GEORGE V.**, Professor, Microbiology, 1978 (1989); BS 1969 Pennsylvania State; MS 1974 Pennsylvania State; PHD 1976 Pennsylvania State
- STAUSS, HARALD MARTIN**, Associate Professor, Integrative Physiology, 2002 (2008); MD 1991 Heidelberg; PHD 1999 Humboldt
- STAY, BARBARA A.**, Emeritus Professor, Department of Biology, 1967 (1977); BA 1947 Vassar; MA 1949 Radcliffe; PHD 1953 Radcliffe
- STECOPOULOS, HARILAOS**, Associate Professor, English/American Studies, 1999 (2008); BA 1986 Oberlin; PHD 1999 Virginia

**STEELE, OLIVER**, Emeritus Professor, English, 1967 (1974);

**STEELMAN, VICTORIA JEAN**, Assistant Professor, Nursing, 1989 (2009); BSN 1979 Iowa; PHD 1997 Iowa

**STEENBLOCK, DOUGLAS F.**, Clinical Adjunct Assistant Professor, Psychiatry, 2001 (2001); MD 1992 Creighton

**STEGMANN, BARBARA JEAN**, Assistant Professor, Obstetrics & Gynecology, 2008 (2008); MD 1986 UMKC; MS 1989 Wright State, Dayton, OH; MPH 2005 North Carolina

**STEBBENS, JAMES A.**, Emeritus Professor, Pediatrics, 1967 (1984); BS 1962 Iowa State; PHD 1967 Iowa

**STEIN, MICHAEL F.**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1989 Creighton

**STEINBERG, ALLEN**, Associate Professor, History, 1991 (1993); BA 1972 Northwestern; MA 1974 Columbia; MPHIL 1975 Columbia; PHD 1983 Columbia

**STEINGREABER, KRISTIN A.**, Adjunct Instructor, Library & Information Science, 2009 (2009); BA 1977 Luther; MA 1993 UNI

**STELLWAGEN, EARLE C.**, Emeritus Professor, Biochemistry, 1964 (1973); BS 1955 Elmhurst; MS 1959 Northwestern; PHD 1963 California-Berkeley

**STELLWAGEN, NANCY C.**, Adjunct Professor, Biochemistry, 1993 (1993); BA 1956 Northwestern; MS 1958 California-Berkeley; PHD 1967 California-Berkeley

**STENSVAAG, JOHN-MARK**, Professor, Law-Faculty, 1987 (1987); BA 1969 Augsburg; JD 1974 Harvard

**STEPHEN, JENNY ARLENE**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); BS 2000 Iowa State; MD 2004 Iowa

**STEPHENS, BONNIE SUE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARM D 2001 Iowa

**STEPHENS, RALPH I.**, Professor, Mechanical Engineering, 1965 (1972); BS 1957 Illinois; MS 1960 Illinois; PHD 1965 Wisconsin

**STEPHENSON, STEPHEN R.**, Clinical Adjunct Professor, Pediatrics, 2008 (2008); MD 1973 California

**STERN, DAVID**, Professor, Philosophy, 1988 (2004); BA 1979 Oxford; MA 1980 Pittsburgh; MA 1982 California-Berkeley; PHD 1987 California-Berkeley

**STERN, FREDERICK**, Professor, Mechanical Engineering, 1983 (1995); BS 1975 Michigan; MS 1977 Michigan; PHD 1980 Michigan

**STERN, GERALD D.**, Emeritus Professor, Creative Writing, ();

**STERN, GERALD D.**, Emeritus Professor, Creative Writing, (1994);

**STEUBER, KELI RYAN**, Assistant Professor, Communication Studies, 2009 (2009); BA 2003 New Jersey; MA 2005 Delaware; PHD 2009 Pennsylvania State

**STEVENS, JESSICA**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DDS 2007 Colorado

**STEVENSON, CHAD BRUCE**, Adjunct Assistant Professor, Family Dentistry, 2010 (2010); DDS 1988 Iowa

**STEVENSON, ERIKA**, Adjunct Instructor, Linguistics, 2009 (2009); MA 2005 Iowa

**STEVENSON, RICHARD A.**, Emeritus Professor, Finance, 1967 (1976); BBA 1961 St. Bonaventure; MBA 1962 Syracuse; PHD 1965 Michigan State

**STEWART, DAVID E.**, Professor, Mathematics, 1998 (2006); BE 1983 Univ of Queensland-Australia; BSC 1983 Univ of Queensland-Australia; PHD 1990 Univ of Queensland-Australia

**STEWART, GARRETT**, Professor, English, 1992 (1992); BA 1967 USC; MPHIL 1970 Yale; PHD 1971 Yale

**STEWART, GREG L.**, Professor, Management & Organizations, 2002 (2008); BS 1993 Brigham Young; PHD 1993 Arizona State

**STEWART, KATHLEEN**, Associate Professor, Geography, 2007 (2010); BA 1982 McMaster; MS 1984 British Columbia; PHD 1999 Maine

**STEWART, MARY**, Emeritus Assistant Professor, Nursing, 1974 (1983);

**STEWART, ZOE**, Assistant Professor, Surgery, 2009 (2009); PHD 2000 Vanderbilt; MD 2002 Vanderbilt

**STEYERS JR, CURTIS M.**, Adjunct Professor, Orthopaedics and Rehabilitation, 1985 (1994); BS 1971 Bucknell; MD

1975 Temple

**STIER, AMY CHRISTINE**, Clinical Assistant Professor, Pediatrics, 2007 (2007); BA 1999 Minnesota; MD 2003 Iowa

**STIER, SERENA**, Adjunct Assistant Professor, Art & Art History/Law-Faculty, 2001 (2001); PHD 1967 Calif-Los Angeles; JD 1981 Iowa

**STIGLER, GEORGE LEE**, Adjunct Lecturer, Law-Faculty, 2005 (2005); BA 1972 Northern Iowa; JD 1975 Iowa

**STILLE, DALE E.**, Adjunct Instructor, Physics & Astronomy, 1999 (1999); BS 1975 Buena Vista; MS 1979 Iowa

**STINEMAN, ANITA M THOMAS**, Clinical Associate Professor, Nursing, 2001 (2004); BSN 1974 Iowa; MSN 1990 Missouri; PHD 2003 Iowa

**STINSKI, MARK F.**, Professor, Microbiology, 1973 (1983); BS 1964 Michigan State; MS 1966 Michigan State; PHD 1969 Michigan State

**STIPP, CHRISTOPHER**, Associate Professor, Physiology/Department of Biology, 2003 (2010); BS 1989 Indiana; PHD 1996 MA Institute of Tech

**STITES, ALISON E.**, Adjunct Lecturer, Management & Organizations, 2008 (2008); BA 2001 Washington; JD 2005 American University

**STOAKES, KIM M.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1986 Idaho State

**STOCK, SUZANNE E.**, Adjunct Assistant Professor, Orthodontics, 2009 (2009); AB 2003 Carleton; DDS 2007 Iowa; MS 2009 Iowa

**STOCKDALE, COLLEEN KENNEDY**, Clinical Associate Professor, Obstetrics & Gynecology, 2002 (2002); AA 1979 Penninsula; BSN 1984 Eastern Washington; BSN 1991 Pennsylvania; MD 1995 Pennsylvania

**STOCKREITER, ELKE E.**, Assistant Professor, History, 2008 (2008); MA 2001 London; PHD 2008 London

**STODOLA, AMY J.**, Adjunct Instructor, Family Dentistry, 2005 (2005); DDS 2000 Iowa

**STOKES, JOHN B.**, Professor, Internal Medicine, 1978 (1986); BS 1966 Gettysburg; MD 1971 Temple

**STOLPEN, ALAN HOWARD**, Associate Professor, Radiology, 1999 (1999); MD 1988 Harvard; PHD 1988 Harvard

**STOLTZ, DAVID**, Assistant Professor, Internal Medicine, 2007 (2008); BA 1993 Mississippi; PHD 1998 Louisiana State; MD 2000 Louisiana State

**STOLTZFUS, CONRAD M.**, Professor, Microbiology, 1979 (1985); BA 1966 Colorado; PHD 1971 Wisconsin

**STONE, ALBERT E.**, Emeritus Professor, American Studies/English, 1977 (1977); BA 1949 Yale; MA 1955 Columbia

**STONE, EDWIN M.**, Professor, Ophthalmology & Visual Science, 1990 (1997); BA 1978 Rice; PHD 1983 Baylor; MD 1985 Baylor

**STONE, ELIZABETH ANNE**, Assistant Professor, Chemistry, 2010 (2010); BA 2005 Grinnell; PHD 2009 Wisconsin-Madison

**STONE, GERALD L.**, Emeritus Professor, Psych & Quant Foundations, 1979 (1981); BA 1963 UCLA; BD 1966 Princeton Theological; MA 1970 Michigan State; PHD 1972 Michigan State

**STONE, MARY S.**, Professor, Dermatology/Pathology, 1986 (2002); BS 1978 Baylor; MD 1981 Baylor

**STONE, RICHARD ERIC**, Assistant Professor, Theatre Arts, 2008 (2008); BA 1989 Lewis & Clark; MFA 1994 Ohio

**STONER, JAMES**, Associate Professor, Urban & Regional Planning/Civil-Environmental Engineering, 1974 (1981); BS 1966 Iowa State; MS 1972 Iowa; PHD 1977 Northwestern

**STOREY, GLENN R.**, Associate Professor, Classics/Anthropology, 1994 (2002); BA 1980 Trinity-Oxford; MA 1985 Pennsylvania State; MA 1986 Oxford; PHD 1992 Pennsylvania State

**STORMOEN, DORIS J.**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); BS 1975 Wisconsin Stevens Pt; MS 1984 Wisconsin - Madison; PHD 1992 Wisconsin - Madison

**STRACK, STEFAN**, Associate Professor, Pharmacology, 2000 (2006); BS 1985 Wurzburg; MS 1988 State Univ of New York-Albany; PHD 1991 State Univ of New York-Albany

**STRAIT, STEVEN WAYNE**, Adjunct Assistant Professor, Art & Art History, 2010 (2010); BS 1976 Northwest Missouri State; MA 1979 Iowa; MFA 1981 Iowa

**STRAMER, OSNAT**, Associate Professor, Statistics & Actuarial Science, 1994 (2000); BSC 1979 Hebrew-Israel; MA 1984 Haifa; PHD 1993 Colorado State

**STRATHMAN, AMY E.**, Lecturer, Chemistry, 2004 (2004); PHD 2001 Colorado

**STRATHMAN, SHERI MARIE**, Adjunct Instructor, Pharmacy, 1998 (1998); MBA 1996 Dubuque

**STRATTON, JOHN R.**, Emeritus Associate Professor, Sociology, 1964 (1968); BA 1957 Illinois; MA 1959 Illinois; PHD 1963 Illinois

**STRATTON, MARGARET M.**, Professor, Art & Art History, 1986 (2000); BA 1977 Evergreen State; MA 1983 New Mexico; MFA 1985 New Mexico

**STRAUB-MORAREND, CHERYL LYNN**, Clinical Assistant Professor, Family Dentistry, 2003 (2003); DDS 2000 UMKC

**STRAUSS, JOHN S.**, Emeritus Professor, Dermatology, 1978 (1978); BS 1946 Yale; MD 1950 Yale

**STRAUSS, RONALD G.**, Emeritus Professor, Pediatrics/Pathology, 1976 (1980); BS 1961 Capital; MD 1965 Cincinnati

**STRAWHACKER, MARY ANN**, Clinical Adjunct Instructor, Nursing, 2003 (2003); BS 1983 Iowa; MPH 2002 Des Moines

**STREET, WILLIAM N.**, Professor, Computer Science/Management Sciences/Nursing, 1998 (2010); BA 1985 Drake; MS 1990 DePaul; PHD 1994 Wisconsin

**STREIT, JUDY ANN**, Clinical Assistant Professor, Internal Medicine, 1996 (2007); BS 1983 Iowa State; MD 1988 Iowa

**STRENG, DAVID JOSEPH**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1974 Iowa

**STRIEGEL, PHIL ALLEN**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 2010 (2010); BA 1978 Iowa; MA 1989 Iowa; PHD 2004 Iowa

**STRNAD, LYSE S.**, Clinical Adjunct Instructor, Ophthalmology & Visual Science, 1996 (1996); MD 1981 Case Western Reserve

**STROBEL, DEBRA JOAN**, Lecturer, Nursing, 2006 (2006); BSN 2002 Iowa; MSN 2004 Iowa

**STROHMER, GERHARD O.**, Professor, Mathematics, 1986 (1998); DIPL 1976 Gottingen; PHD 1978 Habilitation Inst Tech-Aachen

**STROMQUIST, HOWARD SHELTON**, Professor, History, 1982 (1992); BA 1966 Yale; MA 1973 Pittsburgh; PHD 1981 Pittsburgh

**STRONG, AARON M.**, Assistant Professor, Urban & Regional Planning, 2010 (2010); MS 1998 Colorado; MA 2001 Colorado; PHD 2004 Colorado

**STROYAN, KEITH**, Professor, Mathematics, 1973 (1982); BS 1967 Drexel Institute; PHD 1971 Calif Inst of Technology

**STRUNK, WILLIAM M II**, Adjunct Assistant Professor, Preventive & Community Dentistry, 1983 (1983); DDS 1973 Temple

**STRUVE, ANN RIESSELMAN**, Lecturer, Nursing, 2009 (2009); BSN 2005 Iowa; MSN 2009 Iowa

**STUART, SCOTT PHILIP**, Professor, Obstetrics & Gynecology/Psychiatry/Psychology, 1993 (2004); BS 1983 Kansas; MD 1987 Kansas

**STUART, SHANA L.**, Adjunct Instructor, Library & Information Science, 2004 (2004); BA 1982 Kansas; MA 1985 Kansas; PHD 1992 Kansas; AMLS 2001 Iowa

**STUBBLEFIELD, JOSHUA DAVID**, Clinical Adjunct Assistant Professor, Family Medicine, 2010 (2010); BS 2001 Brigham Young; DO 2005 Des Moines Univ - Osteopathic

**STUBBS, DAVID H.**, Clinical Adjunct Associate Professor, Orthopaedics and Rehabilitation, 1987 (2009); MD 1972 Missouri

**STUEFEN, SARA ELIZABETH**, Adjunct Instructor, Family Dentistry, 2010 (2010); DDS 2010 Iowa

**STUFFLEBEAM, MICHAEL DEAN**, Adjunct Assistant Professor, Pediatric Dentistry, 2002 (2002); DDS 2000 Iowa

**STUMBO, PHYLLIS JOY ERNST**, Adjunct Lecturer, Epidemiology, 1987 (1999); BS 1954 Morehead State; MS 1960 Ohio State University; PHD 1981 Iowa

**STUMP, AARON D.**, Associate Professor, Computer Science, 2008 (2008); BA 1997 Cornell; PHD 2002 Stanford

**STURDEVANT, RAY C.**, Clinical Adjunct Assistant Professor, Pediatrics, 1979 (1979); MD 1973 Loyola Stritch

**STURTZ, PAT DOUGLAS**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1977 Iowa

**STUTZMAN, MICHAEL L.**, Adjunct Lecturer, Management & Organizations, 2010 (2010); MBA 2000 St. Ambrose

**SUBRAMANIAN, RAMASWAMY**, Associate Professor, Biochemistry/Chemical & Biomedical Engineering/Physiology, 2000 (2003); MS 1987 Bharathidasan; PHD 1992 Indian Inst of Science

**SUBRAMANIAN, VENKITESWARAN**, Professor, Chemical & Biomedical Engineering, 2005 (2005); BS 1973 Bangalore; MS 1975 Bangalore; DR 1978 Indian Institute of Science

**SUCHANEK, GERRY L.**, Associate Professor, Finance, 1987 (1989); MS 1977 Northwestern; PHD 1977 Northwestern

**SUCHOMEL, TERESA L.**, Lecturer, Teaching and Learning, 2006 (2006); BA 1994 Northern Iowa; MA 2000 Marycrest International

**SUDA, DEBRA A.**, Clinical Associate Professor, Psychiatry, 1986 (2007); BS 1978 Iowa State; MD 1981 Iowa

**SUGG, SONIA**, Associate Professor, Surgery, 2007 (2007); MD 1988 California, UCLA

**SULENTIC, JOSEPH NICHOLAS**, Lecturer, Management & Organizations, 1998 (1999); MBA 1988 Iowa

**SULLIVAN, ANNE LORRAINE SELF**, Clinical Adjunct Associate Professor, Family Medicine, 1997 (2004); BS 1982 Iowa; MD 1986 Iowa

**SULLIVAN, DANIEL**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); DO 2000 Des Moines

**SULLIVAN, NICOLE M.**, Adjunct Instructor, Pharmacy, 2004 (2004); BSPH 1994 Drake

**SULLIVAN, SHANNON J.**, Clinical Associate Professor, Pediatrics, 2000 (2007); BS 1980 Wisconsin; MD 1985 Wisconsin

**SULS, JERRY M.**, Professor, Community & Behavioral Health/Psychology, 1990 (1990); BA 1968 Temple; MA 1971 Temple; PHD 1973 Temple

**SUMMERS, ROBERT W.**, Emeritus Professor, Internal Medicine, 1970 (1983); BS 1961 Michigan State; MD 1965 Iowa

**SUN, LIZHI**, Adjunct Associate Professor, Civil-Environmental Engineering, 1999 (2004); BS 1987 Zhejiang; MS 1990 Beijing; PHD 1998 California-Los Angeles

**SUN, SHILIANG**, Clinical Associate Professor, Radiology, 1993 (2001); MD 1987 Dalian

**SUNDERLAND, JOHN**, Associate Professor, Physics & Astronomy/Radiation Oncology/Radiology, 2008 (2008); PHD 1990 Wisconsin - Madison

**SUNEJA, MANISH**, Clinical Assistant Professor, Internal Medicine, 2006 (2006); MD 1998 Armed Forces, Pune India

**SUNSTEIN, BONNIE S.**, Professor, English/Teaching and Learning, 1992 (2003); BS 1968 Boston; MED 1975 Boston; PHD 1991 New Hampshire

**SUTHERLAND, JOHN E.**, Clinical Adjunct Professor, Family Medicine, 1992 (1992); MD 1962 Minnesota

**SUTOWSKI, ANTHONY**, Adjunct Assistant Professor, Art & Art History, 2000 (2000); BA 1986 Cleveland State; MFA 1987 Ohio University

**SUTPHIN, JOHN E.**, Emeritus Professor, Ophthalmology & Visual Science, 1993 (1997); BS 1970 Millsap; MD 1974 Vanderbilt

**SUTTERWALA, FAYYAZ SHIRAZ**, Assistant Professor, Internal Medicine, 2007 (2007); BS 1992 Washington; MD 2000 Temple

**SUZUKI, YOSHIKAZU**, Clinical Assistant Professor, Cardiothoracic Surgery, 2009 (2009); MD 1991 Tokyo

**SVEC, BARRY R.**, Adjunct Instructor, Preventive & Community Dentistry, 1995 (1995); DDS 1989 Iowa

**SWAIN, ELISABETH ANN**, Lecturer, Biochemistry, 1995 (2004); PHD 1993 Iowa

**SWAN, COLBY C.**, Professor, Civil-Environmental Engineering, 1993 (2006); BS 1983 Maine; MS 1985 Miami; PHD 1993 Princeton

**SWANSON, DAVID E.**, Clinical Assistant Professor, Anesthesia, 2002 (2002); BA 1986 Northern Iowa; MD 1991 Iowa

**SWANSON, ELIZABETH ANNE**, Associate Professor, Nursing, 1974 (1981); BSN 1969 Iowa; MA 1975 Iowa; PHD 1986 Iowa

**SWANSON, STEPHEN**, Professor, Music, 1994 (2002); BM 1968 North Park; MM 1971 Northwestern

**SWANSON, THOR DAVID**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); MDIV 1992 Lutheran



School of Theology; MD 1997 Wisconsin

**SWAYZE, VICTOR WARREN II**, Associate Professor, Psychiatry, 1988 (1995); BS 1976 Union-Nebraska; MD 1979 Loma Linda

**SWEGLE, JAMES ROBERT**, Clinical Adjunct Assistant Professor, Surgery, 2009 (2009); MD 1985 Iowa

**SWEGLE, JOHN MATTHEW**, Clinical Associate Professor, Pharmacy, 1997 (2006); BS 1992 Drake; PHARMD 1996 Iowa

**SWENSEN, COLE**, Professor, Cinema & Comparative Literature/English/Creative Writing, 2001 (2007); BA 1980 San Francisco State; MA 1983 San Francisco State; PHD 1994 California-San Francisco

**SWENSON, ANDREA**, Clinical Assistant Professor, Neurology, 2008 (2008); BA 1999 Colorado College; MD 2003 North Dakota

**SWENSON, CHARLES A.**, Emeritus Professor, Biochemistry, 1960 (1972); BS 1955 Gustavus Adolphus; PHD 1959 Iowa

**SWENSON, DALE C.**, Adjunct Assistant Professor, Chemistry, 1994 (1994); BS 1973 Iowa; PHD 1979 Iowa

**SWENSON, DAVID**, Adjunct Lecturer, Urban & Regional Planning, 2010 (2010); MA 1985 Iowa

**SWENSON, TERI L.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHAR 2006 Drake

**SWETT, ALAN**, Adjunct Instructor, Operative Dentistry, 1999 (1999); BS 1980 Iowa; DDS 1983 Iowa

**SWETT, KEENE**, Emeritus Professor, Geoscience, 1966 (1974); BS 1955 Tufts; MS 1961 Colorado; PHD 1965 Edinburgh, Scotland

**SWICK, BRIAN LESTER**, Clinical Assistant Professor, Dermatology/Pathology, 2007 (2007); BS 1996 Iowa State; MD 2001 Iowa

**SWOBODA, EILEEN D.**, Adjunct Instructor, Social Work, 2000 (2000); BA 1971 Mary Washington; MSW 1991 Iowa

**SYED, NASREEN A.**, Assistant Professor, Ophthalmology & Visual Science/Pathology, 2002 (2002); BA 1989 Missouri-Kansas City; MD 1990 Missouri-Kansas City

**SYNAN, WILLIAM J.**, Clinical Professor, Oral & Maxillofacial Surgery, 1994 (2006); BS 1979 Fordham; DDS 1983 Columbia

**SYRBU, SERGEI I.**, Clinical Associate Professor, Pathology, 2004 (2010); MD 1982 Chishinau Moldova; PHD 1987 Moscow, USSR

**SYROP, CRAIG H.**, Professor, Obstetrics & Gynecology, 1986 (1997); MD 1980 Virginia

**SZABO, ELLEN**, Adjunct Instructor, Social Work, 2000 (2000); MED 1986 Columbia

**SZECSEI, DENISE**, Adjunct Assistant Professor, Mathematics, 2007 (2007); BS 1985 Redlands, CA; MS 1995 Florida State; PHD 2000 Florida State

**SZELUGA, DEBRA J.**, Clinical Associate Professor, Anesthesia/Urology, 1999 (2007); BS 1975 Maine; PHD 1985 Cornell; MD 1993 Rush

**SZERTICS, JOSEPH**, Emeritus Professor, Spanish & Portuguese, 1967 (1975); MA 1957 Madrid-Spain; PHD 1962 Madrid-Spain

**SZESZYCKI, DONALD J.**, Adjunct Lecturer, Economics, 2001 (2001); MA 1980 Northern Illinois

**SZOT, JOSEPH F.**, Clinical Associate Professor, Internal Medicine, 2003 (2009); BS 1990 St Bonaventure; MD 1994 Rochester, NY

**TABOR, ANNE S.**, Adjunct Assistant Professor, Epidemiology, 2003 (2003); BS 1975 Iowa State; MPH 1979 Minnesota

**TACHAU, KATHERINE H.**, Professor, History, 1985 (1993); BA 1972 Oberlin; MA 1975 Wisconsin; PHD 1981 Wisconsin

**TAKACS, ELIZABETH BROGHAMMER**, Clinical Assistant Professor, Urology, 2006 (2006); MD 1999 Iowa

**TAKACS, MICHAEL EDWARD**, Clinical Assistant Professor, Emergency Medicine, 2006 (2006); MS 1989 SUNY @ Buffalo; MD 2001 Loyola

**TAKAHASHI, GAIL A.**, Adjunct Assistant Professor, Communication Sciences and Disorders, 2002 (2003); AB 1978 Occidental; MA 1982 California-San Diego; PHD 1990 Iowa

**TALBOTT, ALBERT D.**, Emeritus Professor, Journalism & Mass Communication, 1967 (1975); BS 1958 Iowa State; MA 1961 Michigan State; PHD 1968 Michigan State

**TALMAN, WILLIAM T.**, Professor, Neurology, 1983 (1990); BA 1966 Virginia Military Institute; MD 1970 Virginia

**TAMBOLI, CYRUS**, Assistant Professor, Internal Medicine, 2004 (2006); BS 1989 Guelph, Canada; BA 1990 Western Ontario; BSPT 1992 Queen's UNI@ Kingston; MD 1997 Alberta@Edmonton

**TAN, AIXIN**, Assistant Professor, Statistics & Actuarial Science, 2009 (2009); BS 2003 Peking; MS 2005 Florida; PHD 2009 Florida

**TAN, KAI**, Assistant Professor, Biomedical Engineering/Internal Medicine, 2008 (2008); PHD 2004 Washington, St. Louis

**TANG, QIHE**, Associate Professor, Statistics & Actuarial Science, 2006 (2008); BS 1995 Anhui Univ; MS 1998 Anhui Univ; PHD 2001 U of Science & Tech - China

**TANG, WENFANG**, Professor, Political Science, 2009 (2009); BA 1982 Peking; MA 1985 Kansas; PHD 1990 Chicago

**TANNOUS, RAYMOND**, Associate Professor, Pediatrics, 1977 (1982); MD 1971 France

**TANSEY, JANETA FONG**, Clinical Adjunct Associate Professor, Psychiatry, 1999 (2004); MD 1995 Loyola

**TANSEY, MICHAEL J.**, Clinical Associate Professor, Pediatrics, 2001 (2006); BS 1991 Creighton; MD 1995 Loyola

**TARBOX, MARY P.**, Adjunct Assistant Professor, Nursing, 1988 (1988); BSN 1974 Mt. Mercy; MSN 1977 Minnesota; EDD 1986 Columbia

**TARDY, DWIGHT C.**, Emeritus Professor, Chemistry, 1969 (1980); BA 1962 San Diego State; PHD 1967 Washington

**TARVYDAS, VILIA MARIE**, Professor, Counseling, Rehab & Stu Dev, 1991 (2002); BA 1971 Northwestern; MS 1975 Wisconsin-Milwaukee; PHD 1987 Wisconsin-Madison

**TATE, JODI**, Clinical Associate Professor, Psychiatry, 2001 (2004); BS 1992 North Dakota State; MD 1996 North Dakota

**TAWHAI, MERRYN HOWATSON**, Adjunct Associate Professor, Biomedical Engineering, 2006 (2006); BE 1994 Auckland; ME 1996 Auckland; PHD 2001 Auckland

**TAYLOR, ALEXANDER**, Adjunct Lecturer, Management & Organizations, 2009 (2009); BA 1988 Iowa; MA 1989 Iowa

**TAYLOR, AMY M.**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2000 Iowa

**TAYLOR, CHARLES E.**, Adjunct Instructor, Family Medicine, 2008 (2008); BA 1965 Northern Iowa; MA 1969 Northern Iowa

**TAYLOR, CHRISTINA LINN HARLESS**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); MD 2003 Iowa

**TAYLOR, JANETTE YVETTE**, Associate Professor, Nursing, 2000 (2006); BSN 1978 Lebanon Vally; MSN 1982 Pennsylvania; PHD 1998 Washington

**TAYLOR, JOAN BESSMAN**, Assistant Professor, Library & Information Science, 2007 (2007); BA 1993 Spring Hill; MED 1995 U of South Alabama; AMLS 2000 Southern Mississippi; PHD 2007 Illinois @ Champaign

**TAYLOR, LAURA ELLEN BRATVOLD**, Adjunct Lecturer, Management & Organizations, 2009 (2009); BS 1987 Iowa; MBA 1993 Iowa

**TAYLOR, LAURIE W.**, Adjunct Assistant Professor, Occupational & Environmental Health, 2003 (2003); BS 1981 Wilkes Penn; MS 1989 Iowa State

**TAYLOR, MARJORIE ANN**, Adjunct Assistant Professor, Endodontics, 2002 (2002); BA 1966 Iowa; MS 1971 Iowa; DDS 1977 Iowa

**TEAGUE, MICHAEL L.**, Professor, Integrative Physiology/Community & Behavioral Health, 1975 (1988); BA 1968 Colorado State; MED 1969 Colorado State; EDD 1976 Northern Colorado

**TEAHEN, PETER R.**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 2009 (2009); AS 1974 Worsham Coll Mortuary Science; BA 1985 Coe

**TEALE, KEVIN J.**, Adjunct Lecturer, Community & Behavioral Health, 2003 (2003); BS 1978 Bradley; MA 1981 Illinois

**TEARSE, DAVID S.**, Clinical Adjunct Associate Professor, Orthopaedics and Rehabilitation, 1989 (1996); MD 1983 Wisconsin-Madison

**TEITLE, JENNIFER REBECCA**, Adjunct Instructor, Library & Information Science, 2010 (2010); BS 1999 Western IL; MS 2006 Western IL

**TELANDER, TINA**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1990 Iowa

**TEMPLE, SCOTT D.**, Clinical Professor, Psychiatry, 1999 (2005); BA 1974 Oregon; PHD 1980 Temple; MS 1998 Kansas

**TEMPLE, THOMAS RONALD**, Adjunct Assistant Professor, Pharmacy, 1994 (1994); MS 1977 Iowa

**TEOH, LAI TEE**, Adjunct Assistant Professor, Radiation Research Laboratory, 2010 (2010); PHS 2005 Alberta, Canada

**TEPHLY, THOMAS R.**, Emeritus Professor, Pharmacology, 1971 (1971); BS 1957 Connecticut; PHD 1962 Wisconsin; MD 1965 Minnesota

**TERSHAK, CAROL A.**, Clinical Adjunct Assistant Professor, Family Medicine, 2004 (2004); BA 1974 St. Louis Univ; PHD 1982 Oklahoma State

**TEWSON, TIMOTHY**, Professor, Radiology/Radiation Oncology, 2000 (2000); PHD 1972 London

**THACHENKARY, CHERIAN SEBASTIAN**, Adjunct Associate Professor, Management Sciences, 2008 (2008); BSC 1973 Toronto, Canada; MS 1975 Waterloo, Canada; PHD 1981 Waterloo, Canada

**THAGGERT, MIRIAM**, Associate Professor, English/African-American Studies, 2006 (2010); BA 1993 Harvard/Radcliffe; PHD 2003 California, @ Berkeley

**THANGARAJ, YUVARAJ**, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); BA 1995 Stanley Medical; MBBS 2001 Stanley Medical

**THAYER, DAVID L.**, Emeritus Professor, Theatre Arts, 1955 (1968); BS 1952 Lewis and Clark; MA 1955 Iowa; PHD 1960 Iowa

**THAYER, KEITH E.**, Emeritus Professor, Prosthodontics, 1955 (1963); BA 1951 Cornell; DDS 1955 Iowa; MS 1956 Iowa

**THEDENS, DANIEL ROSS**, Assistant Professor, Radiology/Electrical-Computer Engineering, 1999 (1999); BS 1989 Iowa; MS 1993 Iowa; PHD 1999 Stanford

**THEISEN, WILLIAM M.**, Emeritus Associate Professor, Social Work, 1975 (1975); BA 1960 Loras; MSW 1968 Washington-Missouri; PHD 1972 Washington-Missouri

**THELANDER, KRISTIN**, Professor, Music, 1989 (1995); BM 1976 St. Olaf; MA 1978 Minnesota; DMA 1987 Wisconsin-Madison

**THENUWARA, HENNADIGE NANDASIRI**, Lecturer, Economics, 2008 (2008); PHD 1997 Iowa

**THENUWARA, KOKILA**, Clinical Assistant Professor, Anesthesia, 2004 (2004); MBBS 1991 N Colombo Med, Sri Lanka; MD 2002 Uni Colombo, Sri Lanka

**THEOBALD, JEAN A.**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1989 Drake

**THEOBALD, MICHAEL T.**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1980 Iowa

**THERRIEN, WILLIAM J.**, Associate Professor, Teaching and Learning, 2006 (2009); BA 1993 Penn State; MED 1998 Arizona State; PHD 2004 Penn State

**THIBODEAUX, SAMUEL JOSEPH**, Clinical Adjunct Instructor, Nursing, 2008 (2008); BSN 2000 Iowa; MSN 2005 Iowa

**THIEMAN, COREY J.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARM D 2004 Creighton

**THIES, BRENDA JANE**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 1983 Northern Iowa; BS 1987 Iowa

**THIES, CAMERON G.**, Associate Professor, Political Science, 2008 (2008); BS 1991 Nebraska; BA 1991 Nebraska @ Lincoln; MA 1993 Nebraska; PHD 1999 Arizona State

**THIES, PATRICK WILLIAM**, Adjunct Assistant Professor, Pharmacy, 1982 (1983); MS 1981 Iowa

**THOMA, KATE DUCHENE**, Clinical Assistant Professor, Family Medicine, 2010 (2010); BA 2001 St. Thoma, MN; MD 2005 Iowa

**THOMAS, ALEXANDRA**, Clinical Associate Professor, Internal Medicine, 2001 (2006); AB 1987 Princeton; MD 1995 Johns Hopkins

**THOMAS, BARBARA SCHALK**, Emeritus Professor, Nursing, 1971 (1980); BS 1951 Iowa State; MA 1964 Iowa; PHD

1968 Iowa

**THOMAS, BARRETT**, Associate Professor, Management Sciences, 2002 (2009); BA 1996 Grinnell; MS 1999 Michigan; PHD 2002 Michigan

**THOMAS, CAROLE L.**, Emeritus Associate Professor, Music, 1970 (1977); BS 1964 Northern Illinois; MM 1966 Northern Illinois; MS 1968 Northern Illinois

**THOMAS, CHRISTIE**, Professor, Internal Medicine, 1992 (2005); MBBS 1982 Madras

**THOMAS, DAVID L.**, Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); BA 1970 Iowa; MD 1974 Iowa

**THOMAS, DOWNING A.**, Professor, International Programs/French & Italian, 1991 (2004); BA 1984 Washington; MA 1987 New York; PHD 1991 New York

**THOMAS, GEB W.**, Associate Professor, Industrial Engineering, 1997 (2005); BS 1989 State Univ of NY-Stony Brook; MS 1995 Pennsylvania State; PHD 1996 Pennsylvania State

**THOMAS, JON GREGORY**, Clinical Adjunct Assistant Professor, Family Medicine, 1992 (2002); BS 1976 Iowa; MD 1982 Iowa

**THOMAS, JOSS JOHN**, Clinical Assistant Professor, Anesthesia, 2006 (2009); MBBS 1994 St. John's Medical; MPH 1999 Johns Hopkins

**THOMAS, JULIANNE H.**, Clinical Adjunct Assistant Professor, Pediatrics, 1976 (1976); MD 1971 Nebraska

**THOMAS, KARL WILLIAM**, Clinical Associate Professor, Internal Medicine, 2001 (2006); BA 1991 Williams; MD 1995 Johns Hopkins

**THOMAS, MICHAEL STEVEN**, Adjunct Associate Professor, Family Dentistry, 1982 (2000); BS 1977 Iowa; DDS 1981 Iowa

**THOMAS, SHERYL LYNN MILLER**, Clinical Adjunct Assistant Professor, Nursing, 1974 (1980); BSN 1971 Iowa; MA 1977 Iowa

**THOMAS, TAMMARA PETRILL**, Lecturer, Counseling, Rehab & Stu Dev, 2010 (2010); BA 1997 Southern Illinois; MA 2000 Southern Illinois

**THOMPSON, BRAD HOWARD**, Associate Professor, Radiology, 1990 (1996); BA 1981 Luther; MD 1986 Iowa

**THOMPSON, DUANE E.**, Emeritus Professor, Management & Organizations, 1969 (1987); BS 1953 Iowa State; MS 1954 Iowa State; PHD 1969 Iowa

**THOMPSON, EDWARD S.**, Clinical Professor, Anesthesia/Nursing, 1998 (2005); BA 1970 Cincinnati; MS 1973 North Dakota; BSN 1975 North Dakota; PHD 1997 Minnesota

**THOMPSON, EDWARD PENDLETON**, Adjunct Assistant Professor, Division of Interdisciplinary Program, 2009 (2009); BFA 2003 Tisch School of the Arts; BA 2003 Tisch School of the Arts; MFA 2009 Iowa

**THOMPSON, GREGORY ROBERT**, Adjunct Lecturer, College Transition/General University College, 2008 (2008); BS 2000 Eastern Illinois; MA 2002 Missouri - Columbia

**THOMPSON, H STANLEY**, Emeritus Professor, Ophthalmology & Visual Science, 1967 (1976); BA 1953 Minnesota; MD 1961 Minnesota; MS 1966 Iowa

**THOMPSON, JON**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1998 Iowa

**THOMPSON, JONATHAN GLENN**, Clinical Adjunct Assistant Professor, Pathology, 2009 (2009); MD 2002 Iowa

**THOMPSON, KATHRYN ANNE**, Adjunct Instructor, Communication Sciences and Disorders, 2008 (2008); AA 1988 Des Moines Comm Coll; BS 1994 Iowa State

**THOMPSON, KATHRYN MARIE**, Adjunct Instructor, Communication Sciences and Disorders, 2008 (2008); BA 2001 Iowa; MA 2003 Michigan State

**THOMPSON, MICHAEL L.**, Adjunct Instructor, Social Work, 1995 (1995); BA 1970 Missouri; MPA 1976 Missouri

**THOMPSON, NANCY J.**, Associate Professor, Community & Behavioral Health, 1980 (1986); BS 1969 California State-Stanislaus; MS 1971 Columbia; MPHIL 1974 Columbia; PHD 1979 Columbia

**THOMPSON, SCOTT A.**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); BS 1990 Drake; PHARMD 1994 Drake

**THOMSEN, DAVID J.**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 1991 Iowa; BSPH 1991 Iowa

**THOMSEN, TERI**, Clinical Assistant Professor, Neurology, 2007 (2007); MD 2001 Iowa

**THOMSEN, TIMOTHY ALAN**, Clinical Professor, Surgery/Orthopaedics and Rehabilitation, 1976 (2004); MD 1974 Iowa

**THORESON, JOSEPH D.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1979 (1979); MD 1969 Iowa

**THORNE, PETER S.**, Professor, Civil-Environmental Engineering/Occupational & Environmental Health, 1988 (1997); BS 1978 Wisconsin-Madison; MS 1980 Wisconsin-Madison; PHD 1984 Wisconsin-Madison

**THORNSTEINSON, K A.**, Adjunct Instructor, Preventive & Community Dentistry, 1990 (1990); BS 1982 Iowa

**THORNTON, DAVID**, Clinical Adjunct Assistant Professor, Pediatrics, 2003 (2003); BS 1976 Cornell; DO 1979 UNI OF Osteopathic Medicine

**THORODDSEN, ASTA STEINUNN**, Adjunct Instructor, Nursing, 1999 (1999); MSN 1989 Rochester

**THROGMORTON, JAMES A.**, Emeritus Professor, Urban & Regional Planning, 1986 (2004); BA 1966 Notre Dame; MS 1972 Louisville; PHD 1983 California-Los Angeles

**THUNHORST, ROBERT LOUIS**, Adjunct Assistant Professor, Psychology, 1993 (1998); BA 1979 Iowa; PHD 1987 Washington

**TIBBITTS, THOMAS FRANK**, Adjunct Lecturer, Health Management & Policy, 1995 (1995); MA 1970 Iowa

**TIERNEY, LUKE**, Professor, Statistics & Actuarial Science, 2002 (2002); BA 1977 Johns Hopkins; MA 1977 Johns Hopkins; MA 1979 Cornell; PHD 1980 Cornell

**TIERNEY, SARAH BETH**, Adjunct Assistant Professor, Pharmacy, 2007 (2009); BS 1999 Iowa State; PHARM D 2007 Iowa

**TIESI, MICHAEL JOSEPH**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1982 Creighton

**TILUS, SHERYL**, Adjunct Instructor, Nursing, 2002 (2002); BS 1980 Oral Roberts; MS 1999 Phoenix

**TIMMONS, SHERRY RENE**, Clinical Assistant Professor, Oral Path,Radiology&Medicine, 2002 (2002); BA 1991 Augustana; DDS 1995 Iowa; PHD 2001 Iowa

**TIMOFEYEV, OLEG VITALYEVIH**, Adjunct Assistant Professor, International Programs, 1998 (1999); MS 1985 MOSCOW CHEMICAL ENGINEERING; MA 1993 SOUTHERN CALIFORNIA; PHD 1999 DUKE

**TINELLI, CESARE**, Associate Professor, Computer Science, 1999 (2005); MS 1995 Illinois-Urbana; PHD 1999 Illinois-Urbana

**TING, NELSON**, Assistant Professor, Anthropology, 2008 (2008); BA 1999 Washington @ St. Louis; MA 2001 Missouri @ Columbia; PHD 2008 CUNY

**TINKER, A JAMES**, Adjunct Lecturer, Health Management & Policy, 1983 (1983); MHA 1967 Michigan

**TINKER, JOHN H.**, Adjunct Professor, Nursing, 2005 (2005); BS 1964 Cincinnati

**TINKHAM, ANDREW CHARLES**, Adjunct Lecturer, Management & Organizations, 2003 (2003); BA 1989 Wisconsin; MA 1999 Iowa

**TINKLER, GREGORY**, Adjunct Assistant Professor, Psychology, 2009 (2009); BA 1997 Illinois Wesleyan; PHD 2005 Wake Forest

**TIPPIN, JON M.**, Clinical Associate Professor, Neurology, 1999 (2004); BS 1975 George Fox; MD 1979 Oregon

**TITLER, MARITA GERIANNE**, Adjunct Professor, Nursing, 1987 (2001); BS 1974 Mt. Mercy; MA 1978 Iowa; PHD 1992 Iowa

**TITZE, INGO R.**, Professor, Communication Sciences and Disorders/Music/Biomedical Engineering, 1979 (1984); BS 1963 Utah; MSEE 1965 Utah; PHD 1972 Brigham Young

**TIVANSKI, ALEXEI V.**, Assistant Professor, Chemistry, 2007 (2007); BS 1999 Moscow Inst. of Physics & Tech; MS 2001 Moscow Inst. of Physics & Tech; PHD 2005 Pittsburgh

**TIWARI, ASHISH**, Associate Professor, Finance, 1997 (2006); BSC 1982 Kurukshetra; MBA 1984 Panjab; MBA 1989 Windsor; PHD 1994 Iowa

**TODD, MICHAEL M.**, Professor, Anesthesia, 1986 (1990); BA 1971 Chicago; MD 1975 Chicago

**TOLBERT, CAROLINE J.**, Professor, Political Science, 2006 (2009); BA 1989 California; MA 1991 Colorado-Boulder; PHD 1996 Colorado-Boulder

**TOMANEK, ROBERT J.**, Emeritus Professor, Anatomy & Cell Biology, 1972 (1982); BS 1959 Omaha; MA 1960 Iowa; PHD 1967 Iowa

**TOMASINI, WALLACE J.**, Professor, Art & Art History, 1957 (1964); BA 1949 Michigan; MA 1950 Michigan; PHD 1953 Michigan

**TOMBLIN, J BRUCE**, Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1972 (1984); BA 1966 LaVerne; MA 1967 Redlands; PHD 1970 Wisconsin

**TOMKOVICZ, JAMES J.**, Professor, Law-Faculty, 1981 (1986); BA 1973 Southern California; JD 1976 Calif-Los Angeles

**TOMOVA, MADLENA**, Assistant Professor, Mathematics, 2005 (2005); BS 1999 California Luthern; MA 2002 Calif @ Santa Barbara; PHD 2005 Calif. @ Santa Barbara

**TON-THAT, TUONG**, Professor, Mathematics, 1975 (1983); MA 1971 Calif-Irvine; PHD 1974 Calif-Irvine

**TONKYN, DIANE L.**, Adjunct Instructor, Social Work, 2000 (2000); MS 1987 Loyola Marymount

**TONN, MARLA RAE BARTELL**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1987 Iowa

**TOOK, KEVIN J.**, Clinical Adjunct Associate Professor, Psychiatry, 1999 (2008); MD 1985 St Louis

**TOOTLE, TINA LOUISE**, Assistant Professor, Anatomy & Cell Biology, 2009 (2009); BS 1998 Maryland; PHD 2004 Massachusetts Inst of Tech

**TORNER, JAMES C.**, Professor, Epidemiology/Education/Surgery/Neurosurgery, 1991 (1993); BS 1971 Iowa; MS 1974 Iowa; PHD 1984 Iowa

**TORTORA, MICHAEL R.**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1995 Iowa

**TORWEL, VITALIS**, Adjunct Assistant Professor, Journalism & Mass Communication, 2007 (2007); BA 1992 Urbanian University, Rome, Ita; MA 2003 Iowa; PHD 2007 Iowa

**TOTH, KERI M.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BSC 1999 Slipper Rock Univ; PHARMD 2004 Ohio State

**TOWNSEND, ORVILLE H.**, Adjunct Lecturer, Counseling, Rehab & Stu Dev, 1976 (1994); MA 1970 Iowa

**TOWNSEND-BELL, ERICA E.**, Assistant Professor, Political Science, 2007 (2007); BA 2001 Xavier Univ of Louisiana; MA 2003 Washington Univ, St Louis; PHD 2007 Washington Univ, St Louis

**TRACHSEL, MARY C.**, Associate Professor, Rhetoric, 1989 (1996); BA 1975 Iowa; MA 1980 Pennsylvania State; PHD 1987 Texas-Austin

**TRACY, CHAD**, Clinical Assistant Professor, Urology, 2009 (2009); BS 1999 Richmond; MD 2003 Iowa

**TRAN, THINH D.**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2008 Iowa

**TRANEL, DANIEL THOMAS**, Professor, Neurology/Psychology, 1986 (1994); BA 1979 Notre Dame; MA 1981 Iowa; PHD 1982 Iowa

**TRANK, DOUGLAS M.**, Emeritus Professor, Rhetoric, 1974 (1987); BA 1967 Kearney State; MA 1970 Kearney State; PHD 1973 Utah

**TRAPANE, PAMELA LYN SMITH**, Clinical Associate Professor, Pediatrics, 2009 (2009); MD 1996 Texas @ San Antonio

**TREACY, JOURNEY**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2004 Iowa

**TREAT, TERESA ANN**, Associate Professor, Psychology, 2010 (2010); BA 1991 Indiana; PHD 2000 Indiana

**TREFZ, STEPHEN E.**, Adjunct Assistant Professor, Social Work, 1988 (1989); MSW 1979 Iowa

**TRENKAMP, PATTI SUE ROSE**, Adjunct Associate Professor, Pharmacy, 2002 (2002); PHARMD 2001 Iowa

**TREWET, CORALYNN BECKER**, Clinical Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2003 Drake; MS 2005 Kansas

**TRIMBLE, RICHARD B.**, Clinical Adjunct Associate Professor, Internal Medicine, 1977 (1986); MD 1966 Baylor

**TRIPLETT, CHAD A.**, Adjunct Assistant Professor, Pharmacy, 2006 (2006); PHARMD 1997 Creighton

**TRITLE, TRACY RENEE LACOCK**, Adjunct Lecturer, Management & Organizations, 2010 (2010); BA 1988 Iowa

**TRITTEN, REBECCA LYNN**, Adjunct Assistant Professor, Theatre Arts, 2007 (2007); BA 2000 Iowa; MFA 2007 Iowa

**TROUT, CHRISTINA JO**, Clinical Adjunct Instructor, Nursing, 1998 (1998); BSN 1988 Iowa; MSN 1997 Iowa

**TROUT, ROBERT KEVIN**, Adjunct Lecturer, Accounting, 2006 (2006); MA 1980 Nebraska; MAC 2003 Iowa

**TROUTMAN, BETH RENEE**, Clinical Associate Professor, Psychiatry, 1989 (2005); BA 1981 Creighton; MA 1984 Iowa; PHD 1988 Iowa

**TROWBRIDGE, CONNIE LOU**, Clinical Assistant Professor, Nursing, 1993 (2002); BSN 1970 Iowa; MA 1991 Iowa

**TROXELL, CHRISTINE MARIE**, Adjunct Instructor, Communication Sciences and Disorders, 2002 (2002); BS 1978 Wisconsin-Oshkosh; MS 1978 Wisconsin-Oshkosh

**TROYER, RICHARD**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); BA 1977 Pacific Lutheran, Washington; DDS 1983 Washington

**TRUBOWITZ, LARA ANDREYA**, Assistant Professor, English, 2002 (2002); BA 1988 Vassar; MA 1991 Edinburgh, Scotland; PHD 2001 Iowa

**TRUE, DOUGLAS K.**, Adjunct Lecturer, General University College, 2009 (2009); BS 1971 Iowa; MBA 1976 Drake

**TRUMBULL, DEANNA**, Adjunct Lecturer, Management & Organizations, 2003 (2003); BA 1988 Northern Iowa

**TRUMM, JILL MARIE**, Adjunct Lecturer, College Transition, 2009 (2009); MFA 2006 St. Mary's College of CA

**TRYGSTAD, LARK J.**, Adjunct Instructor, Nursing, 1999 (1999); MA 1997 St Catherine

**TSACHOR, RACHELLE PALNICK**, Adjunct Assistant Professor, Music, 2001 (2001); BFA 1985 Juilliard; MA 1989 City University of New York

**TSACHOR, URIEL**, Professor, Music, 1988 (2000); BM 1980 Tel Aviv-Isreal; MM 1983 Juilliard; DMA 1987 Juilliard

**TSALIKIAN, EVA**, Professor, Pediatrics, 1983 (2004); MD 1973 Athens-Greece

**TSE, KENNETH T.**, Associate Professor, Music, 2002 (2006); BM 1996 Indiana; MM 1998 Indiana; DMA 2008 University of Illinois

**TSEMO, BRIDGET HARRIS**, Assistant Professor, Rhetoric/African-American Studies, 2004 (2006); BA 1993 Illinois-Chicago; MA 1999 Illinois@Chicago; PHD 2005 Illinois-Chicago

**TU, SHIN-ING JEREMY**, Adjunct Assistant Professor, Operative Dentistry, 2001 (2001); BS 1980 Chinese Culture; DDS 1994 Iowa; MS 1996 Iowa

**TUBBS, RICHARD M.**, Emeritus Associate Professor, Accounting, 1988 (1994); BA 1971 Kalamazoo; MA 1973 Illinois State; MS 1983 Illinois State; PHD 1988 Florida

**TUBBS, TRAVISS ALLEN**, Adjunct Assistant Professor, Pharmacy, 2010 (2010); PHARMD 2001 Iowa

**TUCKER, ROBERT D.**, Associate Professor, Pathology/Biomedical Engineering, 1983 (1992); BS 1969 Nebraska; PHD 1976 Minnesota; MD 1978 Nebraska

**TUETKEN, REBECCA S.**, Clinical Associate Professor, Internal Medicine, 1997 (2005); BA 1982 Chicago; PHD 1989 Chicago; MD 1991 Chicago

**TUREK, LUBOMIR P.**, Professor, Pathology, 1982 (1997); MD 1975 Charles-Prague Czech

**TURF, CHRISTOPHER M.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BSPH 1992 Colorado

**TURNER, CHRISTOPHER W.**, Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1996 (1996); BS 1973 Wisconsin; MS 1979 Minnesota; PHD 1982 Minnesota

**TURNER, DEBORAH ANN**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 2009 (2009); BS 1973 Iowa State; MD 1978 Iowa

**TURNER, RICHARD**, Professor, Religion/African-American Studies, 2001 (2010); AB 1974 Boston; MA 1976 Boston; MA 1983 Princeton; PHD 1986 Princeton

**TURNER, KARLA NANCY**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2006 Iowa

**TURVEY, CAROLYN LOUISE**, Associate Professor, Psychiatry/Epidemiology, 1998 (2007); BA 1987 Connecticut; PHD 1994 Yale; MS 1996 Harvard

**TWOHIG, MOLLY**, Adjunct Instructor, Social Work, 2001 (2001); MSW 1977 Iowa

**TYLER, CHRISTOPHER MARK**, Adjunct Assistant Professor, Family Dentistry, 1997 (2000); BA 1992 Luther; DDS 1996 Iowa

**TYLER, RICHARD SYDNEY**, Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1981 (1987); BSC 1974 Western Ontario; MS 1975 Western Ontario; PHD 1978 Iowa

**TYMOCZKO, JULIANNA S.**, Assistant Professor, Mathematics, 2007 (2007); AB 1998 Harvard; MA 2000 Princeton; PHD 2003 Princeton

**TYREE, RONALD W.**, Emeritus Professor, Music, 1965 (1979);

**TYSKLIND, MICHAEL**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BS 1981 Purdue; MS 1983 Purdue

**TYX, CAROL ANN**, Adjunct Assistant Professor, English, 2000 (2000); PHD 2000 Iowa

**UC, ALIYE**, Associate Professor, Pediatrics/Radiation Oncology, 2000 (2008); MD 1987 Istanbul

**UC, ERGUN Y.**, Associate Professor, Neurology, 2001 (2007); MD 1988 Istanbul

**UDAYKUMAR, H S.**, Professor, Mechanical Engineering, 1999 (2008); BT 1988 Indian Inst of Tech-Madras; MS 1990 Florida; PHD 1994 Florida

**UDEH, CHIEDOZIE IFEANYI**, Clinical Associate Professor, Anesthesia, 2004 (2010); MBBS 1993 University of Nigeria

**UDEN-HOLMAN, TANYA MARIE**, Clinical Associate Professor, Health Management & Policy/Nursing, 1997 (2003); BA 1987 Iowa; MA 1989 Iowa; PHD 1992 Iowa

**UDOMTECHA, DANAI**, Clinical Assistant Professor, Anesthesia, 2009 (2009); MD 1998 Chulalongkorn, Thai

**UEDA, KENICHI**, Clinical Assistant Professor, Anesthesia, 2005 (2008); MD 1997 Kochi Medical

**UHRICH, PAMELA RAE**, Clinical Adjunct Instructor, Nursing, 2002 (2005); BSN 1992 Iowa; MSN 2001 Iowa

**UKABIALA, ONYEBUCKI**, Clinical Adjunct Professor, Surgery, 2007 (2007); MD 1978 Nigeria

**UKSTINS PEATE, INGRID ANNE**, Assistant Professor, Geoscience, 2004 (2004); BA 1994 Mount Holyoke; MS 1998 CAL-DAVIS; PHD 2003 LONDON

**ULBRICHT, CATHERINE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMMD 2001 Massachusetts

**ULMER, SEAN M.**, Adjunct Instructor, General University College, 2009 (2009); BA 1985 Toledo; MA 1991 Ohio State

**ULVEN, MATTHEW ERIC**, Clinical Adjunct Assistant Professor, Family Medicine, 2006 (2006); BS 1985 Morningside College; MD 1989 Iowa; MPH 2004 St. Louis University

**UMMEL, STEPHEN L.**, Adjunct Lecturer, Health Management & Policy, 1984 (1984); MA 1965 Iowa

**UNGAR, STEVEN R.**, Professor, Cinema & Comparative Literature/French & Italian, 1976 (1985); BA 1966 Wisconsin; MA 1968 Wisconsin; PHD 1973 Cornell

**URDANETA, LUIS F.**, Emeritus Professor, Surgery, 1979 (1988); BA 1953 San Bartolme-Columbia; MD 1960 National-Columbia

**URISH, CHRISTINE KAY**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 2009 (2009); BS 1989 Western Michigan; MS 1993 Western Michigan; PHD 2005 Iowa

**URMIE, JULIE M.**, Associate Professor, Pharmacy, 1999 (2010); BS 1991 Wisconsin-Madison; MS 1996 Wisconsin-Madison; PHD 1999 Wisconsin-Madison

**USACHEV, YURIY M.**, Associate Professor, Pharmacology, 2003 (2009); MS 1989 Kiev, Ukraine; BS 1989 Kiev, Ukraine; PHD 1993 Kiev, Ukraine

**VAENA, DANIEL**, Clinical Associate Professor, Internal Medicine/Urology, 2004 (2009); MD 1996 Federal do Rio de Janeiro

**VAHL, CHERYL ANN**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1970 Iowa; MSN 1998 Iowa

**VAKINER, BRANDON**, Adjunct Instructor, Pharmacy, 2005 (2005); BS 1994 Wayne State; PHARMMD 2005 Nebraska Med Center

**VALDE, JILL GAFFNEY**, Clinical Assistant Professor, Nursing, 1998 (1998); PHD 1996 Iowa State

**VALENTINE, RICHARD L.**, Professor, Civil-Environmental Engineering, 1982 (1996); BS 1973 Michigan; MSCHE 1974 Michigan; MS 1977 California-Berkeley; PHD 1982 California-Berkeley

**VALENTINO, RUSSELL**, Professor, Asian & Slavic Languages & Literature/Cinema & Comparative Literature/International Programs, 1994 (2009); BA 1986 California State-Fresno; MA 1988 California-Los Angeles;



PHD 1993 California-Los Angeles

**VALERIO-JIMENEZ, OMAR S.**, Assistant Professor, History, 2006 (2006); BSE 1986 Mass Inst of Tech; MA 1993 California, Los Angeles; PHD 2001 California, Los Angeles

**VAN AERNAM, CAROL**, Adjunct Assistant Professor, Preventive & Community Dentistry, 1985 (1985); BS 1962 Iowa

**VAN BEEK, GRANT MICHAEL**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2008 (2008); DDS 2006 Iowa

**VAN DAELE, DOUGLAS JERRY**, Assistant Professor, Otolaryngology-Head & Neck Surgery/Radiation Oncology, 2003 (2003); BSE 1991 Iowa; MD 1996 Iowa

**VAN DEMARK, DUANE R.**, Emeritus Professor, Communication Sciences and Disorders/Otolaryngology-Head & Neck Surgery, 1965 (1975); BA 1958 Hiram; MA 1962 Iowa; PHD 1962 Iowa

**VAN DEUSEN, ROBERT M.**, Lecturer, Teaching and Learning, 2005 (2005); BA 1974 Coe; MA 1977 Iowa; PHD 1980 Iowa

**VAN GORP, AMY E.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARMD 2007 Iowa

**VAN HEUKELOM, JON**, Clinical Assistant Professor, Emergency Medicine, 2009 (2009); BA 2002 Central; MD 2006 Iowa

**VAN HOESSEN, GARY W.**, Emeritus Professor, Neurology/Anatomy & Cell Biology, 1978 (1982); BA 1965 California State; MS 1967 Kansas State; PHD 1969 Kansas State

**VAN NOSTRAND, JAMES MAURICE**, Adjunct Lecturer, Law-Faculty, 2008 (2008); BA 1976 UNI; JD 1979 Iowa; MA 1985 SUNY @ Albany

**VAN SCHEPEN, KIMBERLY ANN**, Adjunct Instructor, Pharmacy, 2005 (2005); PHARMD 2004 Iowa

**VAN THOURNOUT, NICOLE RENAE**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); PHARMD 2004 Kansas

**VAN VOORHIS, BRAD**, Professor, Obstetrics & Gynecology, 1990 (2001); BS 1981 Iowa State; MD 1984 Iowa

**VAN VOORST, TANYA**, Adjunct Instructor, Communication Sciences and Disorders, 2007 (2007); BA 2000 University of Northern Iowa; MA 2002 Northern Iowa

**VAN WIEREN, HEIDI**, Lecturer, Art & Art History, 2009 (2009); BA 1996 Hope College; AB 1996 Hope College; MFA 2001 Cranbrook-Academy of Art

**VAN WINKLE, JAMES L.**, Adjunct Assistant Professor, Pharmacy, 2003 (2003); AA 1997 Southwestern Community; PHARMD 2002 Iowa

**VAN WYK, BRYNNA LEA**, Adjunct Lecturer, Nursing, 2009 (2009); AS 2006 Mercy College; BSN 2007 Grand View

**VANA, JOHN CRAIG**, Adjunct Instructor, Nursing, 2009 (2009); BSN 2003 Illinois @ Chicago; MSN 2008 Iowa; CER 2008 University of Iowa

**VANBEEK, MARTA JANE**, Assistant Professor, Dermatology, 2003 (2003); BA 1993 Gustavus Adolphus, St. Peter; MD 1997 Iowa; MPH 2003 Iowa

**VANDENBERG, BYRON**, Clinical Associate Professor, Internal Medicine/Radiology, 2008 (2008); BA 1975 Occidental, CA; MD 1980 Georgetown

**VANDENBERG, JAMES TOBEN**, Clinical Adjunct Associate Professor, Emergency Medicine, 2004 (2004); BS 1987 Northeast Missouri State; MD 1991 Univ of Missouri

**VANDENBOSCH, DANIEL TODD**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BA 1988 Dordt; MD 1992 Iowa

**VANDENBROUCKE, GUILLAUME**, Assistant Professor, Economics, 2008 (2008); MA 2001 Rochester; PHD 2004 Rochester

**VANDER WEG, MARK WILLIAM**, Associate Professor, Internal Medicine/Psychology, 2006 (2006); BA 1992 Hope College, Holland, MI; MS 1996 Memphis, Memphis, TN; PHD 1998 Memphis, Memphis, TN

**VANDERBEEK, ROBERT ALAN**, Clinical Assistant Professor, Social Work, 1990 (1990); BA 1972 Northern Iowa; MSW 1984 Iowa

**VANDERVELDE, LEA S.**, Professor, Law-Faculty, 1978 (1985); BS 1974 Wisconsin; JD 1978 Wisconsin

**VANDERWAL, LONDA SUE**, Adjunct Assistant Professor, Occupational & Environmental Health, 2010 (2010); PHD 2009 Iowa

**VANDYKE, DON C.**, Emeritus Professor, Epidemiology/Pediatrics, 1987 (2001); BS 1968 Villanova; MD 1975 Pennsylvania State

**VANEK, SHARON**, Adjunct Assistant Professor, Pharmacy, 2004 (2004); PHARMD 1997 Iowa

**VANNUCCI, GREGORY P.**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 2000 (2000); BS 1988 San Francisco; DDS 1993 Loyola

**VANOURNY, CHAD**, Adjunct Instructor, Oral Path,Radiology&Medicine, 2009 (2009); BS 2002 Iowa; DDS 2006 Iowa

**VANVOORST, WENDY A.**, Clinical Adjunct Assistant Professor, Psych & Quant Foundations, 2009 (2009); BA 2000 Prudue; MA 2002 Central Michigan; PHD 2005 Central Michigan

**VAQUERA-VASQUEZ, SANTIAGO**, Assistant Professor, Spanish & Portuguese, 2007 (2007); BA 1989 California State; MA 1992 California; PHD 1997 California

**VARADARAJAN, KASTURI**, Associate Professor, Computer Science, 2000 (2005); BTECH 1993 Indian Inst of Technology; PHD 1998 Duke

**VARGA, STEVEN M.**, Associate Professor, Pathology/Microbiology, 2003 (2009); BS 1993 Notre Dame; PHD 1999 Univ Mass-Med School

**VARGAS, MARCOS ALFREDO**, Professor, Family Dentistry, 1994 (2008); BS 1985 Peruvian Cayetano Heredia-Peru; DDS 1985 Peruvian Cayetano Heredia; MS 1994 Iowa

**VARGO, JOHN DAVID**, Adjunct Assistant Professor, Occupational & Environmental Health, 2003 (2003); BS 1978 Murray State; PHD 1983 Tennessee

**VASQUEZ, JUAN LUIS**, Instructor, Military Science, 2009 (2009);

**VAUGHN, THOMAS E.**, Associate Professor, Health Management & Policy/Nursing, 1995 (2003); BS 1974 Eastern Michigan; PHD 1993 Michigan

**VAVRA, THERESA ANNE**, Adjunct Assistant Professor, Pharmacy, 2008 (2010); PHARMD 2006 Iowa

**VEACH, LISA A.**, Clinical Adjunct Associate Professor, Internal Medicine, 1991 (2001); MD 1983 Iowa

**VECERA, SHAUN P.**, Professor, Psychology/General University College, 1998 (2007); BS 1990 Oregon; MS 1992 Carnegie Mellon; PHD 1995 Carnegie Mellon

**VELEZ, DIANA L.**, Associate Professor, Spanish & Portuguese, 1981 (1987); BA 1973 City College of New York; MA 1975 Columbia; PHD 1982 Columbia

**VENG-PEDERSEN, PETER**, Professor, Pharmacy, 1984 (1994); PHAR 1970 Copenhagen; PHD 1977 Sydney

**VENTURA, GUSTAVO JAIME**, Associate Professor, Economics, 2007 (2007); MA 1990 CEMA-Argentina; MS 1994 Illinois; PHD 1997 Illinois

**VENZON, MICHAEL ANDREW**, Adjunct Lecturer, College Transition, 2005 (2005); AB 2001 St. Ambrose; MED 2003 St. Ambrose

**VER STEEG, DIRK ALLEN**, Clinical Adjunct Assistant Professor, Internal Medicine, 1995 (1995); MD 1984 Iowa

**VERDOLINI, KATHERINE**, Adjunct Associate Professor, Communication Sciences and Disorders, 1990 (2002); BA 1975 Indiana; MA 1978 Ferrara; PHD 1991 Washington

**VIBHAKAR, RAJEEV**, Adjunct Assistant Professor, Pediatrics, 2005 (2007); BA 1991 MACALESTER, MN; MD 1999 IOWA; MPH 2002 IOWA

**VICK, MELANIE ANNE**, Adjunct Instructor, Division of Interdisciplinary Program, 2008 (2008); UNKNOWN 1997 Indian Hills Community; BA 2001 Iowa Wesleyan; MS 2008 Saint Ambrose

**VIGIL, GRETCHEN ELIZABETH**, Clinical Associate Professor, Pediatrics, 2000 (2007); BS 1994 Drake; MD 1997 Iowa

**VIGMOSTAD, SARAH CELESTE**, Assistant Professor, Biomedical Engineering, 2008 (2008); BS 2001 Iowa; MS 2003 Iowa; PHD 2007 Iowa

**VIJH, ANAND M.**, Professor, Finance, 1994 (2000); BTECH 1977 Indian Inst of Technology; MBA 1979 Indian Inst of Technology; PHD 1987 California-Berkeley

**VILLEMONT, RICHARD**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); DDS 1972 Northwestern

**VINCENT, STEVEN DOUGLAS**, Professor, Pathology/Oral Path,Radiology&Medicine, 1984 (1994); BA 1976 McPherson-Kansas; DDS 1981 Missouri; MS 1984 Iowa

**VISPOEL, WALTER P.**, Professor, Psych & Quant Foundations, 1987 (2000); BA 1978 Illinois-Chicago; MED 1979 Illinois-Chicago; PHD 1987 Illinois-Urbana

**VIZZINI, ROBERT CHARLES**, Lecturer, Communication Sciences and Disorders, 2010 (2010); BA 1982 Gallaudet; MA 1992 Liberty, VA

**VLASTOS, STEPHEN G.**, Professor, History/International Programs, 1976 (1989); AB 1966 Princeton; PHD 1977 California-Berkeley

**VOGEL, JULIE M.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); DO 2006 Des Moines

**VOGELGESANG, SCOTT A.**, Clinical Professor, Internal Medicine, 1995 (2004); BS 1980 Minnesota; MD 1987 South Dakota

**VOIGT, MICHAEL D.**, Clinical Professor, Internal Medicine, 1996 (2004); MBCHB 1978 Pretoria-South Africa

**VOLK, ALEXANDRA PAIGE DAVIS**, Assistant Professor, Pediatrics, 2007 (2006); BA 1996 Cornell College; MD 2000 Iowa

**VOLLSTEDT, KEITH ALAN**, Clinical Adjunct Assistant Professor, Surgery, 2008 (2008); MD 1987 Iowa

**VOMBATKERE, SUDHIR GURUNANDAN**, Adjunct Associate Professor, International Programs, 2009 (2009); ME 1974 Poona; PHD 1987 Indian Inst, Madras

**VON BERGEN, NICHOLAS HANNUM**, Clinical Assistant Professor, Pediatrics, 2008 (2009); BS 1998 Iowa; MD 2002 Iowa

**VON SEGGERN, SUZANNE**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1975 Drake

**VOPAVA, JUDY RENEE**, Adjunct Lecturer, College Transition, 2003 (2003); BA 1972 Augustana; PHD 1977 Cornell

**VOS, SUSAN STAGGS**, Clinical Assistant Professor, Pharmacy, 2006 (2006); BS 2000 Tennessee @ Knoxville; PHARM D 2003 Tennessee Hlth Sci Cen

**VOXMAN, HIMIE**, Emeritus Professor, Music, 1938 (1951); BS 1933 Iowa; MA 1934 Iowa

**VROMAN, MAURA JOSEPHINE**, Adjunct Assistant Professor, Orthodontics, 2010 (2010); AB 2005 Augustana; DDS 2008 Iowa

**WACHAL, ROBERT STANLEY**, Emeritus Professor, Linguistics, 1964 (1975); BA 1952 Minnesota; MS 1959 Wisconsin; PHD 1966 Wisconsin

**WACHTEL, RUTH E.**, Associate Professor, Anesthesia, 1988 (1993); BA 1974 Cornell; PHD 1980 Duke

**WACKER, CASON W.**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); BSPH 1977 Iowa

**WACKER, DAVID P.**, Professor, Pediatrics/Psych & Quant Foundations, 1982 (1992); BA 1975 Northern Colorado; MA 1978 Arizona State; PHD 1979 Arizona State

**WADE, RAHIMA C.**, Emeritus Professor, Teaching and Learning, 1992 (2003); BS 1976 St Univ of New York-Buffalo; MA 1986 Keene State; PHD 1992 Massachusetts

**WADSWORTH, JOHN STEELE**, Associate Professor, Counseling,Rehab & Stu Dev, 1997 (2006); BA 1980 Iowa; MA 1989 Iowa; PHD 1996 Iowa

**WADWEKAR, DEVENDRA**, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); MD 1996 B.J. Medical College, India

**WAGENER, CHADWIN J.**, Adjunct Instructor, Operative Dentistry, 2004 (2004); BS 1986 Grandview, Des Moines; DDS 1990 Iowa

**WAGNER, JENNIFER INGRID**, Adjunct Assistant Professor, Journalism & Mass Communication, 1999 (1999); BA 1989 GUSTAVUS ADOLPHUS; MA 1997 Georgetown

**WAGNER, MICHELE LOUISE**, Clinical Adjunct Instructor, Nursing, 2000 (2000); MSN 1998 Iowa

**WAGONER, MICHAEL D.**, Professor, Ophthalmology & Visual Science, 1999 (1999); BS 1975 Texas; MD 1978 Baylor

**WAHLE, ANDREAS**, Adjunct Associate Professor, Electrical-Computer Engineering, 2000 (2004); MS 1991 Berlin; PHE 1996 Berlin-Charlottengerg; PHD 1997 Technical Berlin

**WAHLE, STEVEN M.**, Clinical Adjunct Assistant Professor, Urology, 1999 (1999); MD 1985 Indiana

**WAHLS, TERRY LYNN**, Clinical Professor, Internal Medicine, 2000 (2003); BFA 1976 Drake; MD 1982 Iowa; MBA 2001 St. Thomas

**WAKEFIELD, BONNIE JEAN ROGERS**, Adjunct Associate Professor, Nursing, 1984 (2000); BSN 1976 Bradley; MA 1983 Iowa; PHD 1996 Iowa

**WALD, MOSHE**, Assistant Professor, Urology, 2005 (2005); MD 1999 The Hebrew Univ

**WALDER, JOSEPH A.**, Adjunct Professor, Biochemistry, 1978 (1988); PHD 1978 Northwestern

**WALDRON, DEBRA BETH**, Clinical Associate Professor, Pediatrics/Community & Behavioral Health, 2008 (2008); MD 1984 New York Medical; MPH 2005 Minnesota

**WALDSCHMIDT, THOMAS J.**, Professor, Pathology, 1988 (1997); BS 1977 Marquette; PHD 1984 Texas-Dallas

**WALKER, GEORGE W.**, Emeritus Professor, Art & Art History, 1966 (1988); BA 1950 Michigan State; MA 1964 Michigan State; MFA 1965 Michigan State

**WALKER, JENNIFER J.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 2001 South Dakota State

**WALKER, JERRY D.**, Emeritus Professor, Pediatric Dentistry, 1968 (1984); BA 1958 Iowa; DDS 1962 Iowa; MA 1969 Iowa

**WALKER, JUDY**, Clinical Adjunct Assistant Professor, Pediatrics, 2001 (2001); MD 1979 Illinois

**WALKER, KIMBERLEE A.**, Clinical Adjunct Instructor, Nursing, 2007 (2004); BSN 1996 Marycrest International; BN 1999 Clarkson; MN 1999 Clarkson

**WALKER, MARY JO**, Adjunct Instructor, Music, 2003 (2003); BA 1976 William Penn; MA 1989 Iowa

**WALKNER, LAURIE MARIE**, Adjunct Lecturer, Community & Behavioral Health, 2004 (2004); BSN 1980 Iowa; MA 1992 Iowa

**WALL, MICHAEL**, Professor, Ophthalmology & Visual Science/Neurology, 1991 (1996); BS 1972 Tulane; MD 1976 Tulane

**WALL, SUSAN DALE**, Clinical Adjunct Associate Professor, Dermatology, 1995 (2000); MD 1981 Missouri

**WALLACE, ANDREA SCHNEIDER**, Assistant Professor, Nursing, 2010 (2010); BA 1996 Colorado @ Boulder; DNP 2002 Colorado Denver Health; PHD 2006 Colorado - Denver Health

**WALLACE, ANNE MARIE**, Clinical Associate Professor, Communication Sciences and Disorders, 1992 (1992); BA 1978 Iowa; MA 1979 Iowa

**WALLACE, PETER D.**, Clinical Adjunct Associate Professor, Health Management & Policy, 1974 (1989); MD 1969 Iowa

**WALLACE, ROBERT B.**, Professor, Epidemiology/Internal Medicine, 1972 (1979); BS 1964 Northwestern; MD 1967 Northwestern; MSC 1972 State Univ of New York-Buffalo

**WALLIS, ANNE BABER**, Assistant Professor, Epidemiology, 2002 (2003); BA 1984 Mary Washington; MS 1997 John Hopkins; PHD 2003 Johns Hopkins

**WALLRATH, LORI L.**, Professor, Biochemistry, 1996 (2009); BS 1986 Michigan State; PHD 1991 Michigan State

**WALSH, EMILY O.**, Adjunct Assistant Professor, Geoscience, 2010 (2010); PHD 2003 California

**WALSH, THOMAS**, Adjunct Instructor, Marketing, 2003 (2006); BS 1979 Eastern Michigan; MBA 1981 Michigan State

**WALTER, KATHY BRENNEMAN**, Lecturer, Integrative Physiology, 2005 (2006); BS 2002 Iowa; MA 2004 Iowa

**WALTER, PATRICK J.**, Adjunct Instructor, Pharmacy, 2005 (2005); BSPH 1983 Creighton

**WALTON, LINDA J.**, Adjunct Assistant Professor, Nursing, 2009 (2009); BA 1979 Indiana; AMLS 1981 Indiana

**WALTON, RICHARD E.**, Emeritus Professor, Endodontics, 1983 (1983); BA 1961 Washington; DMD 1965 Oregon; MS 1970 Illinois

**WALZ, THOMAS H.**, Emeritus Professor, Social Work, 1973 (1973); BA 1954 St. Johns; MSW 1958 St Louis; PHD 1966 Minnesota

**WANAT, CAROLYN L.**, Associate Professor, Educ Policy & Leadership Studies, 1990 (1996); BS 1969 Central Missouri State; MA 1973 Central Missouri State; EDS 1978 Wichita; PHD 1990 Wisconsin-Madison

**WANG, JING**, Assistant Professor, Marketing, 2005 (2005); PHD 2005 Northwestern

**WANG, KAI**, Associate Professor, Biostatistics, 1999 (2005); BA 1986 Lanzhou; MA 1989 Nankai; MA 1996 Iowa; PHD 1999 Iowa

**WANG, LIHE**, Professor, Mathematics, 1993 (1997); BA 1979 Peking-China; MS 1983 Peking-China; MS 1986 Chicago; PHD 1989 Courant

**WANG, WEI-YEH**, Emeritus Professor, Department of Biology, 1975 (1987); BS 1966 National Taiwan; PHD 1972 Missouri

**WANG, WILLIAM X.**, Adjunct Professor, Biomedical Engineering, 2010 (2010); BS 1983 Wuhan; MS 1987 Wuhan; PHD 1992 Wuhan

**WANGERIN, VIRGINIA SUE**, Adjunct Assistant Professor, Nursing, 2008 (2008); BGS 1980 Drake; MSN 1992 Drake

**WANNEMUEHLER, MICHAEL J.**, Adjunct Professor, Microbiology, 2010 (2010); PHD 1981 Louisville

**WARD, KELLY**, Clinical Assistant Professor, Obstetrics & Gynecology, 2004 (2004); BS 1996 UNI of the Pacific; MD 2000 South Dakota SOM

**WARD, LARRY D.**, Professor, Law-Faculty, 1972 (1978); BS 1966 Kansas; JD 1969 Kansas; MAC 1996 Iowa

**WARD, MARCIA M.**, Professor, Health Management & Policy, 1997 (2006); BA 1973 Ohio State; MA 1976 Ohio State; PHD 1981 Ohio State

**WARE, FRANK H.**, Adjunct Assistant Professor, Social Work, 2002 (2002); BA 1971 William Penn; MSW 1979 Iowa

**WARHANK, ROSE A.**, Clinical Adjunct Assistant Professor, Family Medicine, 1996 (2002); BS 1985 Iowa; MD 1990 New York Medical College

**WARREN, JANICE MARIE**, Adjunct Lecturer, College Transition, 2003 (2003); BM 1985 Michigan; BME 1985 Michigan State; MA 1993 Iowa

**WARREN, JOHN JOSEPH**, Professor, Preventive & Community Dentistry, 1999 (2009); BS 1981 Iowa; DDS 1986 Iowa; MS 1991 Iowa

**WASHINGTON, M TODD**, Associate Professor, Biochemistry/Radiation Oncology, 2003 (2009); BA 1992 Ohio State; BSC 1992 Ohio State; PHD 1998 Ohio State

**WASSERMAN, EDWARD A.**, Professor, Psychology, 1972 (1983); BA 1968 Calif-Los Angeles; PHD 1972 Indiana

**WASSINK, THOMAS HENRY**, Associate Professor, Psychiatry/Pediatrics, 1999 (2004); BA 1985 Northwestern; MD 1993 Illinois-Chicago

**WATERBURY, NANCEE VIRGINIA**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2000 Iowa

**WATERHOUSE, JANETTE CHERI**, Adjunct Assistant Professor, Management & Organizations, 2005 (2005); BBA 1991 Iowa; JD 1994 Minnesota; MBA 2008 The University of Iowa

**WATERS FREYER, SASHA A.**, Associate Professor, Cinema & Comparative Literature/Women's Studies, 2000 (2006); BFA 1991 Michigan; MFA 1999 Temple

**WATKINS, GORDON L.**, Clinical Associate Professor, Radiology/Radiation Oncology, 1989 (2006); BSC 1967 Sir John Cass College-London; PHD 1983 Southern California

**WATSON, CAROL A.**, Clinical Professor, Nursing, 1972 (2009); BSN 1970 Iowa; MA 1973 Iowa; PHD 1979 Iowa

**WATSON, DAVID B.**, Emeritus Professor, Psychology, 1993 (1993); BS 1975 Santa Clara; PHD 1982 Minnesota

**WATSON, EDWARD FISK**, Adjunct Associate Professor, Management Sciences, 2009 (2009); MS 1987 Penn State; PHD 1993 Penn State

**WATT, SHERRY KAY**, Associate Professor, Educ Policy & Leadership Studies/Counseling, Rehab & Stu Dev, 2000 (2007); BA 1990 North Carolina-Greensboro; MS 1993 North Carolina State; PHD 1997 North Carolina State

**WATTERS, BRIDGET MARIE RUFF**, Clinical Adjunct Instructor, Nursing, 2008 (2008); BSN 2001 Iowa; MSN 2006 Iowa

**WAZIRI, MIR A.**, Clinical Adjunct Associate Professor, Pediatrics, 1998 (2004); MD 1980 Kabul

**WAZIRI, RAFIQ**, Emeritus Associate Professor, Psychiatry, 1966 (1971); BS 1956 American University of Beirut; MD 1960 American University of Beirut

**WEAVER, LISA ROSE**, Lecturer, Journalism & Mass Communication, 2009 (2009); BA 1986 Wisconsin @ Madison; MA 1995 California-Berkley

**WEBB, RALPH**, Adjunct Professor, Communication Studies, 2009 (2009); BA 1956 Northern Colorado; MA 1957 Northern Colorado; PHD 1965 Wisconsin @ Madison

**WEBER, LARRY JOSEPH**, Professor, Civil-Environmental Engineering, 1994 (2007); BS 1989 Iowa; MS 1990 Iowa; PHD 1993 Iowa

**WEBER-GASPARONI, KARIN**, Assistant Professor, Pediatric Dentistry, 2003 (2003); DDS 1994 Estadual Brazil; MS 1999 Iowa; PHD 2003 Iowa

**WECKMANN, MICHELLE**, Assistant Professor, Psychiatry/Family Medicine, 2005 (2005); BA 1993 North Central IL; MS 1995 Ohio State; MD 2000 Wisconsin

**WEEKS, DANIEL L.**, Professor, Biochemistry, 1987 (2001); BS 1976 Purdue; PHD 1983 Purdue

**WEEKS, JILL MARIE**, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARM D 2005 Iowa

**WEENIG, DUANE ROBERT**, Adjunct Assistant Professor, Periodontics, 2009 (2009); BS 1991 Brigham Young; DDS 1999 Iowa; MS 2002 Iowa

**WEETMAN, DAVID BRIAN**, Adjunct Assistant Professor, Pharmacy, 1997 (1997); BS 1991 Iowa; BSPH 1991 Iowa; MS 1995 Johns Hopkins

**WEETMAN, JILL SUSANNE**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1991 Iowa

**WEFEL, JAMES S.**, Professor, Pediatric Dentistry, 1977 (1986); BS 1968 Valparaiso; PHD 1973 St. Univ. of New York-Buffalo

**WEGMAN, DAVID D.**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BSPH 1977 Iowa; MS 1980 Illinois

**WEHBE, AHMAD**, Clinical Assistant Professor, Internal Medicine, 2009 (2009); BS 1998 Beirut; MD 2002 Beirut

**WEHBY, GEORGE LABIB**, Assistant Professor, Health Management & Policy, 2007 (2008); PHD 2006 Iowa

**WEIDEMAN, MARY ANN**, Lecturer, Management & Organizations, 1995 (2010); BA 1979 Iowa; JD 1982 Iowa

**WEIGEL, RONALD**, Professor, Surgery/Biochemistry, 2005 (2005); MD 1986 Yale; PHD 1986 Yale; MBA 2005 Wharton-Univ. of Penn.

**WEILER, JOHN M.**, Emeritus Professor, Internal Medicine, 1977 (1991); BS 1967 Michigan; MD 1971 Temple

**WEILER, KAY BOESE**, Emeritus Associate Professor, Nursing, 1982 (1995); BS 1972 Indiana; JD 1985 Iowa; MA 1986 Iowa

**WEINBERGER, ALAN M.**, Adjunct Lecturer, Law-Faculty, 2009 (2009); BA 1972 Michigan; AB 1972 University of Michigan; JD 1975 Michigan

**WEINBERGER, MILES**, Professor, Pediatrics, 1975 (1980); BA 1960 Pittsburgh; MD 1965 Pittsburgh

**WEINER, GEORGE J.**, Professor, Internal Medicine, 1989 (2000); BA 1978 Johns Hopkins; MD 1981 Ohio State

**WEINER, JOSHUA**, Assistant Professor, Department of Biology, 2004 (2004); BA 1992 Northwestern; PHD 1999 California

**WEINGEIST, THOMAS A.**, Emeritus Professor, Ophthalmology & Visual Science, 1975 (1983); BA 1963 Earlham; PHD 1969 Columbia; MD 1972 Iowa

**WEINSTEIN, STUART L.**, Professor, Orthopaedics and Rehabilitation/Pediatrics, 1976 (1984); BA 1968 Illinois; MD 1972 Iowa

**WEIR, ROBERT F.**, Emeritus Professor, Pediatrics, 1988 (1988); BA 1965 McMurry; BD 1968 Emory; MA 1970 Princeton; PHD 1972 Princeton

**WEIRICH, FRANK H.**, Associate Professor, Civil-Environmental Engineering/Geoscience, 1988 (1988); BSC 1973 Toronto-Canada; MSC 1979 McMaster; PHD 1982 Toronto

**WEIS, ROBERT F.**, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1977 Iowa

**WEISMANN, AMY**, Adjunct Assistant Professor, International Programs, 2006 (2006); JD 2000 Iowa

**WEISMANN, DOUGLAS N.**, Emeritus Associate Professor, Pediatrics, 1977 (1984); AB 1968 Occidental; MD 1972 Arizona; MS 1977 Iowa

**WEISS, DAVID S.**, Associate Professor, Microbiology, 1998 (2004); BA 1985 Swarthmore; PHD 1991 Univ of California-Berkeley

**WEISS, DOYLE L.**, Emeritus Professor, Marketing, 1987 (1987); BS 1957 Kansas; MS 1960 Carnegie Mellon; PHD

1965 Carnegie Mellon

**WEISS, JERROLD P.**, Professor, Internal Medicine/Microbiology, 1997 (1997); BS 1973 State Univ of New York; PHD 1981 New York University

**WEISS, ROBERT M.**, Professor, Internal Medicine, 1989 (2004); BA 1976 Northwestern; MD 1982 Michigan

**WEISSBORT, DANIEL**, Emeritus Professor, Cinema & Comparative Literature/English, 1974 (1974); BA 1956 Cambridge-England; MA 1981 Cambridge-England

**WEISTROFFER, PAULA L.**, Clinical Assistant Professor, Periodontics, 2007 (2007); DDS 2002 Iowa

**WELCH, CATHERINE JO**, Professor, Psych & Quant Foundations, 2007 (2007); BBA 1980 Iowa; MA 1984 Iowa; PHD 1990 Iowa

**WELCH, MYRON D.**, Emeritus Professor, Music, 1980 (1984); BM 1965 Michigan State; MM 1966 Michigan State; EDD 1973 Illinois

**WELCH BREDER, BARBARA**, Lecturer, Communication Studies, 1985 (2003); BA 1968 Dayton; MA 1975 Hunter; PHD 1984 Iowa

**WELLER, PAUL A.**, Professor, Finance, 1990 (1994); BA 1968 Oxford-England; MA 1973 Essex-Oxford; PHD 1981 Essex-Oxford

**WELLS, JOHN G.**, Adjunct Assistant Professor, Oral & Maxillofacial Surgery, 1986 (1986); BA 1956 Iowa; DDS 1960 Iowa

**WELLS, MICKEY LEE**, Associate Professor, Pharmacy, 2008 (2008); BSPH 1987 Iowa; PHD 1990 Iowa

**WELLS, SARAH ANN**, Assistant Professor, Spanish & Portuguese, 2009 (2009); BA 2001 Brown; PHD 2009 California, Berkeley

**WELSH, CHRISTOPHER ALAN**, Clinical Adjunct Assistant Professor, Psychiatry, 2006 (2006); BS 1998 Iowa; MD 2002 Iowa

**WELSH, MICHAEL JAMES**, Professor, Physiology/Neurosurgery/Internal Medicine, 1981 (1987); BS 1970 Iowa; MD 1974 Iowa

**WELTON, MARIE THERESE**, Adjunct Instructor, Preventive & Community Dentistry, 2008 (2008); BSE 1991 Iowa; DDS 1997 Iowa

**WEMMIE, JOHN A.**, Associate Professor, Neurosurgery/Psychiatry/Physiology, 2000 (2008); BA 1989 Central; PHD 1996 Iowa; MD 1996 Iowa

**WENDT, CHARLES G.**, Emeritus Professor, Music, 1966 (1980); BA 1960 Juilliard; MM 1962 Indiana

**WENDT, DAVID A.**, Adjunct Instructor, Teaching and Learning, 1999 (1999); BS 1983 Southern Illinois; MA 1996 Iowa

**WENSEL, DAVID**, Clinical Adjunct Assistant Professor, Family Medicine, 2008 (2008); BS 1999 Creighton; DO 2003 Des Moines UNIV

**WENTZELL, EMILY ANNE**, Assistant Professor, Anthropology, 2010 (2010); BA 2003 Johns Hopkins; MA 2006 Michigan-Ann Arb; PHD 2009 Michigan-Ann Arb

**WERNER, JOHN DAVID**, Adjunct Instructor, Social Work, 2007 (2007); BA 1995 Iowa; BFA 1995 Iowa; MSW 1998 Iowa

**WERNER, STEPHANIE GAUTHIER**, Adjunct Lecturer, Accounting, 2008 (2008); BS 2001 Kansas; MA 2002 Kansas

**WERTZ, CHRISTOPHER A.**, Emeritus Associate Professor, Russian, 1977 (1980); BA 1963 Columbia; MA 1969 Michigan; PHD 1971 Michigan

**WERTZ, PHILIP W.**, Professor, Oral Path,Radiology&Medicine, 1990 (1993); BA 1971 Rutgers; PHD 1976 Wisconsin-Madison

**WERZ, MARY A.**, Clinical Professor, Neurology, 2009 (2009); BA 1977 John Hopkins; PHD 1982 Michigan; MD 1987 Michigan

**WESELY, PAMELA MARY**, Assistant Professor, Teaching and Learning, 2009 (2009); BA 1996 Yale; MA 1998 New York; PHD 2009 Minnesota

**WEST, ISAAC**, Assistant Professor, Communication Studies, 2008 (2008); BA 1999 Kansas State; MA 2001 Kansas State; PHD 2008 Indiana

**WEST, JUDE P.**, Emeritus Professor, Management & Organizations, 1969 (1996); BA 1953 St Mary; MBA 1961

Chicago; PHD 1969 Iowa

**WESTBROOK, BARRY**, Adjunct Instructor, Pharmacy, 2007 (2007); BSPH 1992 North Dakota State

**WESTEFELD, JOHN S.**, Professor, Psych & Quant Foundations, 1991 (1999); BA 1972 North Carolina-Chapel Hill; MPH 1973 North Carolina-Chapel Hill; PHD 1978 North Carolina-Chapel Hill

**WESTER, JAMES CLAUDE**, Adjunct Assistant Professor, Pharmacy, 2005 (2009); BSPH 1972 Iowa

**WESTERMANN, SHAWNA JANE**, Clinical Assistant Professor, Internal Medicine, 2003 (2003); BA 1994 Augustana; MD 1998 Iowa

**WESTFALL, RUTH ELLEN**, Adjunct Assistant Professor, Spanish & Portuguese, 2005 (2005); BA 1984 Iowa; MA 1987 INDIANA; PHD 1995 TEXAS@AUSTIN

**WESTON, BURNS H.**, Emeritus Professor, Law-Faculty, 1966 (1969); BA 1956 Oberlin; LLB 1961 Yale; SJD 1973 Yale

**WETLAUFER, GERALD**, Professor, Law-Faculty, 1985 (1991); BA 1967 Princeton; JD 1972 Yale

**WETRICH, DOUG**, Adjunct Instructor, Pharmacy, 2002 (2002); BS 1988 Iowa

**WEVER, WILLIAM**, Adjunct Instructor, Preventive & Community Dentistry, 2003 (2003); BA 1991 Iowa; DDS 2002 Iowa

**WEYDERT, JAMIE ALLEN**, Clinical Adjunct Assistant Professor, Pathology, 2005 (2005); BS 1996 Iowa; MD 2001 Iowa

**WEYER, PETER J.**, Adjunct Assistant Professor, Occupational & Environmental Health/Geography, 2000 (2001); BA 1974 Iowa; MS 1987 Iowa; PHD 1998 Iowa

**WHALEY, DEBORAH ELIZABETH**, Assistant Professor, American Studies/African-American Studies, 2007 (2007); PHD 2002 Kansas

**WHERRITT, IRENE MARIE**, Emeritus Associate Professor, Spanish & Portuguese, 1980 (1984); BA 1965 California-Berkeley; MA 1969 Arizona; PHD 1977 New Mexico

**WHISTON, JOHN BOOKER**, Clinical Professor, Law-Faculty, 1994 (2006); BA 1970 Yale; JD 1984 Montana

**WHITE, BRIAN ALAN**, Adjunct Assistant Professor, Health Management & Policy, 2007 (2007); BA 1999 Iowa; JD 2002 Iowa

**WHITE, JERROLD LEE**, Clinical Adjunct Assistant Professor, Family Medicine, 1994 (1994); MD 1987 Iowa

**WHITE, PAMELA J.**, Adjunct Assistant Professor, General University College/Law-Faculty, 2000 (2000); BA 1973 Graceland; JD 1978 Missouri-Kansas City; MA 1984 Kansas; PHD 1991 Kansas

**WHITE, ROBERT THOMAS**, Adjunct Instructor, Preventive & Community Dentistry, 2005 (2005); BA 1987 Wartburg; DDS 1991 Iowa

**WHITE, SUSAN CHRYSLER**, Associate Professor, Art & Art History, 2000 (2006); BA 1977 California-Berkeley; MFA 1980 California-Davis

**WHITEHILL, DAWN MARIE MARCELLUS**, Adjunct Associate Professor, Pharmacy, 2008 (2008); PHARMD 2001 Iowa

**WHITEMAN, CHARLES H.**, Professor, Economics, 1980 (1992); BA 1975 Kansas; PHD 1981 Minnesota

**WHITMORE, KATHRYN FAYE**, Professor, Teaching and Learning, 1993 (2007); BS 1985 New Mexico; MA 1986 New Mexico; PHD 1992 Arizona

**WHITT, ELIZABETH J.**, Professor, Educ Policy & Leadership Studies/Counseling, Rehab & Stu Dev, 1997 (2003); BA 1973 Drake; MA 1977 Michigan State; PHD 1988 Indiana-Bloomington

**WHITTEN, BLAKE**, Lecturer, Economics, 2004 (2007); BS 1983 NORTHERN AZ; MS 1992 WISCONSIN; PHD 2001 Florida State

**WHITTER, TYRONE BRUCE**, Clinical Associate Professor, Anesthesia, 1995 (2000); BS 1982 Rochester; PHD 1988 University of Iowa; MD 1991 University of Iowa

**WIBBENMEYER, LUCY A.**, Clinical Associate Professor, Surgery, 1997 (2008); BA 1987 Missouri-Columbia; MD 1991 Tennessee

**WIBLIN, RAYMOND TODD**, Clinical Associate Professor, Internal Medicine, 1996 (2004); MD 1990 Case Western Reserve



**WICHMAN, MICHAEL D.**, Adjunct Assistant Professor, Occupational & Environmental Health, 2000 (2000); AS 1976 Iowa Western Community College; BS 1978 Creighton; MS 1980 Creighton; PHD 1984 Kansas State

**WIDEN, MICHAEL DEAN**, Adjunct Instructor, Integrative Physiology, 2007 (2007); BS 1997 Iowa; MA 2000 Iowa

**WIDMER, JAMES CLIFFORD**, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2002); BA 1974 Goshen; MD 1978 Iowa

**WIDMER, REUBEN B.**, Emeritus Professor, Family Medicine, 1971 (1980); BA 1940 Goshen; MD 1943 Iowa

**WIDNESS, JOHN A.**, Professor, Pediatrics/Inst for Clinical and Translational Science, 1988 (1992); BA 1968 Amherst; MD 1972 Duke

**WIELAND, VERONICA E.**, Clinical Adjunct Instructor, Family Medicine/Nursing, 1981 (1981); BSN 1969 North Dakota; MA 1971 Iowa

**WIEMER, DAVID F.**, Professor, Pharmacology/Chemistry, 1978 (1989); BS 1972 Marquette; PHD 1976 Illinois

**WIETING, STEPHEN GEORGE**, Emeritus Associate Professor, Sociology, 1971 (1977); BA 1962 Whitworth; BD 1965 Princeton Theological Seminary; PHD 1971 Minnesota

**WIKSTROM, SAMANTHA ANNE**, Adjunct Instructor, Library & Information Science, 2009 (2009); BA 2002 Iowa; MA 2005 Iowa

**WILBUR, JASON K.**, Clinical Associate Professor, Family Medicine, 2003 (2006); BS 1995 Missouri-Columbia; MD 1999 Saint Louis

**WILBURN, ARTHUR ROSS**, Adjunct Instructor, Social Work, 1996 (1996); MSW 1993 Iowa

**WILCOX, JONATHAN**, Professor, English, 1987 (2002); BA 1981 Manchester - England; PHD 1987 Cambridge - England

**WILDE, JAMES G.**, Clinical Adjunct Instructor, Internal Medicine, 1982 (1988); MD 1975 Iowa

**WILDER, DAVID G.**, Associate Professor, Biomedical Engineering/Occupational & Environmental Health, 1994 (1994); BS 1974 Vermont; MS 1978 Vermont; PHD 1985 Vermont

**WILEY, GINA LYNN**, Adjunct Instructor, Communication Sciences and Disorders, 2008 (2008); BA 1996 Central College; MA 2007 Northern Iowa

**WILGENBUSCH, TAMMY LYNN VINZANT**, Adjunct Assistant Professor, Psych & Quant Foundations, 2010 (2010); MA 1997 Mankato State; PHD 2002 IOWA

**WILKEN, AMY N.**, Adjunct Instructor, Family Dentistry, 2003 (2003); DDS 2002 University of Iowa

**WILKEN, CONNIE KAY**, Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1972 Iowa; MSN 1997 Iowa

**WILKINSON, MARC L.**, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BA 1986 Northwestern; MD 1991 Texas

**WILKINSON, MARK E.**, Clinical Professor, Ophthalmology & Visual Science, 1997 (2007); OD 1980 Illinois College of Optometry

**WILLARD, ANDREW**, Lecturer, Honors Program/International Programs, 2006 (2006); AB 1975 Stanford

**WILLARD, DEREK HUNT**, Associate Professor, Preventive & Community Dentistry, 1974 (1981); BA 1964 Rhode Island; MA 1968 Pennsylvania; PHD 1975 Iowa

**WILLARD, PAMELA H.**, Emeritus Assistant Professor, Nursing/Occupational & Environmental Health, 1982 (1998); BSN 1966 Cornell-New York; MS 1979 Iowa

**WILLEMSSEN-DUNLAP, ANN MARIE**, Clinical Assistant Professor, Nursing/Anesthesia, 2000 (2004); AA 1988 Des Moines Area Community; BSN 1992 Grand View; MSN 1998 Iowa; PHD 2004 Iowa

**WILLIAMS, ALLISON**, Clinical Assistant Professor, Psychiatry, 2005 (2005); BA 1996 Dartmouth; MD 2001 Iowa

**WILLIAMS, CHAD L.**, Clinical Associate Professor, Internal Medicine, 1973 (1983); BA 1964 Wabash; MD 1968 Iowa

**WILLIAMS, CHARLES J.**, Adjunct Lecturer, Law-Faculty, 2001 (2001); BBA 1985 Iowa; JD 1988 Iowa; LLM 1997 Missouri

**WILLIAMS, GLENN**, Assistant Professor, Physical Therapy/Orthopaedics and Rehabilitation, 2003 (2003); BA 1991 Kings College, Briarcliff; MPT 1994 Baylor; PHD 2004 Delaware

**WILLIAMS, GLENYS O.**, Emeritus Professor, Family Medicine, 1974 (1989); BSC 1950 Wales; MBBCH 1953 Welsh

Nat School of Med

**WILLIAMS, J CRAIG**, Adjunct Lecturer, Law-Faculty, 2008 (2008); JD 1987 Iowa

**WILLIAMS, JANET KAREN DAY**, Professor, Nursing, 1969 (2002); BSN 1968 Iowa; MA 1972 Iowa; PHD 1989 Iowa

**WILLIAMS, JULIE K.**, Adjunct Assistant Professor, Social Work, 2007 (2007); PHD 2007 Iowa

**WILLIAMS, MICHAEL J.**, Adjunct Instructor, Pharmacy, 2008 (2008); BSPH 1996 Ferris State

**WILLIAMS, NANCY ANN**, Clinical Associate Professor, Psychiatry, 1998 (2005); BS 1989 Iowa State; MD 1990 Iowa

**WILLIAMS, NORMAN E.**, Emeritus Professor, Department of Biology, 1957 (1967); BA 1952 Youngston; MS 1954 Brown

**WILLIAMS, RACHEL MARIE-CRANE**, Associate Professor, Teaching and Learning/Art & Art History, 1999 (2005); BFA 1993 East Carolina; MFA 1995 Florida State; PHD 1999 Florida State

**WILLIAMS, TERENCE H.**, Emeritus Professor, Anatomy & Cell Biology, 1973 (1973); MD 1953 Manchester-England; PHD 1960 Wales

**WILLIAMS, THOMAS P.**, Adjunct Professor, Oral Path,Radiology&Medicine, 1984 (1999); DDS 1968 Illinois

**WILLIAMS, VINCENT D.**, Emeritus Professor, Family Dentistry, 1972 (1991);

**WILLIAMSON, ANN MARIE**, Clinical Adjunct Professor, Nursing, 2008 (2008); BSN 1978 U North Carolina-Chapel Hill; MSN 1985 Univ of Texas - Austin; PHD 1999 Univ of California - San Fran

**WILLIAMSON, ANNE ELIZABETH**, Associate Professor, Endodontics, 2003 (2007); BS 1984 Nebraska; DDS 1988 Nebraska; CER 2003 University of Iowa; MSD 2004 University of Iowa

**WILLIAMSON, H E.**, Emeritus Professor, Pharmacology, 1960 (1970); BS 1953 Wisconsin; PHD 1959 Wisconsin

**WILLIAMSON, RICHARD ALAN**, Clinical Associate Professor, Family Dentistry, 2001 (2008); BS 1976 Texas A & M; DDS 1980 Texas; MS 2001 Nebraska

**WILLIAMSON, ROGER A.**, Emeritus Professor, Obstetrics & Gynecology, 1981 (1990); BS 1966 Colorado State; MS 1971 Baylor; MD 1971 Baylor

**WILLIAMSON, THOMAS CALVIN**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2007 (2007); DDS 1991 Iowa

**WILLOUGHBY, CATHERINE LEAH**, Adjunct Instructor, Nursing, 2000 (2000); BSN 1975 Iowa; MA 1993 Iowa

**WILMOTH, RALPH**, Adjunct Assistant Professor, Health Management & Policy, 2002 (2002); AA 1983 Cental Baptist; BS 1985 Central Arkansas; MPH 1986 Tennessee; MPA 1999 Drake

**WILSON, AMBER**, Adjunct Assistant Professor, Pharmacy, 2002 (2002); PHARMD 2001 Drake

**WILSON, BRENT DAVID**, Adjunct Professor, Finance, 2009 (2009); BA 1969 Weber State; DBA 1971 Northwestern; MBA 1971 Northwestern

**WILSON, JEFFREY SCOTT**, Clinical Professor, Internal Medicine, 1989 (2003); BS 1978 Iowa; MD 1983 Iowa

**WILSON, JOHN THURLOW**, Emeritus Associate Professor, Teaching and Learning, 1973 (1977); BA 1959 Northern Colorado; MA 1962 Northern Colorado; PHD 1973 Florida

**WILSON, MARK COOPER**, Clinical Professor, Internal Medicine, 2004 (2004); BA 1981 Westminster; MD 1985 Texas Tech; MPH 1991 Johns Hopkins

**WILSON, MARY E.**, Professor, Epidemiology/Microbiology/International Programs/Internal Medicine, 1986 (1997); BA 1975 Carleton; MD 1980 Rochester

**WILSON, RYAN JAMES**, Assistant Professor, Accounting, 2007 (2007); BS 1999 Oregon; PHD 2007 Washington

**WILSON, SCOTT R.**, Clinical Professor, Internal Medicine, 2000 (2006); BS 1981 Fairfield; DO 1986 Des Moines Osteopathic

**WILSON, THOMAS**, Adjunct Instructor, Preventive & Community Dentistry, 1989 (1989); DDS 1987 Iowa

**WILSON KIMBER, MARIAN**, Associate Professor, Music, 2004 (2004); BA 1983 NC Greensboro; MM 1989 Florida State; PHD 1993 Florida State

**WILSON PETERS, VIRGINIA LEE**, Adjunct Lecturer, Management & Organizations, 2002 (2002); MBA 1995 Iowa

**WINDSCHITL, PAUL D.**, Professor, Psychology, 1997 (2009); BA 1991 Creighton; MS 1993 Iowa State; PHD 1996

## Iowa State

**WINET, JON**, Associate Professor, Art & Art History/International Programs, 2002 (2003); BA 1979 California-Berkeley; MA 1979 San Francisco State

**WINETROUB, CAROL A.**, Adjunct Instructor, Social Work, 2000 (2000); MSW 1997 Iowa

**WING, ADRIEN K.**, Professor, Law-Faculty/International Programs, 1987 (1993); AB 1978 Princeton; MA 1979 California-Los Angeles; JD 1982 Stanford

**WINGA, EDWARD R.**, Clinical Adjunct Assistant Professor, Internal Medicine, 1982 (1991); MD 1962 Iowa

**WINN, BRYON STEPHEN**, Associate Professor, Theatre Arts, 1995 (2003); BA 1992 Weber State; MFA 1995 Iowa

**WINOKUR, PATRICIA LEE**, Professor, Internal Medicine, 1993 (2009); BA 1981 Brown; MD 1985 Washington-St. Louis

**WINTER, ALLISON ANN**, Adjunct Instructor, Preventive & Community Dentistry, 2001 (2001); BS 1981 University of Iowa

**WINTER, CAROL LYNN**, Clinical Adjunct Instructor, Nursing, 2006 (2006); BSN 1977 Iowa; MA 1993 Iowa

**WITT, DORIS S.**, Associate Professor, English/Law-Faculty, 1994 (2001); BA 1984 Centre; MA 1987 Virginia; PHD 1995 Virginia

**WITT, NANCY LEE**, Adjunct Instructor, Preventive & Community Dentistry, 2000 (2000); BS 1971 Iowa

**WITTE, SUZANNE BAKKE**, Adjunct Instructor, Social Work, 2005 (2005); BA 1985 Iowa; MSW 1990 Iowa

**WITTENBERG, CRAIG**, Clinical Adjunct Associate Professor, Family Medicine, 2004 (2004); BA 1987 Iowa; MD 1991 Iowa

**WITTENBERG, DAVID H.**, Associate Professor, Cinema & Comparative Literature/English, 1998 (2004); BA 1987 Yale; MA 1989 Northwestern; PHD 1995 Johns Hopkins; MARCH 1996 Univ of California, Berkeley

**WITWER, BEVERLY**, Lecturer, Teaching and Learning, 2001 (2001); MA 1981 Iowa

**WITZKE, BRIAN J.**, Adjunct Associate Professor, Geoscience, 1982 (1995); BA 1974 Wisconsin-Milwaukee; MS 1976 Iowa; PHD 1981 Iowa

**WOCHER, JOHN C.**, Adjunct Lecturer, Health Management & Policy, 1994 (1994); BA 1991 Maryland

**WOERNER, ROBERT F.**, Emeritus Associate Professor, English, 1957 (1966);

**WOHLGENANT, MARKUS**, Associate Professor, Physics & Astronomy, 2002 (2008); MS 1997 Graz-Austria; PHD 2000 Utah

**WOIDTKE, TRACIE L.**, Adjunct Professor, Finance, 2009 (2009); BS 1988 Millsaps College; MBA 1992 Millsaps College; MA 1994 Tulane; PHD 1997 Tulane

**WOITH, WENDY LEE**, Adjunct Assistant Professor, Nursing, 2008 (2008); BSN 1982 Illinois, Wesleyan; MSN 1991 Illinois, Urbana; PHD 2006 Illinois, Chicago

**WOJTAK, BRIANNE LEE**, Adjunct Instructor, Integrative Physiology, 2009 (2009); BA 2002 Iowa; MA 2009 Univ of Iowa

**WOLD, MARC S.**, Professor, Radiation Oncology/Biochemistry, 1989 (2000); BS 1979 California Inst of Technology; PHD 1984 Johns Hopkins

**WOLF, ANTHONY DAVID**, Assistant Professor, Military Science, 2005 (2005); BGS 1987 Iowa; AA 1995 Kirkwood Community; MA 2002 Iowa

**WOLF, BRIAN ROBERT**, Assistant Professor, Orthopaedics and Rehabilitation/Physical Therapy, 2003 (2003); BA 1989 Loyola; MD 1997 Loyola; MS 2006 Iowa

**WOLF, JOSEPH MATHEW**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1985 Iowa

**WOLF, KAREN KAY MAXFIELD**, Adjunct Assistant Professor, Periodontics, 2005 (2005); DDS 1998 Iowa

**WOLF, MARGARET CATE**, Clinical Adjunct Assistant Professor, Urology, 1996 (1996); MD 1987 Iowa

**WOLF, MARGERY**, Emeritus Professor, Anthropology/Women's Studies, 1985 (1985);

**WOLFE, KATHERINE**, Associate Professor, Music, 2004 (2004); BM 1992 Indiana; MM 1994 Manhattan School of Music

**WOLFE, STEVEN L.**, Clinical Professor, Family Medicine, 2001 (2001); BA 1968 Cornell; MD 1976 Iowa

**WOLFSON, SARA C.**, Emeritus Associate Professor, Educ Policy & Leadership Studies, 1971 (1977); BS 1957 Appalachian State; MS 1962 North Carolina; EDD 1971 Houston

**WOLFSON, SHERWOOD**, Emeritus Associate Professor, Oral & Maxillofacial Surgery, 1971 (1976); BS 1953 Westminster; DDS 1957 Pittsburgh

**WOLGAST, BRETT**, Adjunct Assistant Professor, Music, 2001 (2001); DMA 1994 Iowa

**WOLINSKY, FREDRIC D.**, Professor, Health Management & Policy/Internal Medicine, 2003 (2003); BA 1972 Friends UNI; MA 1974 Drake; PHD 1977 Southern Illinois

**WOLKEN, STEPHEN H.**, Clinical Adjunct Assistant Professor, Ophthalmology & Visual Science, 1975 (1996); MD 1968 Iowa

**WOOD, JESSICA LEE**, Clinical Assistant Professor, Psychiatry, 2009 (2009); BS 1992 Wisconsin; MD 2002 Iowa; PHD 2002 Iowa

**WOOD, KELLY ELIZABETH**, Clinical Assistant Professor, Pediatrics, 2010 (2010); BS 2000 Iowa; MD 2004 Iowa

**WOOD, MICHAEL M.**, Adjunct Lecturer, Office of Management & Business Development, 2005 (2005); BS 1971 Iowa State; MBA 1986 Iowa

**WOOD, SHARI M.**, Adjunct Instructor, Pharmacy, 2000 (2000); BS 1993 Iowa; BSPH 1993 Iowa

**WOOD, SUSANNAH MARGARET**, Assistant Professor, Counseling, Rehab & Stu Dev, 2006 (2006); BA 1997 Richmond(VA); MED 2000 William & Mary; PHD 2006 William & Mary

**WOODARD, FREDRICK**, Emeritus Associate Professor, English, 1973 (1979); BA 1961 Iowa Wesleyan; MA 1971 Iowa; PHD 1976 Iowa

**WOODHEAD, JEROLD C.**, Associate Professor, Pediatrics, 1979 (1988); BA 1967 Stanford; MD 1971 Yale

**WOODMAN, CATHERINE L.**, Associate Professor, Psychiatry/Family Medicine, 1990 (2000); BA 1981 Brown; MD 1985 Brown

**WOODS, THOMAS BLODGET**, Clinical Adjunct Lecturer, Nursing, 2004 (2004); BS 2000 St. Francis; MSN 2006 Iowa

**WOODS-GROVES, SUZANNE**, Assistant Professor, Teaching and Learning, 2008 (2008); BS 1998 Auburn; MED 1999 Auburn; PHD 2007 Auburn

**WOODS-SWAFFORD, WENDY**, Clinical Adjunct Assistant Professor, Pediatrics, 2009 (2009); MD 2002 Missouri - KC; MPH 2008 Vanderbilt

**WOODWORTH, GEORGE**, Emeritus Professor, Biostatistics/Statistics & Actuarial Science, 1971 (1996); BA 1962 Carleton; PHD 1966 Minnesota

**WOOLSON, ROBERT F.**, Emeritus Professor, Biostatistics/Statistics & Actuarial Science/Epidemiology, 1972 (1981); BA 1967 Delaware; PHD 1972 North Carolina

**WORKMAN, DOUGLAS M.**, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2001); MD 1989 Iowa

**WORRELL, JAMES B.**, Emeritus Associate Professor, Neurology, 2001 (2001); BA 1964 Iowa; MD 1967 Iowa

**WRENN, DOUGLAS EDWARD**, Adjunct Instructor, Pharmacy, 1997 (1997); BS 1981 Iowa

**WRIGHT, ARLENE**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1981 Drake

**WRIGHT, DIANA L.**, Clinical Adjunct Instructor, Internal Medicine, 2001 (2001); MD 1978 Iowa

**WRIGHT, KAYE L.**, Adjunct Instructor, Pharmacy, 1997 (1997); BSPH 1980 Drake

**WRIGHT, MICHAEL EUGENE**, Assistant Professor, Physiology, 2008 (2008); BS 1994 Nevada; PHD 2000 Washington

**WRIGHT, TIMOTHY ALLEN**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARM 2008 Midwestern

**WU, CHUN-FANG**, Professor, Department of Biology, 1979 (1989); BS 1969 Tunghai-Taiwan; PHD 1976 Purdue

**WU, HAN-CHIN**, Emeritus Professor, Mechanical Engineering/Civil-Environmental Engineering, 1970 (1981); BS 1960 National Taiwan; MS 1965 Rhode Island; MS 1967 Yale; PHD 1970 Yale

**WU, SHIH-YEN**, Emeritus Professor, Economics, 1964 (1968);

**WU, XIAODONG**, Associate Professor, Electrical-Computer Engineering/Radiation Oncology, 2005 (2010); BS 1992

Peking; MCS 1995 Peking; PHE 2002 Nortre Dame

**WU, YING-QING**, Professor, Mathematics, 1993 (2001); BS 1982 Hehai-China; MS 1984 Beijing-China; PHD 1987 Beijing-China

**WU, YUEJIN**, Associate Professor, Internal Medicine, 2009 (2009); PHD 1990 Tongji Medical

**WULF, JOEL**, Adjunct Instructor, Social Work, 2003 (2003); BA 1978 Iowa; MSW 1992 Iowa

**WUNDER, CHARLES C.**, Emeritus Professor, Physiology, 1954 (1971); AB 1949 Washington and Jefferson; MS 1952 Pittsburgh; PHD 1954 Pittsburgh

**WURSTER, DALE ERIC**, Professor, Pharmacy/Chemical & Biomedical Engineering, 1982 (1996); BS 1974 Wisconsin; PHD 1979 Purdue

**WURSTER, KRISTIN GAIL**, Adjunct Lecturer, College Transition, 2010 (2010); BA 2006 Iowa; MA 2008 Iowa

**WURTH, MICHAEL GERARD**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1999 Illinois-Chicago

**WYMAN, CHRISTOPHER RYAN**, Associate Professor, Computer Science, 2004 (2010); BS 1999 Minnesota; PHD 2004 Univ. of Utah

**XIA, TING**, Adjunct Instructor, Biomedical Engineering, 2009 (2009); PHD 2007 Iowa

**XIAO, SHAOPIG**, Associate Professor, Mechanical Engineering, 2003 (2008); BS 1995 Univ of Science and Tech China; MS 1998 Univ of Science and Tech China; PHD 2002 Northwestern

**XIE, YANG**, Assistant Professor, Pharmacy, 2007 (2007); PHD 2006 State Univ of New York

**XING, YI**, Assistant Professor, Biomedical Engineering/Biostatistics/Internal Medicine, 2006 (2006); BE 2000 Univ of Science and Tech China; BS 2001 Univ of Science and Tech China; PHD 2006 UCLA

**XIONG, JINHU**, Associate Professor, Radiology/Biomedical Engineering, 2003 (2003); MEE 1986 Tsinghua Beijing; PHD 1995 Texas

**XUE, HAI-HUI**, Assistant Professor, Microbiology, 2006 (2006); MD 1991 China Medical; MS 1994 China Medical; PHD 2000 Hamamatsu

**YABLON, NICHOLAS**, Associate Professor, American Studies, 2003 (2009); BA 1994 Birmingham, England; PHD 2002 Chicago

**YACK, H JOHN**, Associate Professor, Physical Therapy, 1994 (1994); BS 1973 New Hampshire; MS 1981 North Carolina; PHD 1987 Waterloo-Canada

**YAGER, ROBERT E.**, Emeritus Professor, Teaching and Learning, 1956 (1967); BA 1950 Iowa State; MS 1953 Iowa; PHD 1957 Iowa

**YAHN, TIMOTHY LEE**, Associate Professor, Microbiology, 2001 (2006); BS 1991 Wisconsin-Stevens Point; MS 1995 Medical College of Wisconsin; PHD 1998 Medical College of Wisconsin

**YAMADA, THORU**, Professor, Neurology, 1975 (1984); MD 1966 Nagoya

**YANG, BAOLI**, Associate Professor, Obstetrics & Gynecology, 1999 (2009); MD 1986 Beijing Medical; PHD 1994 North Carolina

**YANG, JIANMING**, Adjunct Assistant Professor, Mechanical Engineering, 2007 (2007); PHD 2004 Maryland

**YANG, JINGZHEN**, Associate Professor, Community & Behavioral Health, 2004 (2010); BA 1982 Suzhou, China; MPH 1999 Indiana; PHD 2004 North Carolina

**YANG, ROBERT K.**, Clinical Assistant Professor, Orthopaedics and Rehabilitation, 2007 (2007); MD 1996 Washington School of Med

**YANKOWITZ, JEROME**, Professor, Obstetrics & Gynecology, 1993 (2003); BS 1980 Yale; MD 1986 State U of NY-Dwnst Med Cntr

**YANS, JAVAD**, Clinical Adjunct Associate Professor, Internal Medicine, 1973 (1983); MD 1965 Tabriz Iran Medical School

**YAO, TONG**, Assistant Professor, Finance, 2008 (2008); BA 1991 Fudan; PHD 2001 Boston College

**YARBROUGH, DONALD B.**, Professor, Educ Policy & Leadership Studies/Psych & Quant Foundations, 1982 (2009); BA 1971 Hendrix; MA 1973 Kentucky; PHD 1982 Georgia

**YE, YANGBO**, Professor, Mathematics, 1990 (1999); BS 1981 QingHua-China; MA 1982 Columbia; MPH 1986

Columbia; PHD 1986 Columbia

**YEAGER, ANSON**, Clinical Adjunct Assistant Professor, Surgery, 2004 (2004); BA 1976 Augustana; BS 1978 South Dakota MED; MD 1980 Tufts Med, MA

**YEAGER, VONZELL D.**, Adjunct Instructor, Library & Information Science, 2009 (2009); BA 1998 N. Carolina; AMLS 2007 Pittsburgh

**YEAKEL, GREGORY J.**, Adjunct Assistant Professor, Pharmacy, 2005 (2005); BSPH 1974 Drake

**YEAMAN, CHARLES A.**, Associate Professor, Anatomy & Cell Biology, 2001 (2006); BS 1986 Calif-San Diego; PHD 1993 Wisconsin

**YEATES, RANDHALL ROBERT**, Adjunct Instructor, Pharmacy, 2009 (2009); BSPH 1986 Iowa; MBA 1998 Iowa

**YEATS, ROBERT EVAN**, Emeritus Associate Professor, Music, 1973 (1981); BS 1966 Ithaca; MA 1971 Iowa; MFA 1977 Iowa

**YEE, NELSON SHU-SANG**, Assistant Professor, Internal Medicine, 2006 (2006); BS 1987 Mass. College of Pharmacy; MD 1995 Cornell; PHD 1995 Cornell

**YEH, MALCOLM H.**, Clinical Associate Professor, Neurology, 1992 (2004); BA 1980 Calif-Berkeley; MD 1985 Calif-Davis

**YEH, PI-MING**, Adjunct Assistant Professor, Nursing, 2008 (2008); BS 1986 Wisconsin-Milwaukee; MN 1996 Tiawan; PHD 2003 Wisconsin-Milwaukee

**YOCKEY, JOSEPH W.**, Associate Professor, Law-Faculty, 2010 (2010); BA 2000 Kansas; JD 2004 Illinois

**YODER, FRANKLIN LEE**, Adjunct Assistant Professor, History, 2000 (2000); BA 1988 Iowa; MA 1989 Chicago; PHD 1999 Chicago

**YODER, HOLLY ANNA BLOSSER**, Adjunct Lecturer, Honors Program, 2010 (2010); BA 1985 Eastern Mennonite; MA 2009 Iowa

**YODER, REAGAN LEE**, Adjunct Assistant Professor, Art & Art History, 2001 (2001); BA 1971 Bethel; MA 1985 Iowa; MFA 1987 Iowa

**YOREK, MARK A.**, Professor, Internal Medicine, 1987 (2002); BS 1976 Bemidji; PHD 1981 North Dakota

**YORK, DOUGLAS KENT**, Adjunct Instructor, Emergency Medicine, 2009 (2009); AA 1979 Des Moines Community

**YOST, WILLIAM J.**, Clinical Adjunct Professor, Internal Medicine, 1997 (2010); MD 1988 Iowa

**YOUNG, DICK LEROY**, Adjunct Instructor, Preventive & Community Dentistry, 2010 (2010); DDS 1973 Iowa

**YOUNG, DONALD CARLETON**, Clinical Adjunct Assistant Professor, Obstetrics & Gynecology, 2009 (2009); BA 1981 Drake; DO 1985 Des Moines University

**YOUNG, HEATHER JOY**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); DO 2005 Des Moines

**YOUNG, JAMES R.**, Clinical Adjunct Assistant Professor, Family Medicine, 1976 (2002); BS 1967 Iowa State; MD 1970 Iowa

**YOUNG, LANCE B.**, Adjunct Assistant Professor, Preventive & Community Dentistry, 2008 (2008); BA 1989 Duke; MBA 1991 Tulane; MA 1996 West Florida

**YOUNG, LAURA E.**, Lecturer, Art & Art History, 1997 (2006); BA 1963 Sikdmore; MA 1978 Montclair State; MFA 1983 Rutgers

**YOUNG, MARK A.**, Associate Professor, Chemistry, 1990 (1997); BA 1979 Princeton; PHD 1987 California-Berkeley

**YOUNG, NATHAN CLINE**, Adjunct Associate Professor, Civil-Environmental Engineering, 2008 (2008); BSE 1998 Iowa; MS 2000 Iowa; PHD 2006 Iowa

**YOUNGBLOOD, DAWN MICHELLE**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARM D 1998 Iowa

**YOUSUFUDDIN, MOHAMMED**, Clinical Adjunct Assistant Professor, Internal Medicine, 2010 (2010); MBBS 1980 Osmania Medical India

**YUAN, YU**, Assistant Professor, Finance, 2008 (2008); MA 2003 Wisconsin - Madison; PHD 2008 Wharton

**YUEN, KEE-HO**, Professor, Art & Art History, 2000 (2009); BA 1983 Chinese of Hong Kong; MA 1988 Iowa; MFA 1989 Iowa

**ZABNER, JOSEPH**, Professor, Internal Medicine/Pilot Studies, 1995 (2004); MD 1987 UnivCentral de Venezuela

**ZADEII, GHOLAM REZA**, Clinical Adjunct Assistant Professor, Internal Medicine, 2004 (2004); BA 1978 Incarnate Word College; MS 1980 Incarnate Word College; MD 1984 Santiago U School of Medicine

**ZAHEER, ASGAR**, Assistant Professor, Neurology, 1995 (1995); PHD 1979 Bombay-India

**ZAJACZ, RITA**, Assistant Professor, Communication Studies, 2005 (2005); BA 1995 Budapest, Hungary; MA 1998 Indiana; PHD 2005 Indiana

**ZALENSKI, ANNE WHITEHEAD**, Adjunct Assistant Professor, Counseling, Rehab & Stu Dev, 2009 (2009); MA 1985 Iowa; PHD 2001 Iowa

**ZAMBA, GIDEON J.**, Assistant Professor, Biostatistics, 2003 (2003); MS 1995 DU Benin; PHD 2003 Minnesota

**ZAMIR, TAL**, Adjunct Assistant Professor, Creative Writing, 2010 (2010); MFA 2010 Iowa

**ZAVALA, DONALD**, Emeritus Professor, Internal Medicine, 1969 (1976);

**ZAVAZAVA, NICHOLAS**, Professor, Internal Medicine, 2001 (2003); BSC 1980 ZIMBABWE; MBCHB 1987 Kiel; MD 1988 Kiel; PHD 1993 Kiel

**ZEARLEY, JENNIFER ROSE**, Adjunct Assistant Professor, Pharmacy, 2009 (2009); PHARMD 2002 Iowa

**ZEBROWSKI, PATRICIA**, Professor, Communication Sciences and Disorders, 1988 (2009); BS 1977 State Univ of NY-Geneseo; MS 1981 Syracuse; PHD 1987 Syracuse

**ZEIDAN, ZAH E.**, Clinical Assistant Professor, Pediatrics, 2006 (2006); BS 1992 American Univ of Beirut; MD 1997 American Univ of Beirut

**ZEITHAMEL, MARCIA C.**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2005 Kansas

**ZELNICK, CHARLES JAMES**, Clinical Adjunct Associate Professor, Family Medicine, 1999 (2005); MD 1979 Cincinnati

**ZEMAN, CATHERINE**, Adjunct Assistant Professor, Occupational & Environmental Health, 2001 (2001); PHD 2000 Iowa

**ZEMAN, CHRISTINE LYNN**, Adjunct Assistant Professor, Pharmacy, 2008 (2008); PHARMD 2000 Iowa

**ZEPESKI, KAY ILENE**, Adjunct Instructor, Pharmacy, 1998 (1998); BS 1981 Iowa

**ZHANG, HANTAO**, Professor, Computer Science, 1988 (2000); BS 1981 Wuhan-China; PHD 1984 Nancy-France; PHD 1988 Rensselaer Polytechnic-France

**ZHANG, QIN**, Assistant Professor, Marketing, 2009 (2009); MS 2000 Washington - St. Louis; PHD 2002 Washington - St. Louis

**ZHANG, XIAOYI**, Assistant Professor, Mathematics, 2009 (2009); BA 1998 Zheng Zhou, China; PHD 2003 China Academy

**ZHANG, YAN BING**, Adjunct Associate Professor, Communication Studies, 2010 (2010); PHD 2002 Kansas

**ZHANG, YING J.**, Professor, Biostatistics, 2004 (2010); BS 1985 Fudan-China; MS 1988 Fudan-China; MS 1994 Florida State; PHD 1998 Washington

**ZHANG, YOU-KUAN**, Professor, Geoscience/Civil-Environmental Engineering, 1993 (2006); BS 1978 Chamgchun Institute-China; MS 1982 Nanjing-China; PHD 1990 Arizona

**ZHANG, YUZHE**, Assistant Professor, Economics, 2006 (2006); BS 2000 University of Wuhan; MA 2003 Minnesota; PHD 2006 Minnesota

**ZHAO, XIAOYUAN**, Lecturer, Asian & Slavic Languages & Literature, 2008 (2008); MA 2008 Memphis

**ZHUPANSKA, OLESYA I.**, Assistant Professor, Mechanical Engineering, 2007 (2007); MS 1996 Kiev Taras Schevchenk; PHD 2000 Kiev Taras Schevchenk

**ZIEBOLD, CHRISTINE SIBYLLE**, Clinical Assistant Professor, Pediatrics, 2006 (2006); MD 1988 Albertus Magnus; PHD 1990 Albertus Magnus; MPH 2003 University of Minnesota

**ZIEGLER, EKHARD E.**, Professor, Pediatrics, 1973 (1981); MD 1964 Innsbruck-Austria

**ZIKE, WILBUR L.**, Emeritus Associate Professor, Surgery, 1969 (1975); AB 1953 Houghton; MD 1957 McGill

**ZIMA, WILLIAM**, Emeritus Associate Professor, Journalism & Mass Communication, 1954 (1973);

**ZIMMERMAN, DALE**, Professor, Statistics & Actuarial Science/Biostatistics, 1986 (1999); BS 1980 Iowa State; MS

1982 Minnesota; PHD 1986 Iowa State

**ZIMMERMAN, MIRIAM BRIDGET**, Clinical Professor, Biostatistics, 2003 (2008); BS 1978 Phillipines; MS 1982 Phillipines; MS 1984 Iowa State; PHD 1987 Iowa State

**ZIMMERMANN, GERALD NEAL**, Adjunct Associate Professor, Communication Sciences and Disorders, 1977 (1982); PHD 1973 Iowa

**ZINGMAN, LEONID**, Assistant Professor, Internal Medicine, 2007 (2007); MD 1984 First Leningrad Medical

**ZISMAN, STUART**, Adjunct Assistant Professor, Social Work, 1997 (1997); BS 1971 Lewis and Clark; MSW 1974 Michigan; MPH 1987 California-Berkeley; PHD 1995 California-Berkeley

**ZLAB, MARK K.**, Clinical Adjunct Assistant Professor, Otolaryngology-Head & Neck Surgery, 1998 (1998); MD 1985 Nebraska

**ZLATNIK, FRANK J.**, Emeritus Professor, Obstetrics & Gynecology, 1975 (1984); BA 1962 Carleton; MD 1966 Cornell

**ZURBRIGGEN, THOMAS L.**, Clinical Adjunct Instructor, Internal Medicine, 1982 (1988); MD 1978 Iowa

**ZWENG, MARILYN J.**, Emeritus Professor, Teaching and Learning/Mathematics, 1965 (1972); BS 1953 Michigan State; MS 1957 Wisconsin; PHD 1963 Wisconsin



# Iowa Administrative Code

The following is extracted from the Board of Regents section of the Iowa Administrative Code as of August 5, 2010. Some changes are pending Board of Regents approval.

## Admission Rules Common to the Three State Universities

### 681--1.1(262) Admission of undergraduate students directly from high school

Students desiring admission to the University of Iowa, Iowa State University, or the University of Northern Iowa must meet the requirements in this rule and also any special requirements for the curriculum, school, or college of their choice.

#### 1.1(1) Application

Applicants must submit a formal application for admission, together with the appropriate application fee as approved by the state board of regents pursuant to Iowa Code subsection 262.9(18) and detailed in rule 681.1.7(262), and have their secondary school provide a transcript of their academic record, including credits and grades, rank in class, and certification of graduation. Applicants must also submit SAT Reasoning Test or ACT scores. Applicants whose primary language is not English must also meet the English language proficiency requirement specified by each university. Applicants may be required to submit additional information or data to support their applications.

#### 1.1(2) Admission criteria

*a. Effective for students who seek admission prior to fall 2009.* Graduates of approved Iowa high schools who have the subject matter background required by each university and who rank in the upper one-half of their graduating class will be admitted to any regent university. Applicants who are not in the upper one-half of their graduating class may, after an individual review of their academic and test records, and at the discretion of the admissions officers:

- (1) Be admitted unconditionally,
- (2) Be admitted conditionally,
- (3) Be required to enroll for a tryout period during a preceding summer session, or
- (4) Be denied admission.

*b. Effective for students who seek admission in fall 2009 and thereafter.*

(1) Decisions on admission to a regent university are based on the following four factors: performance on standardized tests (SAT Reasoning Test or ACT); high school grade point average (GPA); high school percentile rank in class; and number of high school courses completed in the core subject areas. These factors are used in the following equation to calculate a regent admission index (RAI):

$$\text{RAI} = (2 \times \text{ACT composite score}) + (1 \times \text{high school rank expressed as a percentile}) + (20 \times \text{high school grade point average}) + (5 \times \text{number of high school courses completed in the core subject areas})$$

Note: For purposes of calculating the regent admission index, the ACT composite score has a top value of 36 (SAT scores will be converted to ACT composite equivalents); high school rank is expressed as a percentile with 99 percent as the top value; high school GPA is expressed in a four-point scale; and number of high school courses completed in the core subject areas is expressed in terms of years or fractions of years of study.

(2) Graduates of approved Iowa high schools who have the subject matter background required by each university and who meet the regent admission index of 245 required for automatic admission will be admitted to any regent university. Applicants who do not meet the regent admission index of 245 for automatic admission or for whom a regent admission index cannot be calculated may, after an individual review of their academic and test records, and at the discretion of the admissions officers:

1. Be admitted unconditionally,
2. Be admitted conditionally,
3. Be required to enroll for a tryout period during a preceding summer session, or
4. Be denied admission.

**1.1(3)** Graduates of approved high schools in other states may be held to higher academic standards, but must meet at least the same requirements as graduates of Iowa high schools. The options for conditional admission or summer tryout enrollment may not necessarily be offered to these students.

**1.1(4)** Applicants who are graduates of nonapproved high schools will be considered for admission in a manner similar to applicants from approved high schools, but additional emphasis will be given to scores obtained on standardized examinations.

**1.1(5)** Applicants who are not high school graduates, but whose classes have graduated, may be considered for admission. These applicants will be required to submit all academic data to the extent that it exists and achieve scores

on standardized examinations which will demonstrate that they are adequately prepared for academic study.

**1.1(6) Early admission** a. Students with superior academic records may be admitted, on an individual basis, for part-time university study while enrolled in high school or during the summers prior to high school graduation.

b. In rare situations, exceptional students may be admitted as full-time students to a regent university before completing high school. Early admission to a regent university is provided to serve persons whose academic achievement and personal and intellectual maturity clearly suggest readiness for collegiate level study. Each university will specify requirements and conditions for early admission.

This rule is intended to implement Iowa Code section 262.9(3).

### **681--1.2(262) Admission of undergraduate students by transfer from other colleges**

Students desiring admission to the University of Iowa, Iowa State University, or the University of Northern Iowa must meet the requirements in this rule and also any special requirements for the curriculum, school, or college of their choice.

Applicants must submit a formal application for admission, together with the appropriate application fee as approved by the state board of regents pursuant to Iowa Code subsection 262.9(18) and detailed in rule 681-1.7(262), and request that each college they have attended send an official transcript of record to the admissions office. High school academic records and standardized test results may also be required. The Test of English as a Foreign Language (TOEFL) is required of foreign students whose first language is not English.

**1.2(1)** Transfer applicants with a minimum of 24 semester hours of graded credit from regionally accredited colleges or universities, who have achieved for all college work previously attempted the grade point required by each university for specific programs, will be admitted. Higher academic standards may be required of students who are not residents of Iowa.

Applicants who have not maintained the grade point required by each university for specific programs or who are under academic suspension from the last college attended may, after a review of their academic and test records, and at the discretion of the admissions officers:

- a. Be admitted unconditionally,
- b. Be admitted conditionally,
- c. Be required to enroll for a tryout period during a preceding summer session, or
- d. Be denied admission.

**1.2(2)** Admission of students with fewer than 24 semester hours of college credit will be based on high school academic and standardized test records in addition to review of the college record.

**1.2(3)** Transfer applicants under disciplinary suspension will not be considered for admission until information concerning the reason for the suspension has been received from the college assigning the suspension. Applicants granted admission under these circumstances will be admitted on probation.

**1.2(4)** Transfer applicants from colleges and universities not regionally accredited will be considered for admission on an individual basis taking into account all available academic information.

This rule is intended to implement Iowa Code section 262.9(3).

### **681--1.3(262) Transfer credit practices**

The regent universities endorse the Joint Statement on Transfer and Award of Academic Credit approved in 1978 by the American Council on Education (ACE), the American Association of Collegiate Registrars and Admissions Officers (AACRAO), and the Council on Postsecondary Accreditation (COPA). The current issue of Transfer Credit Practices of Selected Educational Institutions, published by the American Association of Collegiate Registrars and Admissions Officers (AACRAO), and publications of the Council on Postsecondary Accreditation (COPA) are examples of references used by the universities in determining transfer credit. The acceptance and use of transfer credit is subject to limitations in accordance with the educational policies operative at each university.

#### **1.3(1) Students from regionally accredited colleges and universities**

Credit earned at regionally accredited colleges and universities is acceptable for transfer except that credit in courses determined by the receiving university to be of a remedial, vocational, or technical nature, or credit in courses or programs in which the institution granting the credit is not directly involved, may not be accepted, or may be accepted to a limited extent.

Of the course work earned at a two-year college, students may apply up to one-half but no more than 65 hours of the credits required for a bachelor's degree toward that degree at a regent university. This policy became effective

September 29, 1993.

### **1.3(2) Students from colleges and universities which have candidate status**

Credit earned at colleges and universities which have become candidates for accreditation by a regional association is acceptable for transfer in a manner similar to that from regionally accredited colleges and universities if the credit is applicable to the bachelor's degree at the receiving university.

Credit earned at the junior and senior classification from an accredited two-year college which has received approval by a regional accrediting association for change to a four-year college may be accepted by a regent university.

### **1.3(3) Students from colleges and universities not regionally accredited**

When students are admitted from colleges and universities not regionally accredited, they may validate portions or all of their transfer credit by satisfactory academic study in residence, or by examination. Each university will specify the amount of the transfer credit and the terms of the validation process at the time of admission.

In determining the acceptability of transfer credit from private colleges in Iowa which do not have regional accreditation, the regent committee on educational relations, upon request from the institutions, evaluates the nature and standards of the academic program, faculty, student records, library, and laboratories.

In determining the acceptability of transfer credit from colleges in states other than Iowa which are not regionally accredited, acceptance practices indicated in the current issue of Transfer Credit Practices of Selected Educational Institutions will be used as a guide. For institutions not listed in the publication, guidance is requested from the designated reporting institution of the appropriate state.

### **1.3(4) Students from foreign colleges and universities**

Transfer credit from foreign educational institutions may be granted after a determination of the type of institution involved and after an evaluation of the content, level, and comparability of the study to courses and programs at the receiving university. Credit may be granted in specific courses, but is frequently assigned to general areas of study. Extensive use is made of professional journals and references which describe the education systems and programs of individual countries.

This rule is intended to implement Iowa Code section 262.9(3).

## **Residence**

### **681--1.4(262) Classification of residents and nonresidents for admission, tuition, and fee purposes**

#### **1.4(1) General**

a. A person enrolling at one of the three state universities shall be classified as a resident or nonresident for admission, tuition, and fee purposes by the registrar or someone designated by the registrar. The decision shall be based upon information furnished by the student and other relevant information.

b. In determining resident or nonresident classification, the issue is essentially one of why the person is in the state of Iowa. If the person is in the state primarily for educational purposes, that person will be considered a nonresident. For example, it may be possible that an individual could qualify as a resident of Iowa for such purposes as voting, or holding an Iowa driver's license, and not meet the residency requirements as established by the Board of Regents for admission, tuition, and fee purposes.

c. The registrar, or designated person, is authorized to require written documents, affidavits, verifications, or other evidence deemed necessary to determine why a student is in Iowa. The burden of establishing that a student is in Iowa for other than educational purposes is upon the student.

A student may be required to file any or all of the following:

- (1) A statement from the student describing employment and expected sources of support;
- (2) A statement from the student's employer;
- (3) A statement from the student's parents verifying nonsupport and the fact that the student was not listed as a dependent on tax returns for the past year and will not be so listed in future years;
- (4) Supporting statements from persons who might be familiar with the family situation;
- (5) Iowa state income tax return.

d. Applications for resident classification for a given semester or session are due no later than the fifteenth class day of that semester or session. Applications received after the fifteenth class day of that semester or session will be

considered for the next semester or session. Appeals of any nonresident classification decision resulting from applications for resident classifications are due no later than midterm of that semester or session. Change of classification from nonresident to resident will not be made retroactive beyond the term in which application for resident classification is made.

e. A student who gives incorrect or misleading information to evade payment of nonresident fees shall be subject to serious disciplinary action and must also pay the nonresident fees for each term previously attended.

f. Review Committee. These regulations shall be administered by the registrar or someone designated by the registrar. The decision of the registrar or designated person may be appealed to a university review committee. The finding of the review committee may be appealed to the state board of regents.

#### **1.4(2) Guidelines**

a. The following guidelines are used in determining the resident classification of a student for admission, tuition, and fee purposes:

(1) A financially dependent student whose parents move from Iowa after the student is enrolled remains a resident provided the student maintains continuous enrollment. A financially dependent student whose parents move from Iowa during the senior year of high school will be considered a resident provided the student has not established domicile in another state.

(2) In deciding why a person is in the state of Iowa, the person's domicile will be considered. A person who comes to Iowa from another state and enrolls in any institution of postsecondary education for a full program or substantially a full program shall be presumed to have come to Iowa primarily for educational reasons rather than to establish a domicile in Iowa.

(3) A student who was a former resident of Iowa may continue to be considered a resident provided absence from the state was for a period of less than 12 months and provided domicile is reestablished. If the absence from the state is for a period exceeding 12 months, a student may be considered a resident if evidence can be presented showing that the student has long-term ties to Iowa and reestablishes an Iowa domicile.

A person or the dependent of a person whose domicile is permanently established in Iowa, who has been classified as a resident for admission, tuition, and fee purposes, may continue to be classified as a resident so long as domicile is maintained, even though circumstances may require extended absence of the person from the state. It is required that a person who claims Iowa domicile while living in another state or country will provide proof of the continual Iowa domicile as evidence that the person:

1. Has not acquired a domicile in another state,
2. Has maintained a continuous voting record in Iowa, and
3. Has filed regular Iowa resident income tax returns during absence from the state.

(4) A student who moves to Iowa may be eligible for resident classification at the next registration following 12 consecutive months in the state provided the student is not enrolled as more than a half-time student (6 credits for an undergraduate or professional student, 5 credits for a graduate student) in any academic year term, is not enrolled for more than 4 credits in a summer term for any classification, and provides sufficient evidence of the establishment of an Iowa domicile.

(5) A student who has been a continuous student and whose parents move to Iowa may become a resident at the beginning of the next term provided the student is dependent upon the parents for a majority of financial assistance.

(6) A person who has been certified as a refugee or granted asylum by the appropriate agency of the United States who enrolls as a student at a university governed by the Iowa state board of regents may be accorded immediate resident status for admission, tuition, and fee purposes when the person:

1. Comes directly to the state of Iowa from a refugee facility or port of debarkation, or
2. Comes to the state of Iowa within a reasonable time and has not established domicile in another state.

Any refugee or individual granted asylum not meeting these standards will be presumed to be a nonresident for admission, tuition, and fee purposes and thus subject to the usual method of proof of establishment of Iowa residency

(7) An alien who has immigrant status establishes Iowa residency in the same manner as a United States citizen.

(8) At the regent institutions, American Indians who have origins in any of the original people of North America and who maintain a cultural identification through tribal affiliation or community recognition with one or more of the tribes or nations connected historically with the present state of Iowa, including the Iowa, Kickapoo, Menominee, Miami, Missouri, Ojibwa (Chippewa), Omaha, Otoe, Ottawa (Odawa), Potawatomi, Sac and Fox (Sauk, Meskwaki), Sioux, and Winnebago (Ho Chunk), will be assessed Iowa resident tuition and fees.

b. Additional guidelines are used in determining the resident classification of a veteran, qualified military person, and

dependent children and spouses of a veteran or qualified military person for purposes of admission and undergraduate tuition and mandatory fees:

(1) A person who is stationed on active duty at the Rock Island arsenal as a result of military orders, or the dependent child or spouse of such person, is entitled to resident status for purposes of undergraduate tuition and mandatory fees. However, if the arrival of the person under orders is subsequent to the beginning of the term in which the dependent child or spouse is first enrolled, nonresident fees will be charged in all cases for the dependent child or spouse until the beginning of the next term in which the dependent child or spouse is enrolled. If the qualified military person is transferred, deployed, or restationed while the person's spouse or dependent child is enrolled in an institution of higher education under the control of the board of regents, the spouse or dependent child shall continue to be classified as a resident under this subparagraph until the close of the fiscal year in which the spouse or dependent child is enrolled.

(2) A veteran who is domiciled or moves to the state of Iowa and who is eligible for benefits, or has exhausted benefits under the federal Post-9/11 Veterans Educational Assistance Act of 2008, is entitled to resident status for purposes of undergraduate tuition and mandatory fees. The dependent child or spouse of a veteran who meets these requirements is entitled to resident status for undergraduate tuition. However, if the arrival of the veteran in Iowa is subsequent to the beginning of the term in which the dependent child or spouse is first enrolled, nonresident fees will be charged in all cases for the dependent child or spouse until the beginning of the next term in which the dependent child or spouse is enrolled.

(3) A person who is moved into the state as the result of military or civil orders from the government for other than educational purposes, or the dependent child or spouse of such a person, is entitled to resident status. However, if the arrival of the person under orders is subsequent to the beginning of the term in which the dependent child or spouse is first enrolled, nonresident fees will be charged in all cases until the beginning of the next term in which the dependent child or spouse is enrolled. Legislation, effective July 1, 1977, requires that military personnel who claim residency in Iowa (home of record) will be required to file Iowa resident income tax returns.

#### **1.4(3) Facts**

a. The following circumstances, although not necessarily conclusive, have probative value in support of a claim for resident classification:

- (1) Reside in Iowa for 12 consecutive months, and be primarily engaged in activities other than those of a full-time student, immediately prior to the beginning of the term for which resident classification is sought.
- (2) Reliance upon Iowa resources for financial support.
- (3) Domicile in Iowa of persons legally responsible for the student.
- (4) Former domicile in the state and maintenance of significant connections therein while absent.
- (5) Acceptance of an offer of permanent employment in Iowa.
- (6) Military orders, if for other than educational purposes.
- (7) Other facts indicating the student's domicile will be considered by the universities in classifying the student.

b. The following circumstances, standing alone, do not constitute sufficient evidence of domicile to effect classification of a student as a resident under these regulations:

- (1) Voting or registration for voting.
- (2) Employment in any position normally filled by a student.
- (3) The lease of living quarters.
- (4) Admission to a licensed practicing profession in Iowa.
- (5) Automobile registration.
- (6) Public records, for example, birth and marriage records, Iowa driver's license.
- (7) Continuous presence in Iowa during periods when not enrolled in school.
- (8) Ownership of property in Iowa, or the payment of Iowa taxes.

This rule is intended to implement Iowa Code section 262.9(3).

#### **681--1.5(262) Registration and transcripts--general**

A person may not be permitted to register for a course or courses at a state board of regents institution until any delinquent accounts owed by the person to an institution or any affiliated organization for which an institution acts as fiscal agent have been paid.

A state board of regents institution may withhold official transcripts of the academic record of a person until any delinquent accounts owed by the person to an institution or any affiliated organization for which an institution acts as fiscal agent have been paid.

This rule is intended to implement Iowa Code section 262.9.

## **Supplemental Specific Rules to The University of Iowa**

**681--1.6(262) College-bound program****1.6(1) Definitions.**

"Accredited private institution" means an institution of higher education as defined in Iowa Code section 261.9, subsection 5.

"Commission" means the college aid commission.

"Financial need" means the difference between the student's financial resources, including resources available from the student's parents and the student, as determined by a completed parents' financial statement and including any non-campus-administered federal or state grants and scholarships, and the student's estimated expenses while attending the institution. A student shall accept all available federal and state grants and scholarships before being considered eligible for grants under the Iowa minority academic grants for economic success program. Financial need shall be reconsidered on at least an annual basis.

"Full-time student" means an individual who is enrolled at an accredited private institution or board of regents university for at least 12 semester hours or the trimester or quarter equivalent.

"Minority person" means an individual who is black, Hispanic, Asian, or a Pacific Islander, American Indian, or an Alaskan Native American.

"Part-time student" means an individual who is enrolled at an accredited private institution or board of regents university in a course of study including at least three semester hours or the trimester or quarter equivalent of three semester hours.

"Program" means the Iowa minority academic grants for economic success program established in this division.

**1.6(2) Policy on college-bound program.**

a. The regent institutions will cooperate with other state and local agencies, including the department of education, the college aid commission, and educational institutions in implementing the college-bound program.

b. The universities will develop programs for elementary, middle and secondary school students and their families in the following areas:

- (1) Encouragement to consider attending a postsecondary institution;
- (2) Enrichment and academic preparation;
- (3) Information about how to apply for admission.

c. College-bound program vouchers will be awarded to students on the basis of the participation of the student and the student's family in the college-bound program. One voucher will be awarded for participation in each college-bound program sponsored by a university.

(1) Each university will maintain records concerning those students who participate in the college-bound program, according to its established policies and procedures. The records will include information on those students who have received college-bound program vouchers which are described in Iowa Code section 262.92(2). The University of Iowa will maintain a central record on all students who have received college-bound program vouchers on behalf of all regent institutions and will make appropriate information available to the college aid commission.

(2) College-bound program vouchers may be used by students enrolled at a regent institution or at a private college or university in Iowa.

(3) A student holding vouchers and enrolling at a regent institution will receive priority in the award of funds under the Iowa minority academic grants for economic success (IMAGES) program. Awards under the IMAGES program are made on the basis of financial need. A student may be eligible for an additional award from the institution in which the student is enrolled.

(4) A student holding vouchers and enrolling at a private college or university in Iowa will receive priority in the award of funds under the Iowa minority academic grants for economic success program as provided by the rules of the college aid commission.

(5) The presidents, or their designees, will administer and coordinate the college-bound program at the universities. As part of the coordination, they will establish liaison with the appropriate state and local agencies, serve as the university contact and promote collaborative efforts among the regent universities and other appropriate agencies and institutions. Annual reports to the board of regents shall be prepared by each regent university. The reports shall contain relevant information as to the accomplishments of the program in the past year and a plan of action with goals and objectives for the forthcoming year. Reports shall be submitted to the board of regents on October 1 of each year.

This rule is intended to implement Iowa Code section 262.92.

**681--1.7(262) Application fees**

Application fees required for admission to the University of Iowa, Iowa State University and the University of Northern Iowa are as follows:

**University of Iowa**

Undergraduate domestic student: \$40

Undergraduate international student: \$60

Graduate/professional domestic student: \$60

Graduate/professional international student: \$85

Pharm.D. student: \$100 (pending Board of Regents approval)

Re-entry fee: \$20

This rule is intended to implement Iowa Code section 262.9(3).

**681--2.1(262) Formal application for admission**

All applicants for admission to any college of the University of Iowa must submit a formal application for admission with the required official transcripts and other supporting material as required to the director of admissions. Students may not be registered until they have been issued an admission statement by the director of admissions.

**681--2.3(262) College of Business Administration****2.3(1) Application for admission**

Applications for admission to the college of business administration should be submitted to the director of admissions.

Applicants are urged to apply as early as possible, since this will give the admissions committee more time to devote to each application. Closing dates for receiving applications will be announced well in advance of the opening date of any session.

**2.3(2) Requirements for admission**

For admission to the college of business administration an applicant must have--

- a. Completed specific course work as prescribed by the faculty of the college.
- b. Attained satisfactory scores on the university's required admission examinations.
- c. Maintained a satisfactory grade-point average on all courses undertaken, and on all courses undertaken at the University of Iowa, and on all courses undertaken in business and economics.

Applications from students who have minor deficiencies in meeting grade-point requirements specified above will be reviewed by the admissions committee of the college, and upon favorable recommendation of the committee, such students may be granted conditional or probationary admissions.

Fulfillment of the minimal requirements listed above, however, does not assure admission to the college of business administration. From those applicants who meet the minimum requirements, the admissions committee will select the applicants who, in their judgment, appear to be best qualified.

**681--2.4(262) College of Dentistry****2.4(1) Application for admission**

Address all inquiries regarding admission to the Director of Admissions, University of Iowa.

Applicants are urged to apply as early as possible, since this will give the admissions committee more time to devote to each application. Closing dates for receiving applications will be announced well in advance of the opening date of any session.

Applicants for admission to dentistry are encouraged to complete a program leading to a baccalaureate degree before entering dentistry. Applicants should consider a combined program of liberal arts and dentistry which would qualify them for a baccalaureate degree upon the completion of the freshman year in dentistry. Preference will be given to students who have the baccalaureate degree or who have completed the requirements for the degree in a combined program.

Fulfillment of the specific requirements for admission listed does not ensure admission to the college of dentistry. From the applicants meeting the minimum requirements, the admissions committee will select the applicants who in their judgment appear to be best qualified for the study and practice of dentistry.

Each applicant must place on file in the office of the director of admissions the completed application form and an official transcript from each college attended.

The college work outlined below will suffice to meet the minimal academic requirements for admission to the college of dentistry.

The college curriculum must include at least three academic years of accredited work comprising not less than 96 semester hours and including specific required science courses as prescribed by the faculty of the college. Electives should be chosen so as to give the applicant a well-rounded educational background.

In order to meet minimum scholarship requirements, the applicant should attain a cumulative grade-point average of 2.5. Since the quality of course work in pre dental science is basic to success in dentistry, special consideration to such college work is given by the admissions committee. The grade-point average is based upon the University of Iowa's marking system in which a grade of "A" is equivalent to four points. Other marking systems will be evaluated by the office of admissions and the committee on admissions of the college of dentistry.

Applicants who have completed the requirements for admission to dentistry five or more years prior to seeking admission to this college of dentistry will be considered by the admissions committee only under exceptional conditions.

Preference will be given to applicants who are residents of Iowa, but consideration will also be given to outstanding nonresidents.

Personal interviews will be required of applicants for admission to the college of dentistry. Applicants will be notified when they should appear for the required interviews with members of the admissions committee.

All applicants must complete the dental aptitude tests sponsored by the council on dental education of the American Dental Association. Tests are given three times annually. The University of Iowa is a testing center.

To facilitate early selection, applicants for admission to the college of dentistry are urged to complete the aptitude test no later than October to enable the admissions committee to begin its selection in December.

Accepted applicants are required to make the required deposit within two weeks after notification of favorable action on their applications. This deposit is not refundable but is credited toward the first fee payment. The applicant who fails to make the deposit within the time specified forfeits a place in the entering class.

Applicants accepted for admission are required to submit a satisfactory physical examination report to the university student health service within two weeks following notification of acceptance.

All applicants must also complete, through student health service, an X-ray film of the chest and a successful vaccination against smallpox prior to registration.

#### **2.4(2) Advanced standing**

Applications for admission with advanced standing are handled as individual cases.

### **681--2.5(262) College of Engineering**

Address all inquiries regarding admission to the Director of Admissions, University of Iowa, Iowa City, Iowa.

Closing dates for receiving applications will be announced well in advance of the opening date of any session.

#### **2.5(1) Admission of freshman students**

The applicant must submit a formal application for admission and must have the secondary school provide a certificate of high school credits, including a complete statement of the applicant's high school record, rank in class, scores on standardized tests, and certification of high school graduation. The applicant must also submit any other evidence such as a certificate of health that may be required by this university.

Each applicant must have attained satisfactory scores on the university's required admission examinations, maintained a satisfactory cumulative grade-point average, achieved satisfactory rank in graduating class, and successfully completed all prerequisite courses. The university with the approval of the state board of regents shall establish and periodically review specific minimum requirements for admission to the college of engineering. Among the items to be so determined are test score, grade-point average, class rank and prerequisite courses. These specific determinations will be published in the university catalog.

From applicants who do not meet minimum admission requirements, the director of admissions may after a review of the applicant's record: (a) Admit unconditionally, (b) admit on probation, (c) require enrollment for a tryout period during a preceding summer session, or (d) deny admission.

#### **2.5(2) Admission of undergraduate students by transfer**



The applicant must submit a formal application and official transcript of college work. Each applicant should have:

- a. Maintained satisfactory progress in mathematics.
- b. Attained satisfactory scores on the university's required admission examinations.
- c. Maintained a satisfactory cumulative grade-point average on all college work undertaken.

From applicants who do not meet recommended requirements, the director of admissions will review individual records and may offer probationary admission.

### **681--2.6(262) Graduate College**

Graduates of any college or university accredited by regional accrediting associations may if the academic record is satisfactory be admitted to the graduate college. Admission to the graduate college is not the equivalent of acceptance as a candidate for an advanced degree. Such acceptance is given usually after the completion in residence of work at the university and upon recommendation of the major department and approval by the dean of the graduate college. The acceptance of a student as a degree candidate is determined upon the merits of each individual case.

A student who is within four semester hours of having satisfied all the requirements for the bachelor's degree at the University of Iowa may be given a tentative admission to the graduate college.

### **681--2.7(262) College of Law**

#### **2.7(1) Application for admission**

Address all inquiries concerning admission to the Director of Admissions, University of Iowa, Iowa City, Iowa. Beginning students may enter the college of law only in the summer session or the fall semester. Closing dates for receiving applications will be announced well in advance of the opening date of any session.

To be considered for admission, an applicant should have attained a cumulative grade-point average of at least 2.3 on all college work undertaken. The grade-point average is based upon the University of Iowa's marking system in which a grade of "A" is equivalent to four points. Other marking systems will be evaluated by the office of admissions.

Applicants for admission must present a baccalaureate degree from an approved college or university prior to commencing work in the college of law.

Each applicant for admission must take the Law School Admission Test administered by the Educational Testing Service, Princeton, New Jersey, and have the score forwarded to the college of law. The test is given several times per year and may be taken at numerous locations in the United States and throughout the world. Applicants are urged to take the test in the fall or winter preceding the fall semester for which they are making application. Except upon a showing acceptable to it, the admissions committee will not consider applications from students who fail to take the test prior to the June 1 preceding the fall semester in which they wish to enter.

Fulfillment of the specific requirements for admission listed above does not ensure admission to the college of law. From the applicants meeting the minimum requirements, the admissions committee of the college of law will select those applicants who, in their judgment, appear to be best qualified for the study and practice of law. The law admissions committee may require personal interviews of applicants.

#### **2.7(2) Admission with advanced standing**

A transfer student may be eligible for admission if the student (a) has attended a school approved by the Association of American Law Schools; (b) is in good standing at the time of withdrawal (evidenced by a letter from the dean of the school from which transferring); (c) meets the admission requirements for beginning students; and (d) has done substantially above average work in the law school the student attended. Where an applicant has completed more than one year of law study, advanced standing will be permitted only in exceptional cases. Applicants for admission with advanced standing should comply with the procedures required for admission to the first-year class.

### **681--2.8(262) College of Medicine**

#### **2.8(1) Application for admission**

Address all inquiries regarding admission to the Director of Admissions, University of Iowa.

Applicants are urged to apply as early as possible, since this will give the admissions committee more time to devote to each application. Closing dates for receiving applications will be announced well in advance of the opening date of any session.

Fulfillment of the specific requirements for admission listed below does not ensure admission to the college of medicine. From the applicants meeting the specific requirements, the admissions committee of the college of medicine

will select those applicants who in their judgment appear to be best qualified for the study and practice of medicine.

Prior to entrance an applicant must:

- a. Have received the baccalaureate degree; or
- b. Have completed three years of a combined baccalaureate-medicine curriculum which qualifies the applicant to receive the baccalaureate degree on completion of the first year in medicine; or
- c. Have completed three years of a baccalaureate program which includes the general graduation requirements of the college of liberal arts of the University of Iowa for the combined baccalaureate degree.

Each applicant must place on file in the office of the director of admissions the completed application form and an official transcript from each college attended.

The college work as outlined below will suffice to meet the minimal academic requirements for admission to the college of medicine.

Applicants who have completed the baccalaureate degree and required courses five or more years prior to seeking admission to this college of medicine will be considered by the admissions committee only under exceptional conditions.

The college curriculum must include at least three years (equivalent to 96 semester hours) including specific required science courses as prescribed by the faculty of the college.

Students planning to study medicine should bear in mind that other college work is required in addition to prerequisite sciences because it offers an opportunity to secure a well-rounded education, which is of special importance to those entering the medical profession. In the selection of applicants, preference will be given to those who give evidence of having obtained such a broad education.

To be considered for admission, an applicant must have attained a grade-point average of at least 2.5 for all college work undertaken. As the quality of work in premedical science is very basic to success in medicine, special attention will be given by the admissions committee to grades in science. The grade-point average is based upon the University of Iowa's marking system in which a grade of "A" is equivalent to four points. Other marking systems will be evaluated by the office of admissions and the committee on admissions of the college of medicine.

Preference will be given to applicants with high scholastic standing who are residents of Iowa, and consideration will also be given to outstanding nonresidents. Applicants for admission are required to take the medical college admissions test which is administered for the Association of American Medical Colleges. Applicants are requested to complete this test in May or October of the year preceding that for which they are applying for admission. Students may make arrangements to apply for this examination through the university examination service, the University of Iowa.

Personal interviews will be required. Applicants will be contacted for the appointment for required interviews.

Applicants accepted for admission are required to submit a satisfactory physical examination report to the university student health service within two weeks following notification of acceptance.

All applicants must also complete, through student health service, an X-ray film of the chest and successful vaccination against smallpox prior to registration.

#### **2.8(2) Admission to advanced standing**

If their work preparatory to entering a college of medicine would have met entrance requirements of this college, students from other approved medical colleges may be admitted to advanced standing according to the following conditions:

Only applicants of high scholastic standing will be considered.

They must present certificates showing that they have satisfactorily completed courses equivalent to those already pursued by the class they wish to enter.

The committee on admission to advanced standing will decide in each case whether examinations in the various subjects will be required.

Applications will be considered only upon receipt of a statement from the dean or registrar of the college from which the applicant comes, showing the actual amount of time the student has spent in the study of medicine, the courses taken, and the grades received, together with a statement of the work preparatory to entering upon the course in medicine.

No advanced standing will be granted to students from other than approved medical schools. Students may be granted subject credit upon recommendation of the head of the department concerned, for work taken in other than

medical schools.

### **2.8(3) Unclassified students**

Applicants for admission to the college of medicine who are not candidates for a degree but who desire to register for special subjects, will be admitted to any lecture or laboratory course only upon complying with all the regular requirements for admission to such course or by action of the faculty upon recommendation of the professor in charge of the course.

### **681--2.9(262) College of Nursing**

Applications for admission to the college of nursing should be submitted to the Director of Admissions, The University of Iowa, Iowa City, Iowa. Applicants for admission to the undergraduate program in nursing must present a minimum of 30 semester hours completed in an accredited college. For admission to the college of nursing an applicant must have:

1. Completed specific course work as prescribed by the faculty of the college. The director of admissions will provide a list of the course work required.
2. Completed the American College Tests.
3. Performed satisfactorily on all courses undertaken.

Applications from students who have minor deficiencies in meeting grade-point requirements specified above will be reviewed by the admissions committee of the college, and, upon favorable recommendation of the committee, such students may be granted conditional or probationary admissions.

Fulfillment of the minimum requirements listed above, however, does not assure admission to the college of nursing. From those applicants who meet the minimum requirements, the admissions committee will select the applicants who, in their judgment, appear to be best qualified.

### **681--2.10(262) College of Pharmacy**

#### **2.10(1) General basis for admission**

Fulfillment of the specific requirements for admission does not ensure admission to the college of pharmacy. From the applicants meeting the specific requirements, the admissions committee will select those applicants who in their judgment appear to be best qualified. Applicants for admission to pharmacy should have graduated from an approved high school or have an equivalent amount of training.

#### **2.10(2) College work**

The college work as outlined below will meet the minimum academic requirements for admission to the college of pharmacy. The minimum should include 32 semester hours of college level work exclusive of credit in military and air science and physical education. The 32 semester hours must include:

Communication skills. Applicants must have demonstrated satisfactory achievement in communication skills according to the requirements of the college of liberal arts at the state University of Iowa. Applicants from other institutions may meet this requirement by presenting six semester hours of credit in English composition and rhetoric and two semester hours of credit in speech or an eight-semester-hour year course in communication skills.

Inorganic chemistry and qualitative analysis, eight semester hours.

College mathematics, eight semester hours.

Physics or zoology, eight semester hours.

Students from other institutions may substitute a comparable eight-semester-hour course in biology in lieu of zoology.

Military or air science (if available), zero to two semester hours.

Students who present minor deficiencies in meeting the above requirements may be admitted to the college of pharmacy upon the recommendation of the dean of admissions and the college of pharmacy.

#### **2.10(3) Scholarship and application deadline**

To be considered for admission to the college of pharmacy, students must have earned a 2.0 or "C" average on all collegiate work undertaken. The minimum grade-point average of 2.0 is based on the state University of Iowa's marking system in which the grade of "A" is equivalent to four points. Applications for admission and the required official transcripts should be filed before March 1 for the class to enter pharmacy in September.

**2.10(4) Required tests**

Applicants for admission are required to take the American College Testing Program test.

**2.10(5) Current requirements**

Applicants who have completed work in a college of pharmacy accredited by the American Council on Pharmaceutical Education may if their college academic average is acceptable be admitted and granted advanced standing toward the degree of bachelor of science in pharmacy.

**681--2.11(262) College of Liberal Arts and Sciences**

Applicants for admission to liberal arts and sciences must meet the rules that are common to the three state institutions in Iowa as listed in 681--1.1(262), 1.2(262) and 1.3(262).

**681--2.12(262) College of Education**

Students at the university desiring professional work in education are registered in the college of liberal arts and sciences or the graduate college. Requirements for permission to take teacher-training courses are listed in the university catalog.

# University Calendar

## 2010 Fall Semester

August 23	Classes begin
September 6	University holiday
November 21-28	Thanksgiving recess
November 25-26	University holidays
December 10	Classes end
December 13-17	Exam week
December 23-24	University holidays

Fall commencement ceremonies: dates vary by college; see Commencement on the Office of the Registrar web site.

## 2010-11 Winter Session

December 27	Classes begin
December 31	University holiday
January 14	Classes end

## 2011 Spring Semester

January 17	University holiday
January 18	Classes begin
March 13-20	Spring break
May 6	Classes end
May 9-13	Exam week

Spring commencement ceremonies: dates vary by college; see Commencement on the Office of the Registrar web site.

## 2011 Summer Sessions

May 16-June 3	Three-week session
May 30	University holiday
June 13-July 29	Eight-week session
June 20-July 29	Six-week session
July 4	University holiday

Some University Calendar dates may change; see the most up-to-date academic calendar at <http://www.registrar.uiowa.edu>.

## Office of the Registrar Calendars

The Office of the Registrar provides several additional calendars that list detailed academic deadlines, final exam schedules, and University holidays. It also publishes an interfaith religious holiday calendar, an academic year desk calendar (PDF file), and a five-year academic calendar (PDF file available). See Calendars/Deadlines on the Office of the Registrar web site.

## Individual College Calendars

Some University of Iowa colleges have academic year schedules that are different from the one listed above. Contact the individual colleges or visit their web sites; use the A-Z Search or the Phonebook/E-mail directory on the University of Iowa home page (<http://www.uiowa.edu>).

## Campus Visits

Each year The University of Iowa is the destination for visitors with wide-ranging interests. Prospective and new students and their parents, new faculty and staff members, fans of intercollegiate athletics, University of Iowa Health Care patients, audiences for the visual and performing arts, museum visitors, and conference and continuing education participants are among those drawn to the campus.

### **Prospective and New Students**

Prospective and new students should come first to the Admission Visitors Center, C110 Pomerantz Center, 213 N. Clinton Street. The center is open weekdays 8:30 a.m. to 4:30 p.m. and selected Saturday mornings. It is best to visit the campus on weekdays, when classes are in session and when other University offices are open. Please call the Office of Admissions to arrange for a campus visit: toll-free nationwide 1-800-553-IOWA (4692); direct dial 319-335-1569.

### **Attractions, Campus Maps, Parking**

For links to campus maps, walking tours, how to arrange visits to varied attractions, and where to park on campus, see Campus Maps & Tours. For additional information about the University, use the A-Z Search on the University's home page (<http://www.uiowa.edu>).