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UMSL Bulletin 1997-1998

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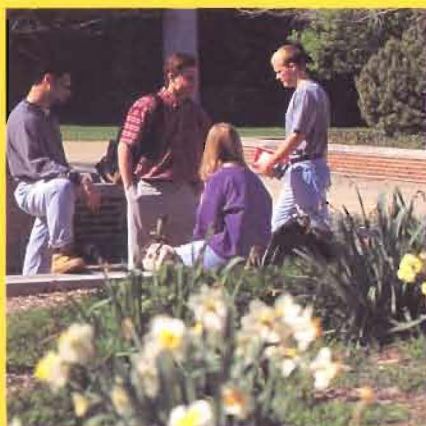
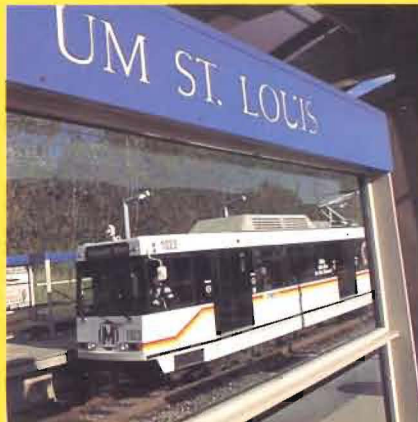
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BULLETIN

University of Missouri-St. Louis 1997-98 Undergraduate, Graduate & Professional Catalog



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University of Missouri-St. Louis 1997-98 Undergraduate, Graduate & Professional Catalog



University of Missouri-St. Louis
Volume 26 August 1997

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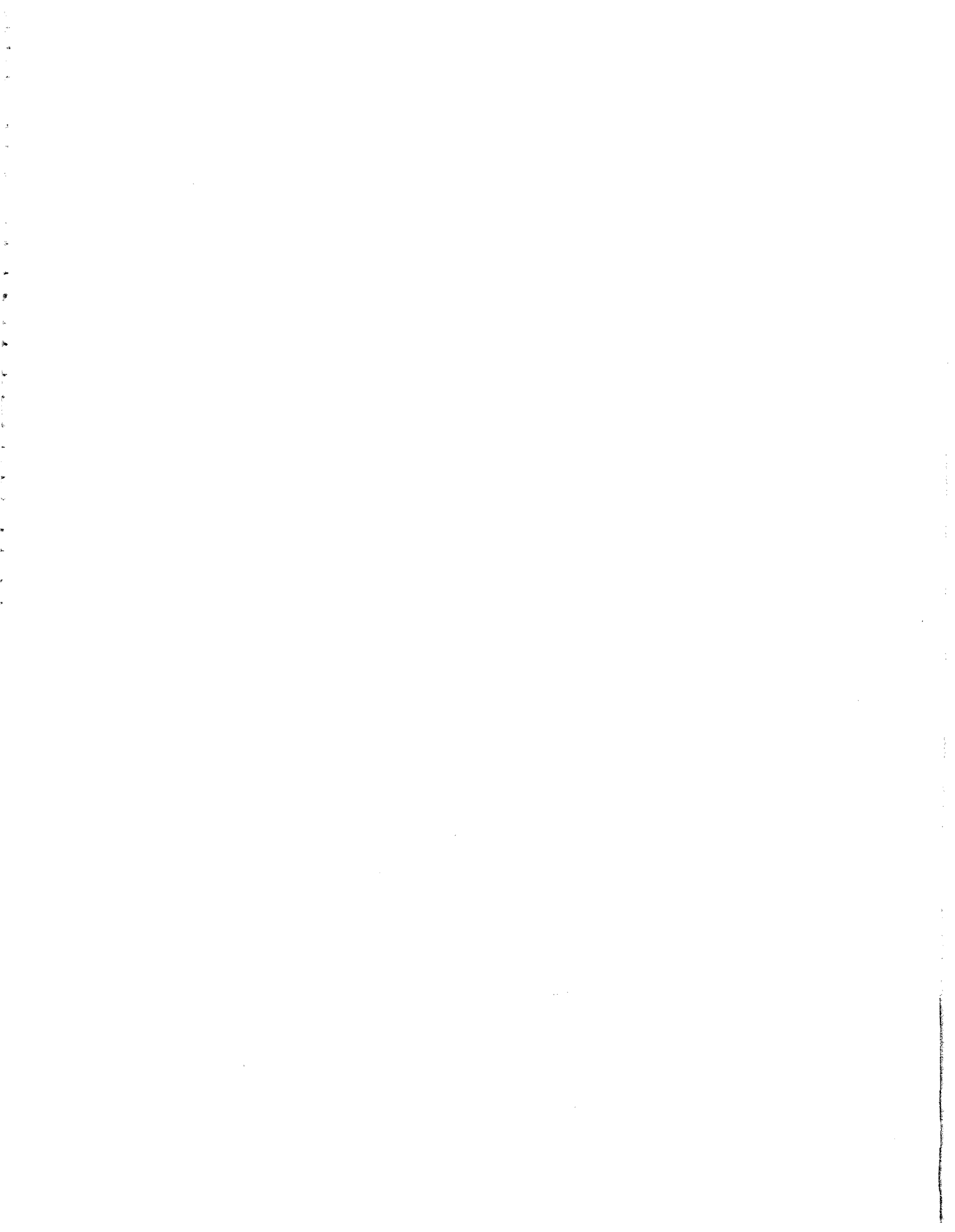


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Instructional Areas

Many departments offer courses in several subject areas. The following list is provided for easy student reference.

accounting
adult education
Africana Studies
American studies
anthropology
applied mathematics
archaeology
art
art history
astrophysics
athletic coaching
biochemistry
biology
biotechnology
black studies
business administration
chemistry
Chinese
classical studies
communication
communication theory and rhetoric
comparative politics
computer science
conservation biology
counselor education
creative writing
criminology and criminal justice
early childhood education
East Asian studies
economics
educational administration
educational foundations
educational psychology
educational research and evaluation methods
educational technology
elementary education
employee training and development
engineering
English
European studies
Fine arts
foreign languages
French
German
gerontology
graphic design
Greek
Hebrew
history
home economics
interdisciplinary studies
international relations
Italian
Japanese
jazz studies
Korean
Latin American Studies
Latin
legal studies
management and organizational behavior
management information systems
management science
marketing
mass communication
mathematics
medical physics
music
music education
non-profit organization management and leadership
nursing
optometry
painting
philosophy
photographic studies
physical education
physics
political science
Portuguese
pre-architecture
pre-engineering
prejournalism
prelaw
premedicine
pre-optometry
prepharmacy
printmaking
probability and statistics
psychology
public administration
public affairs journalism
public law
radio and television
religions
Reserve Officer Training Corps
Russian
secondary education
social work
sociology
Spanish
special education
statistics
studio art
trauma studies
urban politics
urban studies
women's and gender studies
writing

Preface

This Bulletin includes a description of undergraduate and graduate programs at the University of Missouri-St. Louis. All statements in this publication concerning regulations, fees, curricula, or other matters are subject to change without notice. They are not to be regarded as offers to contract.

The University of Missouri-St. Louis is accredited by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools. This accreditation applies to all baccalaureate, masters, and doctoral levels.

The policies of the University of Missouri-St. Louis comply with the provisions under those laws which forbid discrimination on the basis of race, color, sex, national origin, religion, age, handicap, or veteran status in any program or activity of the University.

Demographic data is obtained by the University in order to determine the effect of efforts related to the provision of equal educational opportunity. Completion of this information is optional.

For the benefit of prospective students, academic departments generally maintain current employment information including average starting salary, forecast of job opportunities, number of students being graduated, and number employed. Students may contact their major department for the latest information available.

While students should study current employment data, these points should also be considered: (1) Employment conditions are subject to sudden change and may change considerably over a four-year period; (2) A student who excels is most likely to find employment; (3) A degree from a quality institution generally provides a competitive edge in the job market; (4) A degree offers more than a job opportunity.

Information regarding the provision of auxiliary aids and services to qualified students with disabilities can be found in Admissions and Academic Policies of the University of Missouri-St. Louis Bulletin. Students considering such assistance should contact the Administrator for Special Student Programs at 516-5211 voice or 516-5212 TT for further details.

Address inquiries regarding admission to all divisions of the University of Missouri-St. Louis to the Director of Admissions, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499.

For information concerning the University of Missouri-Columbia, the University of Missouri-Rolla, or the University of Missouri-Kansas City, write directly to the Director of Admissions at the campus concerned.

Course Numbering

Each course bears a distinguishing number which identifies it within the department or academic unit and indicates, broadly, its rank. The numbering system is as follows:

Course Descriptions and Guide to Course Lists

1 to 99, primarily for freshmen and sophomores.

100 to 199, primarily for upperclassmen, no graduate credit.

200 to 299, for undergraduates and appropriate professional and graduate students, except those whose graduate majors are in the department in which the course is given.

300 to 399, for undergraduate, appropriate professional, and graduate students without restriction as to students' graduate majors.

400 to 499, primarily for graduate and appropriate professional students in special programs; upper-class students are admitted to courses in this series only with the approval of the graduate dean.

500 to 599, for professional optometry students. Other students are admitted to courses in this series only with the approval of the Optometry Dean. In addition, these numbers are used for courses offered in the cooperative MSN program between UM-St. Louis and UM-Kansas City.

General Education Requirement Courses

Courses which fulfill the University's general education requirements, as outlined in the Academic Policy section of this Bulletin, are listed at the beginning of each departmental course section.

Each list of course numbers also is identified by one of the following breadth of study areas:

[H] Humanities requirement

[SM] Natural sciences and mathematics requirement

[SS] Social sciences requirement

Eye Protection Law

It is now a law in the state of Missouri that every student, teacher, and visitor must wear approved eye protection devices when participating in or observing certain university courses. Definitely included in this act, which is posted along with University policy in selected buildings on this campus, are courses requiring chemical, physical, combined chemical-physical laboratories and shops, as well as certain vocational, technical, and industrial arts courses. Consult your instructors for exact requirements. Approved safety glasses and goggles must meet ANSI Standard Z87.1-1968 and are available from the UM-St. Louis Bookstore.

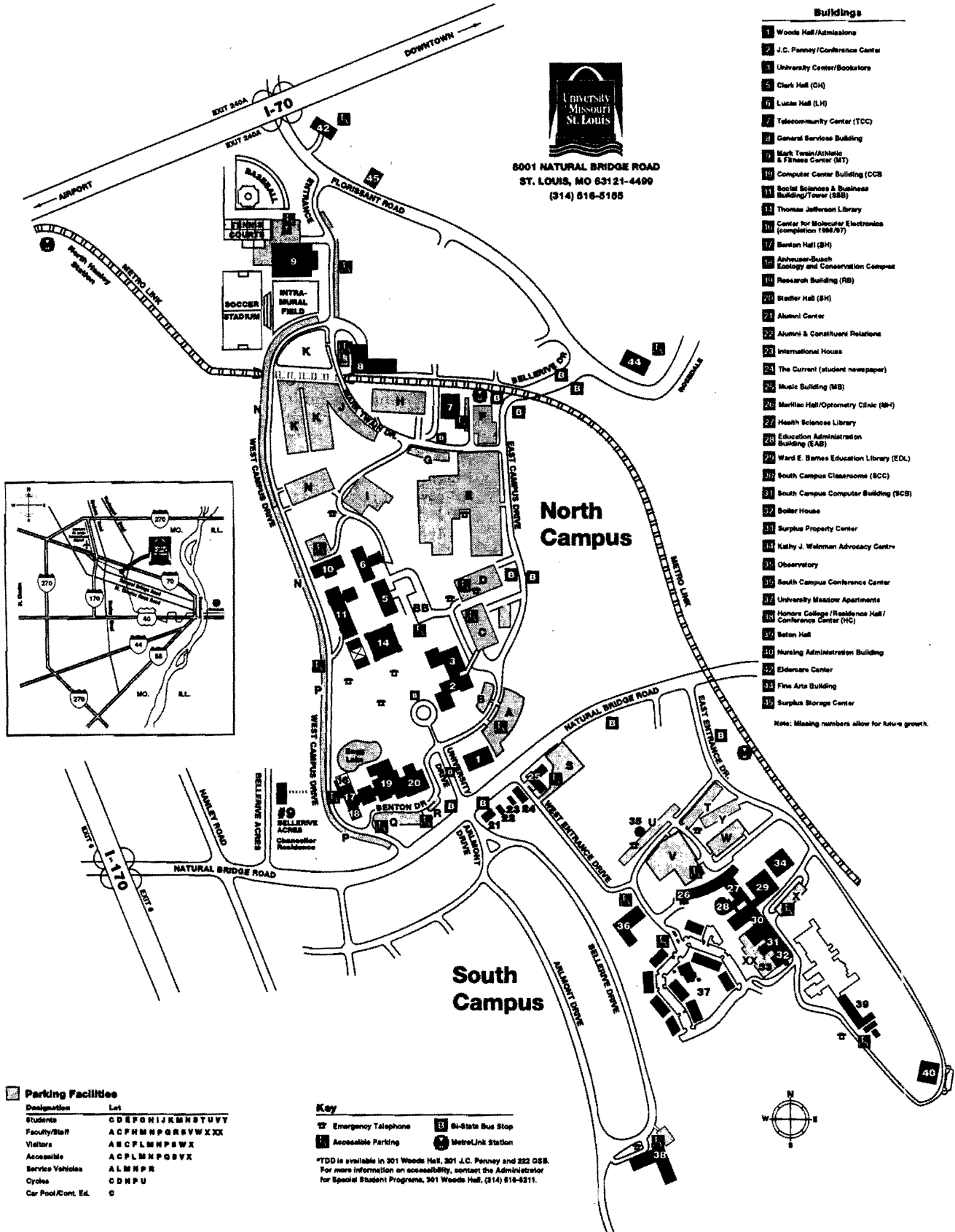
University Policy on Equal Opportunity

The Curators of the University of Missouri do hereby reaffirm and state the policy of the University of Missouri on Equal Employment/Educational Opportunity. Equal Opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and competence without discrimination on the basis of their race, color, religion, sex, national origin, age or disability. Equal opportunity is and shall be also provided for all students and applicants for Admission in compliance with existing legislation. The President of the University shall establish affirmative action procedures to implement this policy.

Inquiries regarding compliance with these regulations may be directed to the:

Office of Equal Opportunity/Affirmative Action,
the University of Missouri-St. Louis,
St. Louis, Missouri 63121-4499, (314) 516-5689.

Campus Map




6001 NATURAL BRIDGE ROAD
ST. LOUIS, MO 631 21-4499
(314) 816-8188

- Buildings**
- 1 Woods Hall/Admissions
 - 2 J.C. Penney/Conference Center
 - 3 University Center/Bookstore
 - 4 Clark Hall (CH)
 - 5 Lucas Hall (LH)
 - 6 Telecommunity Center (TCC)
 - 7 General Services Building
 - 8 Mark Twain/Athletic & Fitness Center (MT)
 - 9 Computer Center Building (CCB)
 - 10 Social Sciences & Business Building/Tower (SSB)
 - 11 Thomas Jefferson Library
 - 12 Center for Molecular Electronics (completion 1999/07)
 - 13 Benton Hall (BH)
 - 14 Anheuser-Busch Ecology and Conservation Center
 - 15 Research Building (RB)
 - 16 Steiner Hall (SH)
 - 17 Alumni Center
 - 18 Alumni & Constituent Relations
 - 19 International House
 - 20 The Current (student newspaper)
 - 21 Music Building (MB)
 - 22 Marilao Hall/Optometry Clinic (MH)
 - 23 Health Sciences Library
 - 24 Education Administration Building (EAB)
 - 25 Ward E. Barnes Education Library (EDL)
 - 26 South Campus Classrooms (BCC)
 - 27 South Campus Computer Building (SCB)
 - 28 Boiler House
 - 29 Surplus Property Center
 - 30 Kathy J. Walkman Advocacy Center
 - 31 Observatory
 - 32 South Campus Conference Center
 - 33 University Meadow Apartments
 - 34 Honors College/Residence Hall/Conference Center (HC)
 - 35 Nelson Hall
 - 36 Nursing Administration Building
 - 37 Eldercare Center
 - 38 Fine Arts Building
 - 39 Surplus Storage Center
- Note: Missing numbers allow for Arts-a growth.

Parking Facilities

Designation	Lot
Students	C D E F G H J K M N S T U V Y
Faculty/Staff	A C F H M P Q R S V W X Z
Visitors	A B C F L M P Q S V X
Accessible	A C F L M P Q S V X
Service Vehicles	A L M N P R
Cycles	C D N P U
Car Pool/Comm. Ed.	C

- Key**
- Emergency Telephone
 - Bi-State Bus Stop
 - Accessible Parking
 - MetroLink Station

*TDD is available in 301 Woods Hall, 301 J.C. Penney and 252 GER. For more information on accessibility, contact the Administrator for Special Student Programs, 301 Woods Hall, (314) 816-4211.



University Programs and Offices

Academic Affairs, Vice Chancellor

401 Woods, 516-5371

Administrative Services, Vice Chancellor

243 General Services Bldg., 516-6100

Admissions

101 Woods, 516-5451

Alumni Relations

421 Woods, 516-5776

Alumni Center

7956 Natural Bridge, 516-5722

Anthropology Department

607 Tower, 516-6020

Art and Art History Department

590 Lucas, 516-5975

Arts and Sciences, College of

305 Lucas, 516-5501

Academic Advising

303 Lucas, 516-5300

Athletics Office

225 Mark Twain, 516-5641

Behavioral Studies Department

469 Marillac, 516-5782

Biology Department

223 Research Bldg., 516-6200

Bookstore

50 University Center, 516-5763

Bridge Program

201 WEB Education Library, 516-5196

Business Administration, School of

487 SSB Bldg., 516-5881

Cable TV Studio

116 Lucas, 516-6180

Cafeteria, "Underground"

University Center

Career Placement Services

308 Woods, 516-5111

Cashier's Office

204 Woods, 516-5151

Center for Academic Development (CAD)

507 Tower, 516-5194

Center for Business and Industrial Studies

461 SSB Bldg., 516-5857

Center for Cornea and Contact Lens Research

441 Marillac, 516-6259

Center for Economic Education

306 Tower, 516-5248

Center for Humanities

406 Lucas, 516-5699

Center for International Studies

366 SSB Bldg., 516-5753

Center for Metropolitan Studies

362 SSB Bldg., 516-5273

Center for Molecular Electronics

3115-I Benton, 516-5340

Center for Excellence in Urban Education

359 Marillac Hall, 516-5862

Center for Neurodynamics

333 Benton, 516-6150

Center for Science and Technology

315 Benton, 516-5349

Chancellor's Office

401 Woods, 516-5252

Chemistry Department

315 Benton, 516-5311

Child Development Center

130 South Campus Classroom Bldg., 516-5658

Communication Department

590 Lucas, 516-5485

Computing, Office of

103 SSB Bldg., 516-6000

Continuing Education & Outreach

201 J.C. Penney;

Credit Courses, 516-5655

Noncredit Courses, 516-5961

Counseling

427 SSB Bldg., 516-5711

Criminology and Criminal Justice Department

598 Lucas, 516-5031

Development Office

421 Woods, 516-5664

Disabled, Students

301 Woods, 516-5211

Dispute Resolution Program

362 SSB Bldg., 516-6040

Economics Department

347 SSB Bldg., 516-5351

Education, School of

201 Education Administration Bldg., 516-5109; Office of

Teacher Education, 155 Marillac, 516-5937; Graduate

Studies in Education, 201 WEB Library, 516-5483

Educational Studies Department

269 Marillac, 516-5944

Adult Day Services Center

8351 S. Florissant, 524-0155

Elementary, Early Childhood, and Physical Education

Department

369 Marillac, 516-5791

English Department

484 Lucas, 516-5541

Engineering

228 Benton, 516-6800

Evening College

324 Lucas, 516-5161

Facilities Management

234 General Services Bldg., 516-6300

Financial Aid

209 Woods, 516-5526

Fine Arts

204 Fine Arts, 516-6967

Foreign Languages and Literatures Department

554 Clark, 516-6240

Gallery 210

218 Lucas, 516-5976

Gerontology

406 SSB Bldg., 516-5280

Graduate School

341 Woods, 516-5900

Graphics

252 General Services, 516-5167

Health Center

127 Woods, 516-5671

History Department

484 Lucas, 516-5681

Horizons

427 SSB, 516-5730

University Programs and Offices

Human Resources

211 General Services Bldg., 516-5804

Instructional Technology Center

304 SSB Bldg., 516-6171

KWMU 90.7 FM Radio

105 Lucas, 516-5968

Libraries

Thomas Jefferson, 516-5050;

Ward E. Barnes Education, Library, South Campus Complex, 516-5571; Health Sciences Library, South Campus Complex, 516-5110

Mathematics and Computer Science Department

500 Clark, 516-5741

Mathematics and Science, Education Center

246 Benton, 516-5650

Multicultural Relations/Academic Affairs

440 Woods, 516-6807

Music Department

211 Music Bldg., 516-5980

Nursing, Barnes College of

218 Administration Building-South Campus, 516-6066

Office of Equal Opportunity/Affirmative Action

414 Woods, 516-5689

Optometry, School of

331 Marillac, 516-5606

Academic Advising, 343 Marillac, 516-5607

Admissions, 344 Marillac, 516-6263

Optometry, Clinic

152 Marillac, 516-5131

Payroll

211 General Services, 516-5237

Philosophy Department

590 Lucas, 516-5631

Physical Education Program

225 Mark Twain, 516-5226

Physics and Astronomy, Department

517 Benton, 516-5931

Pierre Laclède Honors College

516-6870

Police

44 Telecommunity Center, 516-5155

Political Science Department

347 SSB, 516-5521

Pre-Employment Training Program

313 Marillac, 516-5746

Printing Services

261 General Services Bldg., 516-5233

Psychology Department

325 Stadler, 516-5391

Public Policy Administration

406 Tower, 516-5145

Public Policy Research Centers

362 SSB Bldg., 516-5273;

The James T. Bush Sr., Center; Metropolitan Studies; Public Policy, Extension/Survey and Applied Research

Purchasing

201 General Services Bldg., 516-5366

Records and Transcripts

232 Woods, 516-5676

Registrar's Office

232 Woods, 516-5545

Registration

232 Woods, 516-5545

Research, Office of

338 Woods, 516-5897

Residential Life

Seton Center, 516-6877

ROTC

Washington University, 935-5546

Safety & Risk Management

265 General Services Bldg., 516-6363

Social Work Department

590 Lucas, 516-6385

Sociology Department

347 SSB, 516-6364

Spirit

440 Woods, 516-5663

Sports Information

225 Mark Twain, 516-5660

Student Affairs, Vice Chancellor

301 Woods, 516-5211

Student Employment Program

346 Woods, 516-5317

Telecommunity Center

1 Mark Twain Drive, 679-1400

Tutorial Services

507 Tower, 516-5194

UM-Rolla Engineering Education Center

34 Telecommunity Center, 516-5431

UM-St. Louis/Washington University Joint

Undergraduate Engineering Program

228 Benton, 516-6800

University Center

267 University Center, 516-5291

University Communications

421 Woods, 516-5827

University Meadows

516-7500

University Relations

426 Woods, 516-5778

Urban Information Center

442 CCB Bldg., 516-6000

Veteran Affairs, Office of

232 Woods, 516-5546

Video Instructional Program

115 Lucas 516-5370

Women's Center

211 Clark, 516-5380

Women's and Gender Studies

548 Lucas, 516-5581

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Residencies
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Aaron Franzel, O.D., Chief, Pediatric/Binocular Vision
Service

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Vacant, Director, Human Resources
Bob Roeseler, Director, Institutional Safety
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M. Sharon Biegen, Ph.D., Director, Counseling Service
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Mark O'Reilly, Director, Graphics and Printing
Robyn Wahby, Manager, Alumni Relations
Lucinda R. Vantine, B.A., Manager, Special Events
Maureen Zegel, B.A., Manager, Media Relations

Academic Calendar

1997 Fall Semester

August

- 25 Monday, Classes Begin: 8:00 a.m.
30 Saturday, Labor Day Holiday
begins at 3:00 p.m.

September

- 2 Tuesday, classes resume 8:00 a.m.

November

- 25 Tuesday, Thanksgiving holiday
begins 11:00 p.m.

December

- 1 Monday, classes resume 8:00 a.m.
10 Wednesday, classes end at 11:00 p.m.
11, 12 Thursday, Friday, intensive study days *
15 Monday, final examinations begin
23 Tuesday, first semester closes, end of day

1998 Winter Semester

January

- 11 Sunday, mid-year commencement
12 Monday, Classes Begin: 8:00 a.m.
19 Monday, Dr. Martin Luther King Holiday

February

- 28 Saturday, Spring Recess Begins: 3:00 p.m.

March

- 9 Monday, Class Resumes 8:00 a.m.

May

- 4 Monday, classes end at 11:00 p.m.
5, 6 Tuesday, Wednesday, Intensive Study Days*
7 Thursday, Final examinations begin
14 Thursday, Second semester closes,
end of day
17 Sunday, annual commencement

- * Intensive Study Days—No classes held:
no exams scheduled

1998 Four-Week May Intersession

May

- 18 Monday, classes begin 8:00 a.m.
25 Monday, Memorial Day Holiday

June

- 12 Friday, session closes, end of day

1998 Eight-Week Summer Session

June

- 15 Monday, classes begin: 8:00 a.m.

July

- 3 Friday, Independence Day Holiday

August

- 5, 6 Wednesday, Thursday, Final Examinations
6 Thursday, session closes: end of day
9 Sunday, summer commencement

Classes for the eight-week session begin June 15 and end August 6

- * Intensive Study Days—No classes held:
no exams scheduled

Introduction to UM-St. Louis

The University of Missouri-St. Louis is one of four campuses that constitute the University of Missouri, the ninth largest university in the United States. Founded in 1839 upon the ideals of Thomas Jefferson, the University of Missouri became a land-grant institution following passage of the Morrill Act by Congress in 1862.

The University remained a single-campus institution until 1870 when the Rolla campus was opened. Two campuses were added in 1963. The private University of Kansas City became UM's Kansas City campus, and an entirely new campus was started in St. Louis.

In the 1960s a movement began across the country toward the creation of public universities located within metropolitan centers. That movement marked the most significant change in higher education in the twentieth century, and the University of Missouri-St. Louis is a product of that educational development.

UM is governed by a nine-member Board of Curators appointed by the governor and confirmed by the state Senate. The Curators name the president of the University. Each campus is supervised by a chancellor.

UM-St. Louis, the fourth campus of the University of Missouri, was established in 1963. The notion of a major public institution serving the St. Louis area evolved from a dream to a solid reality, and today exceeds the expectations of those who created it.

Since the doors of the old Administration Building opened more than 30 years ago, UM-St. Louis has become the largest university serving St. Louisans and the third largest university in the state.

The University faculty has grown from 30 in 1963 to more than 900 members, committed to the future of the St. Louis area through teaching, research, and service.

One of the keys to this University's development as an outstanding institution has been the careful selection of faculty over the years. UM-St. Louis has attracted some of the top authorities in many fields. More than 90 percent of the full-time faculty hold doctoral degrees, a figure that far exceeds the national average. These professionals develop new theories and new procedures, and in so doing attract hundreds of thousands of dollars each year in research funding.

Student enrollment has grown from 600 in 1963 to more than 16,000 in the 1996-97 school year. The numbers have changed, but not the spirit. Faculty and students are still most concerned with the education of new talent, which is the basis for the future social, intellectual, and economic health of Missouri's largest metropolitan area.

From its beginning on what was once the site of a country club with a single building, the University of Missouri-St. Louis has grown to a large modern campus of some 73 buildings on 250 acres, offering a full university experience.

The curriculum has grown to include 42 undergraduate programs, 26 master's programs, seven preprofessional programs, ten doctoral programs, and one professional degree program. There are programs which answer the particular needs of older students returning to school; of students pursuing pre-architecture, prelaw, premedicine, prepharmacy, pre-engineering, or prejournalism courses; of students interested in urban careers. There are also many opportunities for students to combine their academic course work with internships that often lead to job offers.

Mission Statement

As one of the four campuses comprising the University of Missouri, the University of Missouri-St. Louis has served the citizens of the St. Louis metropolitan area since 1963. It shares the University's land-grant tradition and is committed to research and public service. The productive scholars on the campus' faculty contribute significantly to the theoretical and applied research in their fields. The campus' business, chemistry, political science, and metropolitan studies programs already are internationally recognized. As it develops, the campus will support other centers of excellence in departments or clusters of departments as the quality of scholarship achieves consistent international recognition.

In addition to its role to advance knowledge as part of a comprehensive research university, the University of Missouri-St. Louis has a special mission determined by its urban location and its shared land-grant tradition. It works in partnership with other key community institutions to help the St. Louis region progress and prosper.

Through its seven schools and colleges, the campus provides opportunities for all the people of the metropolitan area, including the economically disadvantaged, to receive high quality and accessible liberal arts, career, professional, and graduate education.

Through a careful melding of strengths in scholarly research, teaching, and community service, the University of Missouri-St. Louis plays a leadership role in advancing scholarship; providing quality undergraduate, graduate, and professional instruction to the large and diverse numbers of students in the St. Louis area, while it contributes to economic development throughout the state and region.

In shaping and evaluating its undergraduate curriculum, the University of Missouri-St. Louis fosters intellectual independence, sound judgment, clarity of expression in writing, aesthetic refinement, and sharpened analytical skills. The campus provides high quality undergraduate, graduate, and professional instruction to an ethnically, racially, and economically diverse student body. Special efforts are made to fulfill the University's land-grant mandate to serve the working people of the state. Because most of the campus' graduates remain in the metropolitan area, they enhance the economic development and quality of life of the metropolitan area and the state.

Introduction to UM-St. Louis

These research, instructional, economic development and community service missions are accomplished by on-campus and extension programs in the schools and colleges of Arts and Sciences, Business, Education, Nursing, and Optometry, as well as the Evening College and the Division of Continuing Education-Extension. In addition, the campus' humanities, fine arts, and performing arts programs enrich the cultural life of the metropolitan area.

The University of Missouri-St. Louis will work vigorously to achieve equal opportunity for all within the campus community through a strong affirmative action program.

The University: Academic Structure

The academic structure of the University consists of the College of Arts and Sciences, School of Business Administration, School of Education, Evening College, Graduate School, Barnes College of Nursing, School of Optometry, UM-St. Louis/Washington University Joint Engineering Program and Continuing Education-Extension.

The College of Arts and Sciences, the largest of the divisions, includes 18 academic departments that combine the best features of two different educational worlds. One world consists of general educational offerings and provides students with opportunities to acquire a breadth of knowledge and a foundation in the basic skills of intellectual inquiry. The other world supplies the basic preparation for the student's professional life by providing learning experiences leading to a career in a specific field.

The School of Business Administration maintains a balance between the specialization of professional courses and the diversity of liberal arts. Besides training students as qualified professionals for the business world, the School of Business Administration, through its bachelor's degree and master's degree programs expands student capability in communication, analysis, and judgment, thus enabling our graduates to deal more effectively with today's complex economic environment.

The School of Education provides undergraduate and graduate programs to prepare and sustain educational leaders for a variety of school and nonschool settings. The School is consistently one of the top three institutions in the state in the production of educators. consistent with the School's theme of "Creating the 21st Century School of Education," programs emphasize state-of-the-art technological applications to enhance teaching and learning as well as collaboration among university, school, agency, and corporate partners to prepare and revitalize educators. The faculty, including a number of nationally recognized endowed professors, is committed to a continuous exchange between research and practice that improves the learning environment for diverse learners.

The Evening College was established to provide a university education for those who cannot attend classes during the day. For those interested in traditional university study, the Evening College offers almost all of the degree programs available to day students and ensures that these programs conform to the same standards and requirements as their daytime counterparts. For students seeking innovative

approaches to education, the Evening College has the Bachelor of General Studies (BGS) Program, a unique concept designed for mature individuals who want more flexibility in reaching their educational goals. BGS students choose courses from the UM-St. Louis curriculum that they view as important to their education, and their degree program's structure will thus vary according to their needs. Most campus services available to day students are also available to Evening College students.

Programs offered in the UM-St. Louis **Graduate School** fall into two categories: professional programs designed to develop a special competence in a particular field, and academic programs designed to develop the student's command of a range of related subjects within a field. These graduate programs are carefully structured to meet the needs of the metropolitan area and to give students the skills and professional competence to succeed in today's world.

The School of Optometry is one of 17 schools of optometry in the United States. The School provides its students with a professional optometric education and clinical experience. Facilities are furnished with equipment for teaching and research. The School operates the University Eye Center located on campus, the Optometric Center of St. Louis located in the Central West End, and the East St. Louis Eye Center, jointly owned and operated by the UM-St. Louis School of Optometry and Southern Illinois University at Edwardsville.

The Pierre Laclède Honors College, inaugurated in 1989, brings together a highly select group of intellectually curious and gifted students who are pursuing various career goals and earning degrees in disciplines offered by the University's other undergraduate schools and colleges. These Honors Scholars follow a special curriculum that combines a series of innovative Honors College classes and course work done for Honors credit in their major areas. They actively engage in their education in small seminars led by some of the University's finest teachers. In addition to offering scholarships and stipends, the Honors College has unique features such as the Community Mentorship Program which links Scholars with model urban citizens who share their interests.

The Barnes College of Nursing offers innovative programs at the bachelor's, master's and doctoral levels. The Bachelor of Science in Nursing is available for the individual wishing to pursue a program of studies which will lead to eligibility to complete state licensure examinations to become a registered nurse (R.N.). In addition, an upper level option designed for the associate degree or diploma educated registered nurse is available which avoids repeating basic nursing course work. The Master of Science in Nursing is a cooperative program with UM-Kansas City School of Nursing and offers studies in Adult, Children and Women's Health. Practitioner options are also available (Family, Pediatric, and Women) as part of the MSN program. The PhD in Nursing offers studies focused on Health Promotion and Protection, Health Restoration and Support, and Health Care Systems. Studies at all three levels may be pursued full-time or part-time.

Introduction to UM-St. Louis

UM-St. Louis/Washington University Joint Undergraduate Engineering Program. In a pioneering program, the University of Missouri-St. Louis and Washington University have joined forces to offer Bachelor of Science degrees in mechanical, electrical and civil engineering. Students who enter the program take about half of their coursework—mathematics, physics, chemistry, humanities and social sciences, and some elementary engineering subject—on the campus of UM-St. Louis. The remaining half of their degree programs, consisting of upper level engineering courses and laboratories, is taken on the campus of Washington University and taught by Washington University engineering faculty members. Students register for all courses at UM-St. Louis, pay tuition at UM-St. Louis rates (plus a small surcharge on engineering courses), and receive their degrees from the University of Missouri.

The Continuing Education-Extension Division extends the University's expertise to the community by offering a variety of credit and noncredit courses, both on and off campus. It also sponsors programs in the community, such as the annual St. Louis Storytelling Festival. In 1996-97, more than 89,700 participants were served in 3,000 credit and noncredit programs.

The Office of International Student Services of the Center for International Studies provides and coordinates services for undergraduate and graduate international students including admissions, visa and immigration matters, information requests, credentials evaluation, non-academic advising, initial campus arrival, orientation, social activities, and referrals to other campus academic and non-academic departments.

In cooperation with other units, the office arranges campus tours and information sessions for international students provides assistance with initial arrival and settling-in, and encourages international students to participate in student life including international student organization, the resident hall mentoring program, international student speakers bureau, and other campus and community activities. Also see section on *Students from Other Countries* on page 19.

The University: Student Life

UM-St. Louis is an educational institution that both provides opportunities for all students through a demanding curriculum. But the life of the University is not all work. There are a great many leisure-time activities, either free or at reduced cost to students. Numerous student organizations, from the Accounting Club to Zeta Tau Alpha sorority, seek members—and leaders. Interesting speakers, concerts, film series, plays, exhibits, recitals and a host of informal gatherings crowd each week's schedule. And, if that's not enough, the St. Louis area offers still more recreational, sports, and cultural events.

The University offers a wide range of varsity and intramural sports of interest to UM-St. Louis students, whether as players or spectators. On the varsity level, the UM-St. Louis Rivermen and Riverwomen compete in most major sports. UM-St. Louis men's soccer teams have participated in numerous NCAA Division II tournaments; the team won

the national title in 1973. The men's basketball, baseball, swimming and golf teams frequently play in national tournaments. The expanding women's program includes varsity competition in basketball, soccer, softball, volleyball, swimming, and tennis. The UM-St. Louis women's soccer team ranks annually in the top 20 teams nationwide.

The Mark Twain athletic facility offers a state-of-the-art fitness center, weight room, a swimming pool, basketball, volleyball, handball, and racquetball courts. Outdoor facilities include tennis and handball courts, a fitness trail, and baseball, soccer and softball fields.

Students will find fitness activities, both organized and individual, to suit their interests and needs. Intramural sports are available to all students, with schedules designed for maximum participation.

The University: Its Graduates

The graduates of the University of Missouri-St. Louis reflect the diversity found in a metropolitan community. The University has more than 50,000 graduates living in all fifty states and several foreign countries. Of these alumni, more than 80 percent continue to live and work in the St. Louis metropolitan area.

The University is a major force in providing the region with a highly educated and diverse work force. Our alumni can be found in companies and organizations throughout the region and nation. UM-St. Louis has graduated more than 6,000 accountants, 600 nurses and 400 doctors of optometry. With more than 8,000 graduates, the School of Education is the largest educator of teachers in the St. Louis metropolitan area.

The graduates of UM-St. Louis are establishing a new kind of university - a public, metropolitan institution with a commitment to academic excellence and service to the community. We are proud of the tradition these alumni have established and we are committed to continue to be a valuable asset to our community and to the region.

Undergraduate Study

This section includes admission, general education degree requirements, and academic policies for students seeking undergraduate degrees from the University of Missouri-St. Louis.

Admission and Application Procedure

Admission for First-Time Freshmen

The University of Missouri has a uniform policy for the admission of freshman students to its four campuses. The four campuses are of equal stature in the University system, and a common standard is applied at each campus. The procedure for regular admission from high school is described in this publication.

Selection of students for regular admission is based on high school class rank, performance on a standardized college aptitude test, and required high school units. Students must also submit their high school transcripts and, where appropriate, recommendations by persons knowledgeable of their potential for success in university-level education.

Admission Procedure

Students applying as first-time freshmen (i.e., students without previous college work) need to submit to the University of Missouri-St. Louis Director of Admissions three documents:

- 1) **Undergraduate Application for Admission form:** You may request one by calling the Office of Admissions at (314) 516-5451.
- 2) **High School Transcript and Class Rank:** The transcript must be sent directly from the high school to the UM-St. Louis Admissions Office. The transcript should indicate the class rank at the time of application and all courses satisfactorily completed. For those students applying during their senior year in high school, which will include most applicants, class rank as of the end of six semesters (end of junior year) will be used. If a later class rank is available at the time application is made, it should be used.
- 3) **College Aptitude Test:** The University's freshman admissions procedure requires that a test score be submitted for each applicant. This requirement may be met by a score from any one of the following College Aptitude Examinations:

American College Testing Program (ACT) These tests are administered at many locations across the country under the auspices of the ACT program. Students who participate in this program should request that score reports be sent to the university campuses to which they apply.

Scholastic Aptitude Test (SAT) This test is administered at many locations across the country under the auspices of the College Entrance Examination Board. Students who take the SAT should request that score reports be sent to the campuses to which they apply.

Admission Requirements

(Effective Fall 1997)

Any high school graduate is admissible without further data upon submission of a transcript or other evidence indicating he or she meets both the following requirements:

- 1) **At least 17 units of credit** (1 unit=1 year in class) as follows:

English: Two units emphasizing composition or writing skills are required. One of the remaining two units may be in speech or debate—**4 units**

Mathematics: (Algebra 1 and higher)—**4 units**

Science: Not including general science, one of 3 units which must be a laboratory course—**3 units**

Social Studies: **3 units**

Fine Arts: **1 unit**

Foreign Language: Must be 2 units of a single language.—**2 units**

- 2) **In addition**, each student will be evaluated on the basis of High School Rank Percentile (HSCR) and Test Score.

The University seeks a heterogeneous student body reflecting diversity of race, ethnicity, age, geography, (including international students) and physical disability. Factors given prime consideration for admission to undergraduate study are an applicant's previous academic success and the quality of the record presented. Applicants who do not meet the criteria set forth in sections 1 and 2 may be considered by applying to the Director of Admissions. Additional factors considered for admissions include:

- Extensive extracurricular activity involving school, church, or community;
- Outstanding talent and/or abilities;
- Number and scope of college preparatory courses taken;
- Evidence of marked improvement over time in high school academic record;
- Significant work experience and/or family responsibilities;
- Supporting evidence attesting to one or more of the above in student's own hand (in the form of essay).

Out-of-State Freshmen The same admissions requirements apply to all out-of-state freshmen who have graduated from an accredited high school. Students should be aware that the University of Missouri-St. Louis provides limited Residence Hall facilities. **Nonresident students must pay nonresident educational fees in addition to regular educational fees.**

When to Apply

Qualified applicants are admitted and notified by letter of their admission in the order that completed applications are received. Applications are accepted after October 1 for the next Fall Semester on the basis of six or more high school semesters. Completed applications, including high school transcripts and test scores, should be on file by July 1 to guarantee that they will receive full consideration. Datelines are July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

Undergraduate Study

Acceptance

Upon acceptance to the Fall or Winter Semester, students must submit a final high school transcript indicating their class rank and graduation date. First-time freshmen must take placement examination in mathematics. Arrangements for this exams are made with students through the Office of Admissions after notification of admission.

Advanced Standing for Entering Freshmen

The University of Missouri-St. Louis grants credit hours to entering freshmen who, through their performance on College Entrance Examination Board Advanced Placement Tests and faculty-administered tests, demonstrate proficiency in certain college-level courses, such as accounting, biology, chemistry, English, foreign languages, history, mathematics, political science, and physics. For further information and applications, write to College Board Placement Examinations, Box 592, Princeton, New Jersey 08540. The score-reporting institution code number for the University of Missouri-St. Louis is 6889. Test scores should be sent to the Director of Admissions and must be on file before the first day of classes. A brochure with detailed information is available in the Office of Admissions.

Dual High School/University Enrollment

Superior high school students may be admitted in a special, student category for the purpose of taking one or more university courses concurrently with their final year or two of high school or during the summer session prior to these years. Students must submit a regular application for admission, as well as a special request which includes a high school recommendation. Students are admitted on an individual basis on the basis of academic standards that exceed those required for regular admission from high school. Admission is limited and governed by available space, and students must meet the prerequisites for the desired course or courses.

College Level Examination Program

Individuals over age 18 who have had no previous college work may earn advanced credit through the College Level Examination Program (CLEP) General Examination, provided they score at or above the 50th percentile. A maximum of 28 semester hours of credit may be earned. In addition, CLEP offers subject examinations for credit in one specific area. These examinations can be taken any time, provided the student has not taken a course in the test area. A score at or above the 50th percentile must be earned to receive credit. Consultation with an adviser is recommended. CLEP tests are given the third week of every month. Contact the Office of Admissions at 516-5451 for complete information. A brochure with detailed information is available.

Credit for Military Service

Credit may be allowed for service training programs conducted by the various Armed Forces branches. The American Council of Education recommendations in A Guide to the Evaluation of Educational Experiences in the Armed Services generally serve as a basis for granting such credit. To count toward a degree, the credit granted must be appropriate to the student's curriculum.

Trial Admission

High school graduates who do not meet the regular admission standards may be admitted on a trial basis in the summer session. Usually enrollment is for six hours and if grades of C or better are earned, the student may submit an application at the end of the summer session. If space is available, the application is reviewed and the student is permitted to enroll in the fall semester.

High School Equivalency Applicants

Individuals may seek admission on the basis of high school equivalency earned from performance on the United States Armed Forces Institute General Educational Development (GED) tests. Admission is based on an evaluation of the educational merits of military and other experiences since leaving school, GED test scores, and performance on other aptitude tests.

Veterans and Mature Adults

Applicant may be admitted as special or irregular students, not degree candidates, if they are veterans of the military service or over age 21 and have not previously earned college credit, have not been in school for several years, have not earned a high school diploma, or passed the GED; or if they have a diploma, but do not meet regular admission requirements from high school. Admission is based on special preparation, attainment, or exceptional aptitude as judged by an evaluation of military and other experiences, test scores, and other indicators of potential success at the University. Students can become degree candidates on the basis of their performance in university course work.

Transfer Students

Missouri state institutions of higher education welcome transfer students; however, students should be aware that actual requirements for degrees vary from institution to institution. This factor makes it particularly important that students who plan to transfer make contact, very early in their academic career, with the campus from which they eventually wish to graduate. By arranging in advance for appropriate courses to be taken prior to transfer, they can likely minimize their problems. Your own campus dean's office or Office of Admissions can help you contact the institution to which you might transfer if you need assistance.

Students transferring from other colleges and universities must submit the following information to the UM-St. Louis Director of Admissions:

- 1) Undergraduate Application for Admission;
- 2) High School Transcript: (if one of the following applies)
 - a) applicant has less than 24 hours of college level coursework
 - b) applicant is pursuing a degree or certification in Education
 - c) applicant is a non-resident of Missouri
- 3) Official Transcripts from all colleges/universities attended.

Official transcripts must be sent by each institution directly to the Admissions Office. Hand-carried credentials are not accepted. All credentials submitted for admission become the property of the University. The above material should

Undergraduate Study

be submitted by July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

A transferring student who has completed less than 24 semester hours of college-level work must apply under the procedures for admission to the freshman class and must have at least a 2.0 overall grade point average (4.0 system) in all college-level courses attempted at previous institutions.

Transfer applicants applying to the University of Missouri-St. Louis from regionally accredited colleges or universities with grade point averages of 3.0 or higher, based on a 4-point system, may be admitted at any time. Students with grade point averages of 2.5 or higher may be accepted **any time during the semester before desired admission**, while students with grade point averages of 2.0 or higher may be accepted any time during the last half of the semester before desired admission. UM-St. Louis may not admit any student who is under suspension or dismissal or whose previous record shows work of an inferior or unsatisfactory quality.

CBHE Statement

Students transferring to the University of Missouri-St. Louis and students transferring out of UM-St. Louis may utilize the Coordinating Board of Higher Education Articulation Agreement. The agreement outlines statewide undergraduate general education requirements which satisfy the general requirements for students transferring into UM-St. Louis and students transferring out of UM-St. Louis to other public higher education universities in the state. These requirements are detailed on the page prior to the Appendix in this catalogue.

Advanced Standing

According to a recent Articulation Agreement among public institutions within the state of Missouri, the following guidelines will govern transfer of credit to the University of Missouri-St. Louis from colleges and universities within the state of Missouri. These guidelines also apply to students transferring to the University of Missouri-St. Louis from schools located outside the state of Missouri.

Advanced standing in the form of credit hours may be allowed for work satisfactorily completed in another college or university of recognized standing, public or private, located in the state of Missouri, as long as the work satisfies the requirements of the university division in which the student registers.

The academic record at a given institution will include all courses attempted. Grades of D or better, earned in college-level work at an accredited or approved institution of higher education, should receive full credit when transferred to the University of Missouri-St. Louis. The University, however, will treat all grades on courses attempted on the same basis as that of the UM-St. Louis student. For example, if a UM-St. Louis student is required to repeat a specified course, having earned a D grade, a transfer student will also be required to repeat the same course, if it carried a D grade. Advanced standing for work

of the senior year is not granted. To receive recognition, claims for advanced standing must be made by students within one semester after entrance.

Shortly after all official transcripts are on file, a student's previous academic record will be evaluated to determine which courses are applicable. Should there be any question concerning the applicability of any courses, the student should contact the advising office of their academic unit.

The University of Missouri-St. Louis Bulletin: Undergraduate Catalogue in effect at the time of the transfer student's initial enrollment in a college will govern the degree requirements, provided the student has had continuous, full-time enrollment and remains in the same degree program after transferring to UM-St. Louis. If full-time continuous enrollment has not been maintained, or if students change their program objective, the catalogue in effect at the time of a student's latest enrollment, or at the time the student elects the new program, may be followed.

Degree checks, that is, determining whether courses meet a specific degree requirement and whether courses are accepted as a part of the student's academic major, are made in the office of the dean concerned. Should any questions arise, a student should contact the advising office of their academic unit.

Associate Degree Transfers from Junior Colleges

A student admitted to the University and holding an associate degree oriented toward the baccalaureate degree will be accepted in junior standing. Students fulfilling the general education requirements outlined by the Missouri Coordinating Board of Higher Education and certified by the sending institution will have met the lower division general education requirements at UM-St. Louis. However, this does not exempt the student from meeting the specialized lower division degree requirements of departments or divisions of the University. Courses completed in the associate degree program are evaluated for application to specific degree requirements by the same criteria used for transfer students from other colleges and universities located in Missouri, other University of Missouri campuses, and other divisions on this University campus.

Credit earned in or transferred from a community college shall normally be limited to approximately half the baccalaureate degree program requirement, and to the first two years of the undergraduate educational experience.

Transfer Within the University of Missouri System

A student not in good standing at another campus of the University of Missouri (suspended or dismissed) is not eligible to enroll at the University of Missouri-St. Louis campus.

Any course that leads to an undergraduate degree on any campus of the University of Missouri shall be accepted in transfer toward the same degree on any campus of the University offering that degree. Grades, including D and F grades, and honor points earned in such courses will also transfer and will be included in the cumulative grade point averages of the transferring student.

Undergraduate Study

Questions concerning acceptability of credit should be referred to the Director of Admissions. Unresolved problems related to transferability of credit may be appealed to the Senate Committee on Admissions and Student Financial Aid.

Students within the last 30 hours of graduation may take a limited number of courses at another campus in the UM system, provided the last 15 hours are taken at UM-St. Louis and the work is approved by their respective deans and departments.

Students from Other Countries

Prospective students living outside the United States and its possessions should write to the Office of International Student Services at the address below at least one year before the date of desired admission for information about application to the University. Students will be expected to supply official original secondary and university transcripts from all schools attended as well as other official original documents. All students should make arrangements to take the TOEFL (Test of English as a Foreign Language) well in advance of their admission date.

Office of International Student Services
University of Missouri-St. Louis
SSB-304
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Former Students

Former students not currently enrolled should file a request for a Permit to Re-Enroll with the Director of Admissions at least 30 days before the registration period. If Fall Semester applicants receive an Early Admission decision, they may preregister in July and August; preregistration for the Winter semester and the Summer Session is limited to students enrolled during the preceding term.

Visiting Students

Students who do not wish to earn a degree from the University of Missouri-St. Louis may be admitted to the Summer Session as visiting college students. Admission requires certification by the student's college or university that the student is in good standing and has permission to enroll in approved course work for transfer credit back to that institution. Application forms for certification can be obtained from the Office of Admissions. At the end of the session, students must request that their grades be reported by transcript to their respective schools.

Auditor

A student may enroll as an auditor in any course with the prior consent of the instructor and dean of the School or College in which the auditor is registered. They may be dropped from the course when, in the judgment of the instructor and dean, their record justifies such action. Auditors are charged full fees and receive no academic credit.

Evening College Applicants

The admission procedure for the Evening College is the same as for the day division. For further information, see the next section, "Enrollment and Academic Advising: Evening College," and the Evening College special section of this *Bulletin*.

Registration

New Students

Upon admission to the University, students are notified that instructions will be sent by the registrar's office before registration.

Former Students

Former students not currently enrolled must submit requests for permits to re-enroll.

Currently Enrolled Students

Currently enrolled students are given the opportunity to preregister, by appointment, before all other students. Students wishing to preregister for the next semester in a different Division or School must complete a Change of Division form at the Office of Admissions.

After the close of the preregistration-by-appointment period, all students are eligible to register upon obtaining the written approval of their adviser. Students wishing to register for more than a normal course load must obtain approval from their dean.

Registration Cancellation

Students who have enrolled and paid their fees but do not wish to attend the University may cancel their registration any time before the first day of the semester. Cancellation forms may be obtained at the Office of the Registrar. If cancellation is made before the first day of class work begins, a full refund of fees (less \$20 for the cost of handling registration) will be made by mail. For the refund schedule for cancellation of registration after class work begins, see the "Fees: Refund of Fees" section of this *Bulletin*.

Undergraduate Study

Enrollment and Academic Advising

In most cases, incoming undergraduate students are admitted to the College of Arts and Sciences or the Evening College. Students seeking admission to nursing are advised by the Barnes College of Nursing. Exceptions are transfer students who meet the specific admission requirements of the School of Business Administration, the School of Education.

Students in the College of Arts and Sciences planning to pursue degrees in the School of Education or the School of Business Administration remain in the College until they obtain 60 credit hours with a cumulative grade point average of 2.0. However these students may seek advising services from Education or Business after they have completed 30 hours of coursework. Refer to the School of Business Administration or the School of Education sections in this Bulletin for additional admission requirements.

Students in the Evening College who have completed 40 semester hours must declare their majors. They are assigned according to their choice of major to departmental advisers in the College of Arts and Sciences or advisers in the appropriate School. Nursing students meeting all requirements are admitted directly to and advised by the Barnes College of Nursing. Those not meeting admission requirements are admitted to the College of Arts and Science or the Evening College until requirements are met. Such students continue to be advised by the Barnes College of Nursing even though enrolled in one of the other colleges.

The dean's office in every division, except in the Office of Undergraduate Studies in Education, will assist students in the assignment of academic advisers and with the following matters: planning or changing a course schedule, evaluating transfer credit, withdrawing from school, placing a course on a satisfactory/unsatisfactory basis, filing for grade modification, and applying for graduation.

College of Arts and Sciences

All incoming students may receive professional academic advice in the dean's office, 303 Lucas Hall, (314) 516-5300. Students expecting to major in business administration or education who have completed fewer than 30 credit hours and students who have not declared a major in the College of Arts and Sciences may also receive academic advising in the dean's office. Faculty advisers for those students considering a career in one of the health sciences or in law may also be contacted through the dean's office.

Since it is important for students to determine what specific requirements must be satisfied to complete their chosen baccalaureate program, they are urged to declare a major as soon as possible. Once students have declared a major, they should inform the department's office so that the appropriate academic adviser can be assigned. The adviser, a faculty member in the student's area of interest, will assist in selecting suitable courses and advise the student in matters relating to degree requirements.

Students transferring into the College from other institutions may seek assistance from the dean's office to effect as smooth a transition as possible. The College will evaluate all transfer credit to determine its applicability to the specialized degree requirements of the College.

School of Business Administration

The School of Business Administration's Office of Academic Advising has available a staff of professional academic advisors who provide assistance to students in planning their academic careers and in dealing with the following concerns:

- Appropriate Course Selection
- School of Business Administration Requirements
- General Education Requirements
- Evaluation of Transfer Credit
- Course Prerequisites
- School Policy and Regulations
- Graduation Requirements

Other matters related to a student's academic matriculation should also be directed to this office.

Prospective business students who are admitted to the College of Arts and Sciences or the Evening College should submit an official declaration of their major to the dean's office of the College to which they have been admitted. When they have completed 30 hours of credit, they will then be assigned to the School of Business Administration for advisement.

Transfer students at the junior or senior level who have been admitted to the School of Business Administration should contact the advising office and plan to meet with an advisor early in the semester for an evaluation of transfer credit and the planning of their degree programs.

All students are urged to make advising appointments early during each semester, prior to registration dates, to obtain approval of schedules for upcoming semesters. Advising is a continuous and ongoing process. For information, call (314) 516-5888.

School of Education

Students wishing to prepare for teaching careers should consider the following:

- 1) After completing 60 hours of course work at the University or another accredited institution, students who intend to teach in elementary, early childhood, special education, business education, or physical education settings must apply for admission to the Teacher Education Program by completing the Formal Application.
- 2) Students who intend to teach in other secondary school classrooms may elect to apply for admission to the School of Education to pursue the Bachelor of Science in Education degree (B.S.Ed.) or they may elect to earn a degree from another College or School at UM-St. Louis and take courses additionally to meet state teacher certification requirements.

Undergraduate Study

With either option, students must meet University and departmental requirements, as well as those for teacher education in Missouri. Teacher education curricula vary considerably. Regardless of which option a student chooses, he or she must complete the Formal Application to the Teacher Education Program. Careful planning of individual schedules is necessary to ensure selection of appropriate courses and to avoid extending programs. Students should, therefore, seek advisory help from the Office of Teacher Education (155 Marillac Hall) at the earliest opportunity. Regular consultation with advisers is essential. For information, call (314) 516-5937.

The Office of Teacher Education provides assistance to all students interested in professional education programs and certification requirements. Questions about admission to the Teacher Education Program, sequences of courses, prerequisites, graduation requirements, and related matters should be directed to that Office.

Evening College

The Evening College academic advising staff helps students plan degree programs or select courses appropriate for their individual needs. Academic advising is available to all new and current undergraduate Evening College students. Advisers will review transfer credit courses, prerequisites, and degree requirements. Once Evening College students have declared a major, usually after completing approximately 40 semester hours of credit, they are assigned to an adviser in the student's area of study. A Declaration-of-Major form must be completed in the Evening College office so that the faculty adviser may be assigned. For an appointment, call the Evening College Office, (314) 516-5162.

Barnes College of Nursing

The Barnes College of Nursing offers the Bachelor of Science in Nursing degree (B.S.N.) for non RNs through a four year program of study. RNs who are graduates of diploma or associate degree nursing programs complete a junior-senior B.S.N. program (B.S.N. Completion) which avoids repeating previous nursing education.

With both options, students must meet University and Barnes College of Nursing requirements. Careful planning is necessary to sure appropriate course sequencing. Students are strongly encouraged to develop a plan of study in conjunction with a nursing academic advisor to avoid extending the program of study.

Faculty maintain the right to make appropriate curriculum changes to comply with standards for accreditation as stipulated by the National League for Nursing and Missouri Board of Nursing's minimum standards.

Pierre Laclède Honors College

Honors Scholars receive both academic advising and personal counseling from the College's administrative and teaching staff throughout their undergraduate careers. During the first two years, particular attention is given to the ways in which students fulfill their Honors College and University General Education Requirements and prepare themselves for their majors by taking the necessary prerequisites. After a major is declared, Honors College

advisement with regard to work done for Honors credit continues and is supplemented by major-related advising provided by the appropriate academic unit. The College identifies candidates for major graduate fellowships and assists them in preparing their dossiers. Similar assistance is given to Scholars planning to go on to graduate and professional schools or seeking career opportunities immediately upon graduation.

General Education Requirements

Students must successfully complete the general requirements of the University, the School or College in which they are enrolled, and the specific requirements of their area of specialization. Described below are the general education requirements for all degrees.

Credit Hours

All candidates for baccalaureate degrees must complete a minimum of 120 semester hours. At least 45 of these hours must be courses numbered 100 or above (or comparable courses transferred). Students must maintain a minimum 2.0 grade point average overall, as well as in their area of specialization. Students seeking two degrees must meet all degree and residency requirements of each degree.

Basic Skills

All students must show from their high school or college transcript, by examination or by appropriate courses, competency in basic communicative and mathematical skills. Students should check with their divisional dean's office at the end of the first year to verify that their proficiency in these skills has been properly recorded.

An additional communicative skill requirement must also be completed before graduation. Students should check with their divisional dean's office at the beginning of their senior year to verify that fulfillment of this requirement has been recorded.

Communicative Skills (two requirements)

- 1) All students are required to complete a Freshman English Composition course with a grade of C- or better (English 10 - Freshman Composition at UM-St. Louis.
- 2) Effective since the Fall Semester, 1985, students must also complete English 210 - Advanced Expository Writing, or its equivalent, with a grade of C- or above.

Mathematical Skills

Proficiency in the basic mathematical skills area will be demonstrated by obtaining either:

- 1) A grade of C- or better in a college-credit mathematics course having at least intermediate algebra as a prerequisite, or
- 2) A satisfactory score on the University's Mathematics Proficiency Test (19 or better on Part 2 of the test). Students with this course would test out of College Algebra. The test should be passed before the student completes 24 hours of course work at UM-St. Louis. The test may be taken at most twice. Test dates are given in the Schedule of Classes.

Undergraduate Study

Breadth of Study

Students must complete at least 42 hours in the following three areas, with at least three courses in each area. (Courses meeting these requirements are listed at the beginning of each departmental section.)

- 1) Humanities: art history or art appreciation; literature; music history, literature, theory, or appreciation; philosophy and logic; theatre appreciation, theory, and history. (Applied Art/Music courses do not count. (Symbol [H]))
- 2) Natural sciences and mathematics: applied mathematics; astronomy; atmospheric science; biology; chemistry; computer science; geology; mathematics; physics; statistics. (Symbol [SM])
- 3) Social sciences: anthropology; communication (select courses only); criminology and criminal justice; economics; geography; history; political science; psychology; social work; sociology. (Symbol [SS])

Other Requirements

American History and Government

Students must satisfactorily complete a course or courses in American history or government taken at the University of Missouri or at other colleges or universities in Missouri. Transfer students should check with the dean's office of their division to find out if they have fulfilled this requirement.

The requirement may be satisfied by one of the following courses:

CCJ 10, Introduction to Criminology and Criminal Justice
 Hist 3, American Civilization I
 Hist 4, American Civilization II
 Hist 6, Honors American Civilization
 Hist 202, Black History in the United States
 Hist 207, The History of Missouri
 Hist 302, United States History: Revolution and the New Nation, 1763 to 1815
 Hist 311, Topics in American Constitutional History
 PolSci 11, Introduction to American Politics
 PolSci 130, State Politics
 PolSci 135, Introduction to Urban Politics
 PolSci 140, Public Administration
 PolSci 226, Law and the Individual
 PolSci 230, The American Presidency
 PolSci 231, Congressional Politics
 PolSci 232, African-Americans and the Political System
 PolSci 233, Introduction to Political Behavior
 PolSci 235, Political Parties and Elections
 PolSci 236, The Federal Budget: Politics & Policy
 PolSci 240, Bureaucratic Politics
 PolSci 242, Introduction to Public Policy
 PolSci 245, Urban Administration
 PolSci 320, Introduction to American Constitutional Law
 PolSci 321, Civil Liberties
 PolSci 326, Judicial Decision-Making
 PolSci 331, Legislative Processes
 PolSci 346, Urban Planning and Politics

Courses Not Approved for Degree Credit

ELE ED 082, Effective Reading and Study Skills
 English 09, English Composition
 Psych 09, Seminar in Career Choice and Life Planning

Business Education Courses

The following courses are approved for degree credit only in the Business Education degree program and in the Bachelor of General Studies degree program with the dean's approval:

SEC ED 162, Computer Keyboarding and Formatting
 SEC ED 362, Shorthand/Alpha Systems: Theory and Application

Reserve Officers Training Courses

Courses in ROTC do not receive Arts and Sciences credit, nor are they counted in the student's grade point average.

Other Considerations

Assessment

The University of Missouri has been directed by the Board of Curators to implement a variety of studies designed to assess the outcomes of university education. All students are required to participate in such studies as requested. Students who do not comply will not be able to register for the next semester or if in their final semester not be allowed to graduate. In their fifth and tenth years as alumni, graduates are encouraged to participate in assessment by completing questionnaires sent to them by the university.

Academic Residence

Students must be in residence for at least 24 of the last 30 hours of graded credit (exclusive of courses graded on a satisfactory/unsatisfactory basis), except under unusual circumstances, to be decided by the dean.

Graduation

Students must file a degree application form with their respective dean's office at least one year before the expected graduation date. The dean's office makes a final check to determine that all graduation requirements have been met. Students should check with the dean's office or an adviser to be sure their program fulfills the requirements of the department and College or School, as well as the University general requirements.

To assure graduating at the end of a specific semester, all work for that semester and any delayed grades from previous semesters must be completed with the grades sent to the Office of Admissions no later than the official date for submission of final semester grades.

Academic Policy

Three times during the year, a *Schedule of Courses* is published, listing the specific courses offered that semester and their meeting times and locations. This *Schedule* is available as follows:

Fall Semester Schedule: in the preceding March.

Winter Semester Schedule: in the preceding October.

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Summer Session Schedule: in the preceding December. The schedule is also on the UM-St. Louis web site: <http://www.umsl.edu>

The University reserves the right to cancel without notice any course listed in the Bulletin or the course schedules for any semester or to withdraw any course which does not have adequate enrollment at the close of registration.

Credit Hours

The University credit unit is the semester hour, which represents a subject pursued one period weekly for one semester of approximately 16 weeks or for a total of approximately 16 periods for one term. Generally, a course valued at three semester hours meets for three periods weekly for one semester, a two-credit course two periods a week for a semester, and so on. Normally, the lecture or recitation period is fifty minutes long and the laboratory period one hour and fifty minutes.

The number of credit hours is in parentheses after each course title. If the credit is variable, to be fixed in consultation with the instructor, it is shown by (credit arranged) or by minimum and maximum credit, such as Research (2-8).

Grading System

The grading system available to all faculty in all schools, colleges, and other parallel units at UM-St. Louis consists of:

A = 4.0	A- = 3.7	
B+ = 3.3	B = 3.0	B- = 2.7
C+ = 2.3	C = 2.0	C- = 1.7
D+ = 1.3	D = 1.0	D- = 0.7
F = 0		

S/U = Satisfactory/Unsatisfactory (applied when a student has formally requested this option for a course—see information below)

EX = Excused
DL = Delayed
Y = No basis for a grade

Faculty have full discretion in using full-letter grades, plus/minus grades, or any combination of full-letter and plus/minus grades.

The student's grade point average is computed by dividing the total quality points (number of credit hours for a course, multiplied by the grade value received) by the number of hours taken (excluding grade-modified hours).

At the end of each semester and summer session, the Registrar informs students of their grades. A copy will be mailed to parents at the student's request.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a "C" (2.0). A "C-" grade is not acceptable.

Delayed Grade A student whose work is incomplete at the end of any semester and who has, in the instructor's judgment, sufficient reasons for failing to complete the work, may, with the approval of the instructor and department chairperson, be assigned a delayed grade. Such work must be made up no later than one semester after the incomplete grade is given or the grade automatically becomes F. The dean may, in unusual circumstances, extend this time limitation (Summer Session is not counted as a semester.)

Notice of change in a delayed grade shall be given to the Registrar on a special form.

Y Grade When, in the instructor's judgment, there is no basis for evaluating the work of students who do not officially drop a course or officially withdraw from the University, a mark of Y (unauthorized withdrawal—no basis for evaluation) is given. After a two-semester waiting period has elapsed, the Y will be changed to an F, unless the student can demonstrate sufficient reason for not having completed the requirements of the course. The instructor (or the chairperson of the department, if the instructor is no longer on the faculty) may then change the Y to "Excused." Initiating the process is the student's responsibility.

Examinations

Examinations may be given only at regular class meeting times or as designated by the Senate Committee on Curriculum and Instruction.

Satisfactory/Unsatisfactory Option

Undergraduate students may elect to take up to 18 credit hours during their academic careers at UM-St. Louis on a satisfactory/unsatisfactory (S/U) grading basis. This includes courses taken as electives or those which satisfy the general education requirements. Most courses required for a specific degree may not be taken on a satisfactory/unsatisfactory basis, and academic departments may designate other courses within their jurisdiction which may not be taken under the option.

Students register for courses in the normal manner and may exercise the satisfactory/unsatisfactory option before the end of the first four weeks of a regular semester (or the first two weeks of a summer session). Requests for this option are made through the proper dean's office. Instructors are not informed of students taking courses on a satisfactory/unsatisfactory basis.

A satisfactory grade—"S"—is recorded when an instructor assigns the grade of "A," "A-," "B+," "B," "B-," "C-," "C," "C-," and has no numerical value in computing one's cumulative grade point average; however it does satisfy credit-hour graduation requirements. An unsatisfactory grade—"U"—is recorded when an instructor assigns the grades of "D+," "D," "D-," or "F," and has no numerical value in computing one's cumulative grade point average, nor does it satisfy any credit-hour graduation requirements. Grades will be recorded on transcripts as "S" or "U."

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Repeating Courses

Students may not repeat for grade point average or credit hour purposes courses in which grades of "A," "A-," "B+," "B," "B-," "C+," "C," or "C-" have been earned. If a student earns a "D+," "D," "D-," or "F," the course may be repeated. All grades earned will affect the calculation of one's cumulative grade point average; the course hours, however, will only be counted once in calculating hours towards one's degree. (See Grade Modification.)

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a "C" (2.0). A "C-" grade is not acceptable.

Grade Modification

When the grade received in an initial attempt in a course at UM-St. Louis is a "D+," "D," "D-," or "F," the grade may be replaced in the calculation of the GPA by the grade received in a second or subsequent attempt of the same course at UM-St. Louis. All grades received in second and subsequent attempts will be included in GPA calculations. A maximum of 15 hours may be dropped from the calculation of the student's GPA. All attempts of a given course will appear on the official transcript with the grade(s) earned. The transcript will have an explanation which states that the GPA is calculated using all grades earned in a course except the initial attempt when a course has been repeated and grade modified.

Note Grade modification is not automatic. After completing the second or subsequent attempt of the course to be modified, students must process the necessary paperwork with an academic adviser in the academic unit in which the student is currently enrolled.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a "C" (2.0). A "C-" grade is not acceptable.

Enrollment Policies

Prerequisites for a Course

A minimum grade of "C-" is required to meet the prerequisite requirements of any course, except with the permission of the department in which the second course is taught. An "academic-standing" prerequisite stated by class, for example, "senior standing," means senior class standing. Requirements for class standing vary. Students should determine the requirements for their School or College. Individual course restrictions are specified in the individual course description.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a "C" (2.0). A "C-" grade is not acceptable.

Course Load

A normal full-time semester work load is 15 hours. Six hours is normal for the Summer Session. Minimum full-time enrollment is 12 hours. Students who have

demonstrated the ability to carry more than 17 hours successfully may enroll for additional hours with the approval of their dean.

Attendance

Students are expected to attend class regularly, and, in accordance with the UM-St. Louis Bylaws, faculty may establish penalties for excessive absences. Students absent for more than three successive classes may be reported to the dean.

Students should tell their divisional dean's office of an extended absence. An absence known in advance should be reported to the instructors of courses that will be missed. Make-up of examinations or work missed is allowed at the instructor's discretion.

Students, excused from class for valid reasons by their deans, shall be permitted, if possible, to make up work missed; the dean must have notified the instructor in writing.

Dropping/Adding Courses

To add courses to their original enrollment, students must get approval from their advisers. Students may not enter courses after the first two weeks of the semester or the first week of the Summer Session. Courses may be dropped, without approval, through the fourth week of a regular semester and the second week of a Summer Session. Students may withdraw from courses without a grade up to the end of the fourth week of the semester and the second week of the Summer Session.

From the fifth through the twelfth weeks of the Fall or Winter Semesters (for Summer Session, the third through the sixth weeks) students may withdraw from a course with an "Excused" grade, providing they are passing the course and receive the approval of their instructor, adviser, and dean's office representative. Otherwise, a failing grade is given. Students not attending classes who fail to drop officially receive F or Y grades. The Y later changes to F or, with the instructor's permission, to "Excused." (See page 25 for a fuller explanation of the Y grade.)

After the allowable period mentioned previously, "Excused" grades are given only in exceptional instances where the instructor's approval and dean's approval are given. These grades are recorded on the students' official records at the end of the term. If an F grade is recorded, it is counted in computing the grade point average. No partial credit is granted to students who withdraw from a course during any semester or otherwise fail to complete the work required for full course credit.

Section Changing

Section changing is normally done during the first two weeks of a regular semester and the first week of a Summer Session. No approvals need be received during this time. However, after the second week of a regular semester and the first week of a Summer Session, a section change form must be obtained from the departmental or dean's office. The signatures of both instructors (of both sections) are required. The form is to be submitted to the Registration Office, 230 Woods Hall.

Undergraduate Study

Change of Major

To change academic majors, students should consult their adviser and the dean's office. Students admitted to one College or School may pursue work in others under the conditions set forth by the other division's faculty. The chairperson of a student's major department shall determine which courses in other Colleges or Schools, or even other institutions, shall apply as credit toward the degree.

Withdrawal after Classes Begin

After classes begin, students may withdraw from the University by completing the withdrawal form, available in the dean's office. During the first four weeks of the semester and the first two weeks of a Summer Session, students may withdraw from the University without receiving grades. After this period, grades of F or "Excused" are issued, based on whether the student is passing or failing. After the semester's twelfth week (or the sixth week in the Summer Session), "Excused" grades are given only in exceptional instances with the instructor's and dean's approval.

These grades are recorded on the student's official record at the end of the term. An F grade is counted in computing the grade point average. No partial credit is granted to students who withdraw from school during any semester or otherwise fail to complete the work required for full course credit. Students who stop attending classes without withdrawing officially from the University are issued an F or the temporary Y grade. Any F grades are counted in computing grade point averages.

Academic Probation, Suspension, and Dismissal

A student may be placed on academic probation any time that his or her cumulative GPA falls below a 2.00. Students should consult College or School advisers in their respective dean's office for additional information.

Students may be suspended if they do not pass more than two-thirds of their work, their semester grade point average is below 1.5, or their cumulative grade point average falls below 1.75. Students may be suspended if they have been on scholastic probation for two or more semesters, not necessarily consecutive, and again become subject to probation. The dean may retain students on probation rather than suspend them if circumstances justify such action.

Students who have been suspended may be dismissed if they again become subject to suspension. Students placed on probation because of poor scholastic records at other institutions are regarded as having been once suspended under these rules.

Normally, students who have been dismissed are not considered for readmission. In certain unusual cases, students may be readmitted on probationary status after one year.

Students admitted on probation to the Summer Session shall enroll for at least six academic hours. If they receive any grades below C, their work will be reviewed by the College or School dean or appropriate committee to determine eligibility to re-enroll. Students enrolled in the Summer Session whose grade point averages are below 1.5 may have their work reviewed. Students suspended or dismissed from one School or College shall not be admitted to any other School or College until they are eligible for readmission to the original College or School, unless they obtain the consent of the School's dean or appropriate committee. In this event, the dean or committee shall file a written statement for the student's official records, stating the reasons for the decision.

Academic Dishonesty

Academic dishonesty is a serious offense which may lead to probation, suspension, or expulsion. One form of academic dishonesty is plagiarism—the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also includes such acts as cheating by copying information from another student's examination, take-home test, or laboratory manual. The code of student conduct is in the back of this Bulletin and is also available in the UM-St. Louis Student Handbook, available from the Office of the Vice Chancellor for Student Affairs.

Honors

Pierre Laclède Honors College

The Pierre Laclède Honors College offers a select group of academically qualified and intellectually serious students the opportunity to focus a significant portion of their undergraduate careers upon a special Honors curriculum. Prospective Honors Scholars must apply for admission into the Honors College.

Honor Societies

The following is a list of honorary societies at the University of Missouri-St. Louis:

- Alpha Phi Sigma* (Criminology and Criminal Justice)
- Alpha Sigma Lambda* (Evening College)
- Beta Alpha Psi* (School of Business Administration, Accounting Majors)
- Beta Gamma Sigma* (School of Business Administration)
- Beta Sigma Kappa* (School of Optometry)
- Financial Management Association National Honor Society* (Finance)
- Kappa Delta Pi* (School of Education)
- Omicron Delta Epsilon* (Economics)
- Phi Alpha Theta* (History)
- Phi Epsilon Kappa* (Physical Education)
- Phi Kappa Phi* (Campus-wide)
- Pi Sigma Alpha* (Political Science)
- Psi Chi* (Psychology)
- Sigma Delta Pi* (Spanish)
- Sigma Iota Rho* (International Studies)
- Sigma Tau Delta* (English)

Dean's List At the end of each semester the College of Arts and Sciences, School of Business Administration, School of Education, the Evening College, and the Barnes College of Nursing send letters of commendation to

Undergraduate Study

undergraduates completing at least nine hours of graded courses with grade point averages of 3.2 or above for the semester.

In addition, each College and School, on an annual basis, sends letters of commendation to part-time undergraduate students who have earned a 3.2 grade point average or above in at least nine but not more than 17 graded hours during the Fall and Winter Semesters combined.

Who's Who Among Students in American Universities and Colleges Eligible students may be nominated to Who's Who Among Students in American Universities and Colleges by students (whether for themselves or others), faculty members, or administrators. Nominees are selected on the basis of scholastic ability (a cumulative grade point average of 2.5 or higher), participation and leadership in academic and extracurricular activities, service to the University, and a promise for future usefulness. Nomination forms and further information may be obtained in room 267 of the University Center or by visiting the Who's Who Web Site at <http://www.umsl.edu/studentlife/dsa/whos.html>.

Latin Honors

To graduate with Latin honors, students must have attended the University of Missouri-St. Louis for at least 60 graded hours and must meet the following qualifications: *cum laude* 3.2 to 3.49 grade point average; *magna cum laude* 3.5 to 3.79 grade point average; *summa cum laude* 3.8 to 4.0 grade point average. If a student has the necessary GPA at UM-St. Louis to qualify for Latin honors but has fewer than 60 graded hours at UM-St. Louis, all credit hours and the associated grades earned within the UM-System will be included when the total credit hours earned in the UM-System are at least 80 graded hours. In determining one's eligibility for Latin honors, all graded hours will be considered, including the original grade in each grade-modified course. No Latin honor higher than that which is consistent with the UM-St. Louis grade point average will be awarded. All honors must be recommended by the student's major department. (Effective August 1990.)

Transcripts and Commencement

The Registrar will furnish transcripts of credits to a student upon written request. Transcripts are furnished to students' parents or guardians or other parties or institutions only if students have filed written consent with the Registrar's Office. There is a \$3.00 charge per transcript.

Students transferring to another University of Missouri campus may ask the UM-St. Louis Registrar to furnish a transcript to the Office of Admissions at the other UM campus.

Requests for transcripts by organizations either financially supporting a student or with fee compensation programs are not honored unless the student has filed a consent form with the Registrar's Office authorizing the release of such information.

Transcripts are not issued to or for students who have financial obligations to the University until those obligations are paid in full.

Commencement

Degrees are conferred at commencement with candidates present for the awarding of diplomas. Only in unusual circumstances may degrees be conferred in absentia.

Veteran Affairs

The Veteran Affairs Office, 232 Woods Hall, serves as liaison to various government offices to provide information on educational benefits, privileges, and responsibilities relating to Veteran Administration benefits. A certifying official is available to answer veterans' questions and process official paperwork.

Veterans are certified to the Veteran Affairs Regional Office (VA) beginning with the date of initial registration, and regularly until the expected completion date of the VA approved program or degree. Veteran students must promptly inform the certifying official in 232 Woods of any changes in status which might affect benefits. Failure to report such changes can result in overpayments and other complications in receipt of benefits.

Veteran students are expected to attend classes, perform academic duties as assigned by instructors, and adhere to academic policies. Failure to do so will result in reports to the VA of unsatisfactory progress, which may result in discontinuance of benefits. Veteran students who cease attending, but do not officially withdraw from class or from the University, will be reported as not making satisfactory progress. If enrollment status is altered in any way, the VA will be notified and an overpayment may be charged against the veteran.

For complete details and information, contact the Veteran Affairs Office at 516-5676.

Fees for Undergraduate Study

Detailed information regarding current fees and residency regulations is furnished in the Schedule of Courses, a newspaper schedule, distributed before each semester registration, available at the registrar's office. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this Bulletin is still in use.

The University reserves the right to change fees and other charges at any time without advance notice.

Educational Fees (1997-98)

All students enrolled in the University must pay an Educational Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Undergraduate Educational Fee

Regular Semester

Missouri Residents \$124.80 per credit hour

*Nonresidents \$372.90 per credit hour

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Intersession and Summer Sessions

The Educational Fee per credit hour for these sessions follows the same schedule as listed previously.

Partial Enrollment

Since the Educational Fee owed by a student is on a per-credit-hour basis, the Educational Fee for partial enrollment is assessed according to the above schedule.

Fees for Auditing Courses

Courses taken as an auditor for reduced credit are counted at their normal credit value in computing the fees to be paid. Students enrolling in zero credit courses are also required to pay according to the equivalent course credit.

For Graduate Student Educational Fees, see section titled "Graduate Study: Fees"

For **Optometry Student Educational Fees**, see the section of this catalogue for the School of Optometry.

*Nonresident Students

Students who do not meet the residency requirements must pay the Nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in Tuition and Residency Rules, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Other Fees

Instructional Computing Fee

Students registered in the University are required to pay an Instructional Computing Fee of \$7.00 per credit hour.

Student Facility and Student Activity Fee

All students registered in the University are required to pay a Student Facility and Student Activity Fee. The fee shall be calculated at the rate of \$14.73 per credit hour up to a maximum of \$176.76 for 12 credit hours in regular sessions. In the Summer Session, the maximum fee is \$88.38 for six or more credit hours.

The Student Facility and Student Activity Fee is used for programs of broad interest within the University community. The fee for a full-time, regular semester is distributed as follows:

University Center—\$42.48
Athletic Program—\$82.56
Student Activities—\$21.36
Student Services—\$4.20
Recreation/Facility Fee—\$26.16
Total (for 12 credit hours)—\$176.76

Health Fee

Students registered in the University are required to pay a Health Fee of \$7.50 per semester; \$3.75 for Summer and Intersession.

Late Registration Fee

Students registering after the close of the regular registration period must pay the late fee, equal to the undergraduate Resident Educational fee for one credit-hour, \$124.80.

Parking Fees

Students wishing to operate motor vehicles on campus must register them and pay a fee at the time of registration. Failure to comply with traffic regulations may subject students to disciplinary action, payment of an additional fee, and the denial of the privilege to operate a motor vehicle on campus. Copies of *Traffic Regulations for the University of Missouri-St. Louis* are available at the UM-St. Louis Police Office.

The parking fee for 1997-98 is \$6.55 per credit hour, up to a maximum of \$104.80 for 16 credit hours in the regular semester, for each motor vehicle used by a student on campus. Parking fees in the Summer Session are at the same per-credit-hour-rate up to a maximum of \$52.40 for eight or more credit hours. Students who do not drive regularly may park in the daily parking lot for a fee of \$3.25 a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are \$3.25 per credit hour up to a maximum of \$52.00 in the regular semester and \$26.00 in the Summer Session.

The revenue from parking fees is used to construct and maintain roads, parking garages, and surface parking; to rent parking space off campus when necessary; to pay for the printing of parking stickers and regulations; and to pay for all other related expenses. Detailed information on parking regulations and fee refunds is available from the cashier's office.

Parking fees are refundable under the same schedule as other fees. Students must return the scraps of the parking sticker to obtain a refund if they decide to cancel parking privileges. See the following "Refund of Fees" section.

Transcript Fee

There is a \$3.00 fee for a transcript.

Payment of Fees

All fees are due and payable at the time of registration. Students with delinquent accounts will not be allowed to enroll in subsequent semesters. Students receiving financial aid must present their fee statement to the cashier's office. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. Enrollment will be completed upon receipt of the first minimum payment for students electing this plan. Interest will be assessed on the unpaid balance of all students at the rate of one percent per month. More information about this plan is available at the cashier's office.

Personal Checks

Personal checks in payment of fees or other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student.

Undergraduate Study

A student, presenting a check to the University that is returned unpaid, shall pay a returned check charge of \$10.00.

Credit Cards

MasterCard, VISA, or Discover credit cards are accepted in payment of fees.

Delinquent Indebtedness

All delinquent indebtedness to the University must be cleared before transcripts or diplomas will be released.

Student Insurance

An optional accident and sickness insurance plan is available at low cost to students and their dependents. Information concerning premiums and coverage is available upon request from the cashier's office.

Refunds

A student may be eligible for a refund after completion of fee reassessment having already paid an amount in excess of fee percentage due the University as defined within the "Fee Reassessment for Dropping Classes or Withdrawal from School" section.

Note: A minimum \$20.00 cancellation fee will be deducted on any official withdrawal from the University prior to the day classes begin. All refunds are made by mail and require three (3) to five (5) weeks processing time after withdrawal or dropped classes. Deductions may be made from the refund amount for any financial obligation due the University of Missouri.

Withdrawal

Students who wish to withdraw from the University after registering (or preregistering) MUST officially withdraw through the Registrar's Office. Failure to pay fees, failure to receive financial aid, or refusing financial aid does not constitute an official withdrawal from the University.

Fee Reassessment for Dropping Classes or Withdrawal from School

Fees will be reassessed for students who officially withdraw from the University or drop classes. Fees included in this reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee and

Parking Fee (if applicable). Such fees are reassessed and reduced in accordance with the following schedule:

Regular Semester

Withdrawal/Drop Classes	Fee % Reassessment	Fee	Fee % Due University
Before the Day Classes Begin	100%		\$20
For the 1st-5th Day of the Semester	90%		*10%
For the 6th-10th Day of the Semester	70%		*30%
For the 11th-25th Day of the Semester	50%		*50%
After 25th Day of the Semester	None		*100%

* Percentage of total fees assessed due and payable to the University.

Summer Session

Withdrawal/Drop Classes	Fee % Reassessment	Fee	Fee % Due University
Before the Day Classes Begin	100%		\$20
For the 1st-3rd Day of the Semester	90%		*10%
For the 4th-5th Day of the Semester	70%		*30%
For the 6th-13th Day of the Semester	50%		*50%
For the 13th Day of the Semester	None		100%

* Percentage of total fees assessed due and payable to the University.

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Admission and Application Procedure

The University of Missouri-St. Louis offers courses for graduate credit to qualified individuals to fulfill two kinds of student objectives: (1) completion of academic and professional degrees and certificates, and (2) attainment of personal and professional development.

Students with a bachelor's degree or the equivalent from an accredited college or university may apply for admission to the Graduate School. Applications are reviewed by the departments or schools in which students propose to do graduate study and by the Graduate School. Within limitations, students may be admitted to the Graduate School if their previous academic records and background suggest reasonable likelihood for success in their proposed programs. Students are admitted by the Dean of the Graduate School only upon recommendation of the department or school involved.

Inquiries concerning admission and requests for application forms should be sent to the Director of Admissions. A list of admission requirements for the particular degree program is sent with each application form. Application forms for financial assistance are also sent on request. All of the above information and forms are available on the Web at <http://www.umsl.edu/divisions/graduate>.

Different departments have different application deadlines, the earliest being Clinical Psychology which has a January 15 deadline for the fall semester. In general, completed applications should be filed with the Director of Admissions by July 1 for the fall semester; December 1, for the winter semester; and May 1, for the summer session. Applicants requesting financial aid should submit the application by March 15. Some departments with heavy enrollments have earlier final acceptance dates for admission and financial assistance. The University of Missouri-St. Louis supports the "Council of Graduate Schools Resolution Regarding Graduate Scholars, Fellows, Trainees, and Assistants". This Resolution defines the obligations of students and institutions regarding acceptance of support offers after April 15. Inquiries concerning Graduate School admission should be made as early as possible.

All doctoral programs require the Graduate Record Examination (GRE) General Test. It is also required for the M.A. in Economics, English, History, Political Science, Psychology, and Sociology, the and M.S. in Physics and Physiological Optics.

Advanced GRE examinations in the subject area are required for the Ph.D. program in Chemistry, Physics, and Psychology and the M.S. in Physics and all graduate business certificate programs. The Graduate Management Admissions Test (GMAT) is required for applicants to the M.B.A., M.I.S. and M.Acc. programs. Students who have not taken these examinations should do so at the earliest possible test date.

Admission of International Students

In addition to the general requirements for admission to the Graduate School, other special provisions apply to international students. Prospective students should

contact the Office of International Student Services.
Phone 314-516-5229 Fax 314-516-5636
E-Mail: intelstu@umslvma.umsl.edu
Web page: <http://www.umsl.edu/~intelstu>

International students whose native language is not English must take the TOEFL examination and score 500 or above to gain admission to the Graduate School. Teaching assistantships will not be awarded to students whose TOEFL scores are below 570.

For information on applications and test dates for GRE, GMAT, and TOEFL examinations please contact Education Testing Service at <http://www.ets.org>.

Admission Categories

Any student who receives graduate credit for a course at the University of Missouri-St. Louis must have been admitted to the Graduate School under one of the categories specified for admission:

Matriculated Student

- Regular
- Restricted
- Provisional

Non-Matriculated Student

- Non-degree
- Graduate Certificate
- Education Certification
- Inter-campus Exchange
- Postdoctoral

Matriculated Students

Students who wish to take courses to obtain a UM-St. Louis degree must apply for status as a matriculated graduate student. Classifications within this category include regular, restricted, and provisional students.

Regular Students

Students may be admitted as Regular graduate students if the undergraduate GPA and major field GPA are both 2.75 or above. A department or school may establish additional or more restrictive standards of admission for a particular program.

Restricted Students

Students with an undergraduate GPA of 2.5 to 2.75 may be admitted as Restricted graduate students if there is strong supporting evidence in other areas: test scores, work in major field, strongly supportive letters, sharp improvement in undergraduate work, previous successful graduate work, evidence of academic maturity following completion of the undergraduate degree, etc. The courses in which such a student enrolls will apply in the regular way to a degree or certificate program. However, a student may acquire no more than 12 credit hours on Restricted status. Shift from Restricted to Regular status requires (a) a "B" average on courses taken on Restricted status, (b) a positive recommendation from the department or School, and (c) approval from the Graduate School.

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Students with GPA's below 2.5 will not normally be admitted to the Graduate School.

Provisional Students

A Provisional student is one who seems qualified for admission to the Graduate School but who has not submitted all materials required for admission (official transcripts, test scores, etc.). The courses in which such a student enrolls will apply in the regular way to a degree or certificate program. A student may enroll provisionally for one semester or summer term only. When all admission materials have been received, the department or School will review the additional material before finally recommending Regular or Restricted admission or denial.

Because admission to doctoral-level studies is limited to people of demonstrably superior academic ability, the doctoral admission categories do not include Restricted status. Only two categories of admission to the doctoral level exist: Regular and Provisional.

Non-matriculated Students

Students who wish to take courses solely for personal or professional development should apply for status as non-matriculated, non-degree graduate students. They must provide an official transcript showing completion of a baccalaureate or higher degree, with a GPA of 2.5 or greater, and they must generally meet the same requirements for admission as a matriculated student with Restricted status. They do not need to submit GRE scores. Change from non-matriculated to matriculated requires the submission of a new graduate admission application, and it occurs only upon subsequent recommendation by the department or School and approval by the Graduate School.

Non-degree Students

Students may be admitted as non-degree students if they are visiting students, they do not intend to pursue a degree, they intend to enter a program not yet established, or they are participants of graduate workshops or institutes. They must be accepted by the appropriate department or school (including the department without an established program).

A non-degree student must maintain at least a 3.00 grade point average. A non-degree student wishing to take more than nine hours may be allowed to do so, contingent upon departmental recommendation. However, course work completed by a non-degree student is not regarded as completed within a degree program. If such work is later to be transferred into a program, it must be approved by the department and may not exceed nine semester hours. It may not be counted as part of the residence requirement for a degree.

Graduate Certificate Students

Graduate Certificate Students are students enrolled in established UM-St. Louis certificate programs. Admission requirements for students in these programs are the same as for matriculated students. They do not need specific departmental approval to take more than 9 hours. Graduate Certificate Students may transfer up to 18 hours of work which appears on a Graduate Certificate Program Plan to a Master's or Doctoral Program Plan, if such a transfer is

approved by the department granting the degree.

Education Certification Students

Education Certification Students are students who are taking courses for state Department of Education certification. They do not need specific departmental approval to take more than 9 hours. All other conditions regarding admission and registration that apply to Non-Degree Students apply to Education Certification Students.

Inter-campus Exchange Students

Students who have been admitted to an accredited graduate school and who wish to take courses at UM-St. Louis for later transfer to the degree-granting university are Inter-campus Exchange Students. Such students should apply for admission as non-matriculated students.

Postdoctoral Students

Individuals with doctoral degrees wishing to pursue special studies at the University of Missouri-St. Louis may be appointed postdoctoral research fellows by the Dean of the Graduate School on the recommendation of the appropriate University division.

Traveling Scholars and Inter-University Graduate Exchange Students

There are two categories of students who may take graduate courses at UM-St. Louis without applying for admission to UM-St. Louis. Traveling Scholars are graduate students at one of the other UM campuses. Traveling Scholars register on their own UM campus to take courses at UM-St. Louis, using a special form to register for each course, and they report to the UM-St. Louis campus when classes begin. Inter-University Graduate Exchange Students are Washington University or St. Louis University students who enroll by special arrangement through the Registrar on the home campus for courses not offered on their own campus.

Unclassified Students

Students who are not qualified for admission to the Graduate School may request admission to UM-St. Louis as Unclassified Students. Students so admitted are not admitted to the Graduate School, do not take 400-level courses, and do not receive graduate credit. Credits earned by an Unclassified Student cannot later become graduate credits should the student subsequently be admitted to the Graduate School.

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Enrollment

Enrollment in Off-Campus and Continuing Education Courses

Students may enroll in off-campus and Continuing Education graduate courses on one of two bases. Students who have been admitted to the Graduate School may enroll without further application. Courses they complete satisfactorily may be included as part of a graduate program, subject to departmental and Graduate School approval.

Students holding a baccalaureate degree who have not been admitted to the Graduate School must simultaneously apply for admission as a non-matriculated graduate student. If admission is not obtained by the end of the semester, graduate credit will not be received.

Specific courses offered off-campus may be designated as taken in residence. Courses taken at the UM-St. Louis Lindbergh satellite center are considered as taken in residence. Unless otherwise specified, all other off-campus and Continuing Education courses are considered non-resident courses.

Non-resident courses may make up no more than one-third of a master's program. Non-resident courses are not normally included in the final two-thirds of a program.

Undergraduate Enrollment in 400-Level Courses

Undergraduate students at UM-St. Louis may enroll in 400-level courses for undergraduate credit. Approvals from the adviser, department chairperson, divisional dean, and Graduate Dean are required. Students subsequently admitted to the Graduate School may petition for graduate credit for 400-level courses which they took as undergraduates over and above those needed for their undergraduate degrees.

Enrollment in Relation to Admission

A student who has been admitted to the Graduate School may begin enrollment in any term of the following calendar year after admission. An approved application will be kept on active file for one year. After initial enrollment, students must enroll for at least one term each calendar year to remain in good standing. Students not meeting this enrollment requirement will be dropped from the Graduate School and required to re-apply for admission if they subsequently wish to continue. If students so terminated decide to reapply and if they are readmitted, they will be subject to all regulations in effect at the time of readmission. Doctoral students are required to register each semester after they achieve candidacy.

Leave of Absence

Graduate students who are forced to interrupt their studies for a period of one or more years should request a leave of absence from the University. In consultation with their department and adviser, students should define the program modifications the leave of absence requires. Requests should indicate the reason for leaving and the expected date of return to the University. Approval of the Graduate School is required. A leave of absence does not affect the maximum time limitation set for a degree program, unless a specific exception is approved. The

primary effect of a leave of absence is to suspend the requirement for continuous enrollment.

Class Attendance

Only students who have previously paid fees may attend a class. Instructors are not authorized to allow students to attend classes if fees have not been paid. Students may not register and pay fees after the prescribed dates.

Preregistration

Enrolled students may preregister for the next term during regular preregistration periods. Registration is not complete until all University fees are paid. Students who preregister must pay their fees by announced deadlines or their registration is canceled.

Maximum Course Load

The normal full-time course load for a regular semester is 9 to 12 hours. For an eight-week summer session, the maximum course load is two courses consisting of no more than 6 semester hours. Three hours is the maximum load during intersession.

Graduate students who are employed full-time may not register for more than six hours. Students employed part-time must adjust their course loads according to the number of hours employed. Students may either work full-time or carry a full load of courses, but not both. Assistants may not work full time.

Petitioning Into or Out of a Course

Students must receive the approval of their advisers and the Dean of the Graduate School to enroll in or withdraw from a course after registration.

Entering a Course in Progress

Students wishing to enter a course in progress must have the approval of the instructor, their adviser, and the Dean of the Graduate School. Only under exceptional circumstances may students enter courses after the first week of the semester.

Dropping a Course

Students may drop courses before the end of the fourth week of a regular semester or the second week of the summer session without receiving grades.

At the end of this period and until the end of 12 weeks (or from the third through the sixth week of the Summer Session), students may withdraw from courses with "Excused" grades providing they are passing the course and have the approval of the instructor, their adviser, and the Dean of the Graduate School. Otherwise, a grade of F is given. Students who stop attending classes without officially dropping courses also receive grades of F.

Transcripts

The director of Admissions will furnish transcripts of credits to a student upon written request. Transcripts are furnished to students' parents or guardians or other parties or institutions only if students have filed written consent with the Office of Admissions. There is a \$3.00 charge per transcript.

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Students transferring to another University of Missouri campus may ask the UM-St. Louis director of Admissions to furnish a transcript to the Office of Admissions at the other UM campus.

Requests for transcripts by organizations either financially supporting a student or with fee compensation programs are not honored unless the student has filed a consent form with the Office of Admissions, authorizing the release of such information.

Transcripts are not issued to or for students who have financial obligations to the University until those obligations are paid in full.

Academic Policy

Course Level

All UM-St. Louis 300- and 400-level courses can be taken for graduate credit unless they have been designated in advance, "Not for graduate credit." For both master's and doctoral degrees, at least half of the credits must be from 400-level courses. Individual departments or schools may have more restrictive requirements, requiring a higher proportion of 400-level credits.

Within the department in which a student is pursuing a degree, no 200-level course may be taken for graduate credit. However, outside the student's department, one 200-level course may be taken for graduate credit with the approval of the student's advisor and the instructor. In every such case, the student's advisor must consult with the instructor to ensure that the instructor is aware that the course is being taken for graduate credit. The instructor may assign the additional work to the student commensurate with the student's graduate status. Courses numbered from 0 to 199 cannot be taken for graduate credit.

Transfer credit may be granted only for regular graduate courses for which a grade of A or B, or equivalent, was achieved.

Institute and Workshop Courses

Degree credit is allowed for institutes and workshops only if they are offered by a Missouri public university. All institute and workshop credit is considered transfer credit. No more than three hours of transfer credit in this category is permitted.

Graduate workshops or institutes are short-term offerings intended to meet the needs of specialized groups and to provide opportunities to explore new developments and current issues. Workshops or institutes tend to emphasize behavioral performance and the acquisition of skills and knowledge in a specific area. Graduate study experiences not readily available in existing courses are appropriate for workshop or institute offerings.

A student who completes a workshop or institute course while not enrolled in the Graduate School may not subsequently include the course as part of a degree program. Inclusion of the workshop or institute credit in

a graduate program is subject to the approval process inherent in the filing of a degree program. In instances where workshops or institutes are offered on a credit/non-credit or pass/fail basis, such credit may not be applied to a graduate degree.

Foreign Language Requirement

The Graduate School does not have any general foreign language requirements for advanced degrees. Where departments or Schools establish required levels of competence in one or more foreign languages, that competence shall be shown in one of the following ways, as determined by the department or School:

- 1) An examination given by the department or School.
- 2) Satisfactory completion of a language course at a specified level.

Evidence that the foreign language requirement has been satisfied shall be presented to the Graduate School in each case.

Grades

Faculty teaching graduate courses have complete discretion in assigning grades. Point assignments for grades are as follows:

A	=	4.0 points
A-	=	3.7
B+	=	3.3
B	=	3.0
B-	=	2.7
C+	=	2.3
C	=	2.0
C-	=	1.7
F	=	0
EX	=	Excused
DL	=	Delayed

The Graduate School does not recognize a D grade for a graduate student enrolled in a course carrying graduate credit. According to the regulations of the Graduate School, grades lower than C- are recorded as F.

The satisfactory/unsatisfactory (S/U) option is not available to students taking courses at any level (200, 300, or 400) for graduate credit. Students may enter courses as auditors but may not change from audit to credit or credit to audit after the first week of class. Auditors are charged full fees and receive no academic credit.

Delayed grades may be given when a student's work is incomplete but otherwise worthy of credit. Delayed grades must be removed within two regular semesters after the time recorded or they automatically become F grades. In such cases, course instructors may subsequently change F grades to other grades when all work has been completed. Delayed grades recorded for courses in thesis or dissertation research are left as delayed grades until the final regular grades are reported by the instructor.

Students cannot graduate with any delayed grades on their transcript. The only exception to this rule is for students enrolled in doctoral programs who are obtaining

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a master's degree or certificate on the way to the doctorate. For these students, delayed grades in dissertation research are allowed at the time they receive their master's degree.

Grade Point Average (GPA)

All courses taken at UM-St. Louis for graduate credit figure into the calculation of the transcript GPA, including courses that may not be a part of the degree program. However, only those courses included in the degree or certificate program figure into the calculation of the program GPA. The program GPA must be at least 3.0 for a student to receive a graduate degree or certificate.

Graduate courses taken by UM-St. Louis undergraduates and then petitioned into graduate credit will be included in GPA calculations. Extension work, institutes, workshops, and courses transferred from other universities or other UM campuses will not be included in any GPA calculation, even though the courses may be included as part of a degree program.

Probation

A department must place a graduate student on probation if the transcript GPA, based on a minimum of 3 courses (9 credit hours), falls below 3.0 or if it regards the student's progress as unsatisfactory. The student will be placed on probation for one semester, during which time progress will be formally reviewed by the appropriate departmental committee. After one semester the student will be removed from probation, continued on probation, or dismissed. A student may not continue on probation for more than one calendar year without permission of the Dean of the Graduate School. Probation letters will be sent out by the department or School, with copies sent to the Graduate School and the Admissions Office.

Dismissal

A graduate student can be dismissed from the Graduate School on the recommendation of the department or School and concurrence of the Graduate School. Dismissal letters will be sent out by the Graduate School, with copies sent to the graduate adviser and the Admissions Office. Notification will be sent by the Graduate School to the Registrar's Office. Non-degree students must maintain the same standards required of students enrolled in degree or certificate programs. Upon recommendation of the School or department, non-degree students may be dismissed if their grade point averages fall below 3.0. They are dismissed if their grade point averages is below 3.0 at the end of 12 completed hours of study.

Certificate Programs

Credit Requirements

A minimum of 18 hours of course work is required for a graduate certificate. At least 12 of these hours must consist of courses drawn from the list of core courses for the particular certificate program. At least 12 hours must be completed in residence at UM-St. Louis. At least nine hours must be at the 400 level. No more than 6 hours may be independent study.

Filing the Degree Program

A graduate student enrolled in a certificate program is required to file a degree program with the Graduate School before completing the first two-thirds of the number of hours required in the program.

Master's Degree Requirements

Credit Requirements

A minimum of 30 semester hours carrying graduate credit is required for every master's degree program.

Filing for Degree Program

Before completing the first two-thirds of the required hours in a degree program, graduate students, in consultation with their advisers, should file a program of study. This program must be approved by the department or School involved and the Dean of the Graduate School.

Thesis and Comprehensive Examinations

Although not a general Graduate School requirement, a thesis may be required by departments in particular degree programs. Where required, the thesis is directed by a three-member committee of graduate faculty appointed by the Dean of the Graduate School on the recommendation of the department or School. Microfilming of master's theses by UMI is required by the Graduate School. Information on requirements, costs and optional copyrighting can be obtained from the Graduate School or the Library representative.

Comprehensive examinations, oral, written, or both, are required in most master's degree programs. Examinations are administered by a committee of not less than three graduate faculty members appointed by the Dean of the Graduate School on the recommendation of the department or School.

Dual Master's Degrees

With approval of the department or School and the Dean of the Graduate School, students who have completed one master's degree may transfer appropriate credits to a second master's degree program. The number of transferable credits may not exceed one-third of the credit hours required by the second program; subsequent transfers to a third master's degree are not permitted.

With approval of the departments or Schools involved and the Dean of the Graduate School, students may simultaneously pursue two master's degrees under the following conditions:

- 1) No more than one-third of the credit hours required by either program may be applied to both programs.
- 2) Students must obtain approval of the departments, Schools, and program advisers from both areas before they have completed 12 hours in either program. Under normal circumstances, two degrees will be pursued consecutively rather than concurrently.

An exception to the above one-third limit may be granted by the Dean of the Graduate School if the two degree programs have filed with the Graduate School approved

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guidelines addressing specific allowable transfers between those two degree programs.

Credit From a Certificate Program

Students who have completed course credits in certificate programs may transfer such credits into a master's degree program with the consent of the department or School, as long as the credits fall within the time limitations set for master's degrees. If the master's degree is in a different department or school from that awarding the certificate, then no more than one-third of the credits from the certificate program may apply to the master's degree. Students engaged in established multi-disciplinary studies governed by guidelines approved by the relevant departments and the Graduate School may apply appropriate certificate credits in excess of this limit.

Time Limitation

The maximum amount of time allowed for completion of a master's degree will be six years after the first course enrollment. All courses included in a master's degree program, whether taken at UM-St. Louis or at another institution, must have been completed within six years of the awarding of the degree.

Residence Requirement

The final two-thirds of the courses in a master's degree program must be completed in residence at UM-St. Louis.

Continuous Enrollment

All master's degree students who regularly utilize faculty or facilities for the purpose of advisement, data gathering, or examinations, must be enrolled for credit commensurate with this activity.

Doctoral Degree Requirements

The doctoral degree is based on evidence that candidates have achieved a high level of scholarship and proficiency in research. The proficiency of students and their ability to work independently are established by a series of qualifying and comprehensive examinations and by the quality of their dissertations.

Cooperative Programs

In addition to the doctoral degree programs offered at the University of Missouri-St. Louis, limited opportunities exist for work in programs at other University of Missouri campuses. Specific inquiries should be directed to the chairperson of the department on the appropriate campus.

Credit Requirements

A minimum of 60 semester hours carrying graduate credit is required for every doctoral degree program. Departments or schools may require a greater number of hours for their programs.

Residence Requirement

The majority of credits used to satisfy requirements for a doctoral degree must be completed in residence at UM-St. Louis. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, at least 46 hours must be completed at UM-St. Louis. These 46 hours

may include credit hours taken for the dissertation. Special courses such as graduate institutes and workshops, as well as courses taken through Continuing Education-Extension, may be included as part of the residence requirement.

At some point in their course work, doctoral students must successfully complete a minimum of 15 hours over two consecutive terms ("term" meaning a regular semester or a summer session). The 15 hours may not all be taken in one term.

Work completed as a post-master's degree student, prior to admission to a doctoral program, may be counted toward a doctoral degree, up to a maximum of 12 hours. Inclusion of such course work is subject to departmental approval and must have been completed within eight years of the time the doctoral degree is awarded. Exceptions to this regulation must be justified on academically defensible grounds and must be approved by the Graduate Dean prior to filing the program.

When doctoral students have earned a master's degree at UM-St. Louis or at another institution, appropriate credits may be applied toward meeting the requirement for the doctoral degree, subject to departmental or school approval. Such credits must constitute less than half of the total credits required for the doctorate. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, no more than 44 credits from a master's degree may apply to the doctoral degree. Credit for courses taken for a master's degree is exempt from the eight-year time limitation.

Time Limitation

Doctoral degree work must be completed within eight years after the first course enrollment.

Comprehensive Examinations

Each department or school will determine the number of times a comprehensive examination may be taken by a student. The department or school must file with the Graduate School a statement specifying (a) the number of times the department will allow its students to take a comprehensive examination, and (b) the maximum and/or minimum period of time the department will allow between the first and final attempt to pass the comprehensive examination.

Appointment of the comprehensive examination committee is made by the Graduate Dean upon departmental or school recommendation of Graduate Faculty committee members.

An oral examination may not substitute for the standard written portion.

Application for Candidacy

An Application for Candidacy should be filed immediately after the student has passed all comprehensive and language examinations, written or oral, as required by the department or school and completed all course work.

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Dissertation Proposal

A Doctoral Dissertation Proposal should be filed before the student conducts any substantial research. Prior to this filing, the dissertation committee will meet with the student for an oral defense of the proposal. The dissertation proposal must be accepted by the Graduate School before a doctoral student completes the sixth semester of study, or before the student takes more than four hours of dissertation credit, whichever comes later. That is, students who have taken more than four hours of dissertation credit by the end of the sixth semester must have successfully filed their dissertation proposal by that point. Students who have taken no more than four hours of dissertation credit by the end of the sixth semester have a later deadline: the point at which they intend to take their fifth dissertation credit.

It is understood that the dissertation research may evolve in directions quite different from the Dissertation Proposal, and the proposal is not intended to restrict the normal development of a research project. However, the termination of a line of research and the adoption of a substantially new dissertation project will require the preparation, oral defense, and acceptance by the Graduate School of a new dissertation proposal.

Continuous Enrollment

When students are advanced to candidacy, they must remain in continuous enrollment until the degree is awarded. If students are actively engaged in degree work on campus, they shall enroll for credit commensurate with this activity. If away from campus, students shall enroll for at least one credit hour each semester.

Dissertation Committee

The doctoral dissertation committee will consist of at least four members of the UM-St. Louis graduate faculty. Included in this number is the committee chair, who must be a member of the doctoral faculty. Also included in this number is at least one person from outside the department or school. The majority of members of the committee must be from the department in which the student is obtaining the degree.

When the dissertation committee deliberates on a dissertation or on an oral defense of the dissertation, two negative votes are sufficient for failure, even if outnumbered by positive votes. An abstention will be considered a negative vote. A student failing an oral defense should be provided with an opportunity for an additional defense. The timing and format of the subsequent defense will be determined by the dissertation committee and the second defense will take place before the same committee.

Dissertation and Final Examination

One copy of the dissertation, certified as complete and provisionally acceptable by all dissertation committee members, must be submitted to the Graduate School at least six weeks before commencement. The Dean of the Graduate School may assign the dissertation to other readers, on or off campus, or seek such other advice as the Dean feels pertinent.

Upon preliminary acceptance of the dissertation, the Dean of the Graduate School appoints the Defense of Dissertation Committee to conduct the final examination. The Dean appoints members of the dissertation committee and such other members of the Graduate Faculty as seem appropriate.

Candidates must submit an oral defense announcement, including an abstract of the dissertation, at least three weeks before the oral examination.

The Defense of Dissertation Committee certifies the final acceptability of the dissertation to the Dean of the Graduate School on the basis of a final examination open to all Graduate Faculty members. The chairperson of the dissertation committee is responsible for verifying that all the changes suggested by the Graduate Dean and the dissertation committee have been incorporated in the final draft of the dissertation or have been discussed further with the Graduate Dean or the committee. This certification is made by signing the "Final Approval of the Doctoral Dissertation" form. Microfilming of doctoral dissertations by UMI is required by the Graduate School. Information on requirements, costs and optional copyrighting can be obtained from the Graduate School or the Library representative.

Graduation

Candidates for the doctoral degree are expected to attend Commencement.

Fees for Graduate Study

Detailed information regarding current fees and residency regulations is furnished in the Schedule of Courses, a newspaper schedule, distributed before each semester registration, available at the registrar's office. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this Bulletin is still in use.

The University reserves the right to change fees and other charges at any time without advance notice.

Educational Fees (1997-98)

All students enrolled in the University must pay an Educational Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Graduate Educational Fee

Regular Semester

Missouri Residents \$157.90 per credit hour
*Nonresidents \$474.90 per credit hour

Intersession and Summer Sessions

The Educational Fee per credit hour for these sessions follows the same schedule as listed above.

Partial Enrollment

Since the Educational Fee owed by a student is on a per-credit-hour basis, the Educational Fee for partial enrollment is assessed according to the above schedule.

Graduate Study

Fees for Auditing Courses

Auditors are charged full fees and receive no academic credit.

For Optometry Student Educational Fees, see the section of this catalogue for the School of Optometry.

*Nonresident Graduate Students

Students who do not meet the residency requirements must pay the Nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in Tuition and Residency Rules, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Other Fees

Instructional Computing Fee

Students registered in the University are required to pay an Instructional Computing Fee of \$7.00 per credit hour.

Student Facility and Student Activity Fee

All students registered in the University are required to pay a Student Facility and Student Activity Fee. The fee shall be calculated at the rate of \$14.73 per credit hour up to a maximum of \$176.76 for 12 credit hours in regular sessions. In the Summer Session, the maximum fee is \$88.38 for six or more credit hours.

The Student Facility and Student Activity Fee is used for programs of broad interest within the University community. The fee for a full-time, regular semester is distributed as follows:

Bond Retirement on University Center —\$42.48
 Athletic Program —\$82.56
 Student Activities —\$21.36
 Student Services —\$ 4.20
 Recreation/Facility Fee—26.16
 Total (for 12 credit hours) —\$176.76

Health Fee

Students registered in the University are required to pay a Health Fee of \$7.50 per semester; \$3.75 for Summer and Intersession.

Late Registration Fee

Students registering after the close of the regular registration period must pay the late fee, equal to the Undergraduate Resident Educational fee for one credit hour, \$124.80.

Parking Fees

Students wishing to operate motor vehicles on campus must register them and pay a fee at the time of registration. Failure to comply with traffic regulations may subject students to disciplinary action, payment of an additional fee, and the denial of the privilege to operate a motor vehicle on campus. Copies of Traffic Regulations for the University of Missouri-St. Louis are available at the UM-St. Louis Police Office.

The parking fee for 1997-98 is \$6.55 per credit hour, up to a maximum of \$104.80 for 16 credit hours in the regular semester, for each motor vehicle used by a student on campus. Parking fees in the Summer Session are at the same per-credit-hour rate up to a maximum of \$52.40 for eight or more credit hours. Students who do not drive regularly may park in the daily parking lot for a fee of \$3.25 a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are \$3.25 per credit hour up to a maximum of \$52.00 in the regular semester and \$26.00 in the Summer Session.

The revenue from parking fees is used to construct and maintain roads, parking garages, and surface parking; to rent parking space off campus when necessary; to pay for the printing of parking stickers and regulations; and to pay for all other related expenses. Detailed information on parking regulations^a and fee refunds is available from the cashier's office.

Parking fees are refundable under the same schedule as other fees. Students must return the scraps of the parking sticker to obtain a refund if they decide to cancel parking privileges. See the "Refund of Fees" section below.

Final Semester Educational Fee

Candidates for graduate degrees who have completed degree requirements except for filing a thesis or dissertation and/or taking the final examination must register for at least one credit in the term in which they expect to receive the degree. Only students so registered may file applications for graduate degrees.

Thesis and Dissertation Fee

Graduate students must also pay a fee for the binding and microfilming of the thesis or dissertation.

Payment of Fees

All fees are due and payable at the time of registration. Students with delinquent accounts will not be allowed to enroll in subsequent semesters. Students receiving financial aid must present their fee statement to the Cashiers Office. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. Enrollment will be completed upon receipt of the first minimum payment for students electing this plan. Interest will be assessed on the unpaid balance of all students at the rate of one percent per month. More information about this plan is available at the cashier's office.

Personal Checks

Personal checks in payment of fees or other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student.

A student, presenting a check to the University that is returned unpaid, shall pay a returned check charge of \$10.00.

Graduate Study

Credit Cards

MasterCard, VISA, or Discover credit cards are accepted in payment of fees.

Delinquent Indebtedness

All delinquent indebtedness to the University must be cleared before transcripts or diplomas will be released.

Refund of Fees

Students who officially withdraw from the University or drop courses for which they have been assessed fees, during either the regular semester or other sessions, will receive a refund in accordance with the schedule explained in the section "Undergraduate Study: Fees" under the heading "Refunds". Graduate students should refer to this section for such information.

Financial Assistance

Teaching Assistantships

Most departments with established graduate programs offer teaching assistantships to qualified graduate students. Appointments are usually half-time appointments and carry stipends. Students receiving assistantships are expected to pay all Educational Fees but are exempt from the difference between the Missouri resident and the Nonresident Educational Fee. Students with these stipends must register for a minimum of six credit hours in semesters in which they hold the assistantship.

Teaching assistant appointments are made directly by the departments, and inquiries and applications should be addressed to the Director of Graduate Studies of the appropriate department. Applications should be submitted no later than March 15 for the Fall Semester. Occasionally a few teaching assistantships are available for the Winter Semester. Interested students should contact the appropriate department.

Since some departments observe different deadlines, applications should be submitted as early as possible. Appointments are normally announced by April 1 for the Fall Semester and by November 1 for the Winter Semester.

Research Assistantships

A small number of research assistantships are available in some departments and schools. Conditions of appointments are generally similar to those of teaching assistantships. Inquiries should be addressed to the department or school.

Fellowships and Scholarships

A small number of doctoral fellowships may be available for graduate students. In addition, certain departments or divisions have available a limited number of traineeships, fellowships, or scholarships. For more information consult individual departments.

Other Graduate Financial Aid

Graduate students may apply for both the Federal Perkins Loan (formerly NDSL) and the Federal College Work-Study Program, as well as the Federal Direct Loan Programs. For information on the Federal Loan or Federal Work-Study Programs or for additional financial aid information or educational consumer information, contact the Student Financial Aid Office. Students must be enrolled at least half-time and meet the same eligibility requirements as undergraduates to receive financial aid. All deadlines stated in the undergraduate study section are applicable to graduate students. Students who have earned their first baccalaureate degree are no longer eligible for federal and state grant programs.

Confidentiality Policy

The Family Educational Rights and Privacy Act of 1974

These statements are set forth as guidelines and procedures to implement the University of Missouri policy on student records developed from The Family Educational Rights and Privacy Act of 1974.

The University of Missouri-St. Louis as charged in the Act will annually inform its eligible students by including in the Student Handbook, the Schedule of Courses, the UM-St. Louis Bulletin, and the Current (student newspaper) the following information:

- 1) "Education Records" are those records, files, documents, and other materials which contain information directly related to a student and are maintained by the University. Those records, made available under The Family Educational Rights and Privacy Act of 1974, are student financial aid, the student's cumulative advisement file, student health records, disciplinary records, the admissions file, and the academic record.

Confidential letters and statements of recommendation which were placed in student credential folders at the Office of Career Placement Services after January 1, 1975, are also made available, if the student has not waived the right to view these recommendations.

The University of Missouri-St. Louis "Education Records" do not include:

- a) Records of instructional, supervisor, and administrative personnel and educational personnel ancillary thereto which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except a substitute.
- b) The records of the University of Missouri Police Department which were created for a law enforcement purpose and are maintained by the police department.
- c) In the case of persons who are employed by the University but who are not in attendance at the University, records made and maintained in the normal course of business which related exclusively to such persons and that person's capacity as an employee where the records are not available for any other purpose.
- d) All records on any University student which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or para-professional acting in his professional or para-professional capacity, or assisting in that capacity, and which are created, maintained, or used only in connection with the provision of treatment to the student, and are not available to anyone other than persons providing such treatment, provided, however, that such records can be personally reviewed by a physician or other appropriate professional of the student's choice.

- 2) The University of Missouri-St. Louis recognizes "Directory Information/Public Information" to mean a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance,

degrees and awards received, and the most recent previous educational agency or institution attended by the student. All students must inform the Office of Admissions and Records before the end of the two-week period following the first day of classes that any or all of the information designated as directory information should not be released without the student's prior consent. The information listed above will become directory information or public information as of the first day of classes following the end of the two-week period in a regular semester and the first day of classes following the end of the one-week period during the Summer Session.

- 3) University of Missouri-St. Louis students have access to the educational records identified in Paragraph 1 above. In accordance with Pub. Law 93-380 as amended, the University of Missouri-St. Louis will not make available to students the following materials:
 - a) Financial records of the parents of students or any information contained therein.
 - b) Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, if such letters or statements are not used for the purpose other than those for which they were specifically intended.
 - c) Confidential recommendations respecting admission to the University, application for employment and receipt of honor, or honorary recognition, where the student has signed a waiver of the student's rights of access as provided in 6.0404, the *University Policy on Student Records*.
- 4) The director of Financial Aid, the appropriate academic dean, the coordinator of the Student Health Service, the vice chancellor for Student Affairs, the director of Career Placement Services, the director of Admissions, and the Registrar are the officials responsible for the maintenance of each type of record listed in paragraph 1.
- 5) Any student may, upon request, review his or her records and, if inaccurate information is included, may request the expunging of such information from his file. Such inaccurate information will then be expunged upon authorization of the official responsible for the file.
- 6) Students desiring to challenge the content of their record may request an opportunity for a hearing to challenge the content of his or her educational record in order to insure that the record is not inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student, to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein, and to insert into such records a written explanation respecting the content of such records.
- 7) The University official charged with custody of the records will attempt to settle informally any disputes with any student regarding the content of the University's educational records through informal meetings and discussions with the student.

Confidentiality Policy

- 8) Upon request of the student or the University official charged with custody of the records of the student, a formal hearing shall be conducted as follows:
 - a) The request for a hearing shall be submitted in writing to the campus chancellor who will appoint a hearing officer or a hearing committee to conduct the hearing.
 - b) The hearing shall be conducted and decided within a reasonable period of time following the request for a hearing. The parties will be entitled to written notice 10 days prior to the time and place of the hearing.
 - c) The hearing shall be conducted and the decision rendered by an appointed hearing official or officials who shall not have a direct interest in the outcome of the hearing.
 - d) The student shall be afforded a full and fair opportunity to present evidence relevant to the hearing.
 - e) The decision shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.
 - f) Either party may appeal the decision of the hearing official or officials to the campus chancellor. Appeal from the chancellor's decision is to the president. Appeal from the president is to the Board of Curators.
- 9) The University of Missouri-St. Louis will mail grade reports only to a student's permanent mailing address. Grades will not be mailed to parents unless the students in question have completed the necessary authorization in the registrar's office.
- 10) The University of Missouri-St. Louis may permit access to or release of the educational records without the written consent of the student to the parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1954.
- 11) If any material or document in the educational record of a student includes information on more than one student, the student may inspect and review only such part of such material or document as relates to him or her or to be informed of the specific information contained in such part of such material.

Provisions for Auxiliary Aids, Reasonable Accommodations, and other Services to Students with Disabilities

The University of Missouri is committed to equal educational opportunities for qualified students without regard to disabling condition. The University, therefore, will take necessary action to ensure that no qualified student with a disability is denied access to any particular course or educational program. Such action includes an assessment of the student's abilities and an evaluation of the requirements of the particular course or program.

If the University determines that some type of auxiliary aid is required, it will assist the qualified student with a disability in obtaining the necessary auxiliary aid from other sources. If the necessary auxiliary aid is not available from other sources, the University, at its option, shall provide the necessary appropriate auxiliary aid.

Requests for the assessments must be made to the Administrator for Special Student Programs no later than six weeks prior to the beginning of the next semester. If an unfavorable determination is made, the student may appeal the decision. See Discrimination Grievance Procedure, Appendix.

The University will make reasonable modifications to its academic requirements, if necessary to comply with legal requirements ensuring that such academic requirements do not discriminate or have the effect of discriminating on the basis of a student's known and adequately documented disability, unless the requested modification would require alteration of essential elements of the program or essential elements of directly related licensing requirements or would result in undue financial or administrative burdens.

The divisional dean's office, in cooperation with the coordinator of services for students with disabilities and the department through which the requirement is fulfilled, will determine the appropriate modification or substitution.

Financial Aid

Student Financial Aid Programs

Student Financial Aid Programs: Grants, Scholarships and Loans

Financial assistance is available to qualifying undergraduates in the form of grants, loans, scholarships, and workstudy. Funds for these programs are available from federal, state, and institutional resources. Scholarships are provided by private, institutional, state, and federal funding. Scholarship requirements vary and may require the student have financial need.

Some scholarships require a separate application to the school, college, department or office which administers those scholarships. (See "Apply To" column in the following listings.)

For further information, contact the Student Financial Aid Office, University of Missouri-St. Louis, 209 Woods Hall, St. Louis, MO 63121. The phone number is (314) 515-5526; the fax number is (314) 516-5408.

Federal Student Financial Aid Programs

NOTICE: The Qualifications/Descriptions and the Maximum Academic Year Amount shown in the tables for the Federal Student Financial Aid Programs are based on information available at the time of printing. They are subject to change or modification.

<u>Fund Name</u>	<u>Qualifications/Description</u>	<u>Maximum Academic Year Amount</u>	<u>Apply To</u>
Federal Pell Grant	Financial need; undergraduate; gift assistance.	\$2,700	Student Financial Aid at 516-5526
Federal Supplemental Educational Opportunity Grant	Financial need; undergraduate; gift assistance; requires Pell Grant eligibility.	\$500	Student Financial Aid at 516-5526
Federal Work-Study	Part-time employment; financial need.	Hourly wage	Student Financial Aid at 516-5526
Federal Perkins Loan	Financial need; no interest while at least a half-time student; repayment begins following termination of at least half-time enrollment and 9 month grace period; interest at 5% during repayment.	\$500 undergraduate \$1,000 optometry	Student Financial Aid at 516-5526
Federal Direct Loan Program/Subsidized	Financial need; loan through U.S. Department of Education; LIMITS: undergraduate aggregate limit is \$23,000; aggregate graduate and professional including undergraduate loans is \$65,500; INTEREST: for borrowers for which the first disbursement is made on or after July 1, 1994, variable rate of the 91-day Treasury Bill plus 3.1%, adjusted annually, with a cap of 8.25%; REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 10-25 years for repayment. DEFERMENTS: (1) in-school at least half-time, (2) unemployment for up to 3 years and (3) economic hardship for up to 3 years. FEES: 4% origination.	\$2,625 freshman \$3,500 sophomore \$5,500 junior \$5,500 senior \$8,500 grad or professional	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Federal Direct Loan	Same as the Federal Direct Loan Program/Subsidized with the exception that it is not based on financial need; maximum academic year amounts include the amount of Federal Direct Loan/Subsidized which the student may be receiving; interest accruing during in-school and deferment periods may be paid or may be capitalized; aggregate undergraduate same limit as subsidized program; aggregate graduate and professional limit including undergraduate subsidized loans is \$138,500.	DEPENDENT \$2,625 freshman \$3,500 sophomore \$5,500 junior \$5,500 senior INDEPENDENT \$6,625 freshman \$7,500 sophomore \$10,500 junior \$10,500 senior \$18,500 graduate or professional	Student Financial Aid at 516-5526
Federal Direct PLUS Program (Parent Loan for Undergraduate Students)	Credit-based loan through U.S. Department of Education; not based on financial need; parent of dependent undergraduate is borrower; no aggregate loan limits; INTEREST: variable rate of the 52-week Treasury Bill plus 3.1%, adjusted annually, with a cap of 9.0%; REPAYMENT: interest and principle payments by parent borrower begin 60 days after disbursement. FEES: 3% origination.	Cost of education minus other financial aid	Student Financial Aid at 516-5526

Long-Term Loans

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Bryant Loan	Full-time student with financial need as determined by the Free Application for Federal Student Aid; INTEREST: Fixed at 8%; REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 5 years for repayment.	Varies	Student Financial Aid at 516-5526
Barnes Nursing Scholarship/Loan	Nursing student with financial need as determined by the Free Application for Federal Student Aid; must accept employment at Barnes Hospital. If employment not accepted the scholarship becomes an interest free loan; if no employment opportunities are available the loan will be excused.	Varies	School of Nursing at 516-6066.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
HEAL (Health Education Assistance Loan)	Optometry student who has borrowed in the HEAL program prior to 10/1/95; INTEREST: variable interest rate based on the 91-day T-Bill + 1.85%; REPAYMENT: begins 12 months following termination of at least half-time enrollment; up to 25 years for repayment; FEES: 6% origination.	\$20,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
HPSL (Health Professions Student Loan)	Full-time Optometry student with financial need as determined by the Free Application for Federal Student Aid with parental information; INTEREST: fixed at 5%; REPAYMENT: begins 12 months following termination of at least full-time enrollment; up to 10 years for repayment and based on debt to income ratio.	Varies	Student Financial Aid at 516-5526
MEDFUNDS	Undergraduate and graduate Nursing and Optometry student; INTEREST: variable interest rate based on 91-day T-Bill + 2.4% while in school; based on 91-day T-Bill + 2.7% while in repayment; REPAYMENT: begins 6 months following termination of at least half-time enrollment for undergraduate student and 9 months for graduate student; up to 20 years for repayment; FEES: guarantee fee 9% or 6% with credit-worthy co-borrower.	\$20,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
Missouri Nurse Loan Program	Full-time Missouri resident Nursing student pursuing a B.A. or M.A.; INTEREST: fixed at 9.5%; REPAYMENT: begins 6 months following graduation; loan forgiveness if serving in a shortage area; up to 2 years for repayment if not serving in a shortage area.	\$5,000 for professional nurse education and \$2,500 for practical nurse education.	Bureau of Primary Care at (314) 751-6219

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Nursing Student Loan	Full-time or part-time Nursing student pursuing a B.A. or M.A.; Must have exceptional need as determined by the Free Application for Federal Student Aid; INTEREST: fixed at 5% REPAYMENT: begins 9 months following termination of at least half-time enrollment; loan forgiveness options; up to 10 years for repayment.	Varies	Automatically awarded to qualified students through Student Financial Aid Office (Funding is limited)
OPLoan	Optometry students; INTEREST: Variable rate based on the 91-day T-Bill + 2.5% while in school; based on the 91-day T-Bill + 2.9% while in repayment; 12 month grace period; REPAYMENT up to 20 years for repayment; FEES: 7% guarantee.	\$20,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
PEP (Professional Education Plan)	Credit-based loan for graduate and professional study; INTEREST: rate will never exceed prime rate plus 2.0%; REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 20 years for repayment. FEES: guarantee 9% or 6% for credit worthy borrower or with credit worthy co-signer.	\$7,500 on student's good credit; \$20,000 with a credit-worthy co-borrower. up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
PREMIER	Undergraduate and graduate student with an annual income of at least \$15,000; INTEREST: variable rate based on the 52-week T-Bill + 3.10% (adjusted quarterly); REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 15 years for repayment. FEES: 5% guarantee for immediate repayment and 6% guarantee for deferred repayment.	\$60,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
St. Louis Police/Urban League Scholarship/Loan	Entering minority freshman student majoring in Criminology and Criminal Justice; St. Louis City residents; meet qualifications of the St. Louis City Police department; upon graduation work for St. Louis Metropolitan Police department;	Full educational fees and book stipend	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	after 5 years of service the entire loan amount will be forgiven.		
TERI Supplemental Loan	Credit-based loan for undergraduate and graduate study with annual income of at least \$15,000. INTEREST: rate will never exceed prime rate plus 2.0%; REPAYMENT: options include: 1) immediate repayment, pay principle and interest in a fixed monthly amount; 2) deferred repayment, defer principle and pay only interest while student is enrolled in school (up to 4 years); up to 25 years for repayment. FEES: guarantee 5%.	Up to \$20,000 per academic year.	Student Financial Aid at 516-5526

Short-Term Loans

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Barnett Loan	Full-time; exceptional financial need; INTEREST: fixed at 10%.	Varies	Student Financial Aid at 516-5526
Bowling Emergency Loan	Evening College student; need; INTEREST: fixed at 10%. REPAYMENT: by the end of the semester.	\$250	Evening College at 516-5867
Emergency Loan	Part-time or full-time; GPA 2.0 or better; INTEREST: fixed at 12%.	\$100	Student Financial Aid at 516-5526
Emergency Loan for Optometry	Full-time Optometry student; INTEREST: fixed at 12%.	\$1,000	Optometry School at 516-5607

Scholarship Program-Freshmen

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Academic Scholarship	Competitive scholarship for incoming freshmen student who demonstrates academic promise by achieving an entrance college test score in upper twenty-five percent of scores or ranking in the upper twenty-five percent of their high school class are considered. Applicant must be admitted to	\$1000	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	UM-St. Louis by March 31 and attend full-time. Nonrenewable.		
Charles W. Armbruster Fellowship	Chemistry major with a competitive academic record. Renewable.	\$500	Chemistry department at 516-5313
John and Elizabeth Aton Science Scholarship	Preference given to women who are graduates of Rosati-Kain High school, majoring in Biology, Chemistry or Physics. Applicants must have a cumulative GPA of 3.2 and be enrolled as a full-time Freshman at UM-St. Louis. Renewable for up to three years.	\$1,000	Student Financial Aid at 516-5526
Biology Alumni Scholarship Fund	Scholarship awarded annually to high school seniors in the St. Louis area planning to attend UM-St. Louis in the fall term as biology teacher major. Applicants judged on academic achievement (science especially), interest and participation in science activities, good community spirit and expressed interest in teaching biology. Renewable.	\$250	Biology department at 516-6204
Black Faculty and Staff Association Scholarship	First-time Freshmen or evening student enrolled full or part-time and has a cumulative GPA of 2.0. Preference to African-American students from economically disadvantaged backgrounds. Renewable.	\$500	Student Financial Aid at 516-5526
Adeline and Erwin Branahl Scholarship Fund	Candidates must enroll in one of the engineering specialties offered in the UM-St. Louis/Washington University Joint Engineering program. Minimum cumulative GPA of 3.0. Transfer students or first-time freshman having at least a "B" average from their school of origin. Preference shall be given to minority and women students who have completed their sophomore year (minimum 60 credit hours). Renewable.	Varies - will cover tuition only and shall be disbursed over multiple semesters, not as a lump sum.	Engineering Program at 516-6800
Chancellor's Scholarship	Rank in the top quarter of high school class, high percentile on a college entrance test, admitted to UM-St. Louis by March 31 and attend full-time. Nonrenewable.	\$2,500	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Chancellor's Council Scholarship	High school Seniors or entering college freshmen at UM-St. Louis. Preference given to students from economically disadvantaged backgrounds. Renewable.	Varies	Pierre Laclède Honors College at 516-6870.
Curators' Scholarship	Missouri resident, rank in the upper 5% of class, score 28 or above on the ACT or combined 1170 on the SAT. Renewable.	\$3,500	Student Financial Aid at 516-5526.
Emerson Electric Co. Asian-American Scholarship	Scholarship awarded on even dated fall terms, (every other year). Candidates must be of Asian-American heritage, major in Undergraduate Engineering, Accounting, Finance or Computer Science with a cumulative GPA of 2.75 or submit an ACT score if Freshmen. Juniors and Seniors enrolled in the Joint Engineering program must complete a minimum of 18 credit hours per year. Renewable for up to four years.	\$1,000	Engineering program at 516-6800
Ferguson Rotary Al Nicks Memorial Scholarship	Preference to Freshmen but not excluded to Freshmen. Recipient must be from the Ferguson Rotary area which includes: Ferguson and Berkeley School Districts, the local Lutheran High School and Incarnate Word Academy. Student must maintain a 3.0 cumulative GPA and be enrolled in at least 6 credit hours. Essay required. Must reapply.	\$1,000	University Relations at 516-5267.
Peter W. and Helen M. Goode Scholarship Fund	First-time Freshmen, Missouri resident preference to student who Ranks in the top 10% of high school class has achieved scores on ACT or SAT in the top 15% of Missouri residents and has a cumulative high school GPA of 3.0. Renewable.	\$1,000	Student Financial Aid at 516-5526
Granger Biology Teacher Development Award	Scholarship awarded annually to high school seniors in the area planning to attend UM-St. Louis in the fall as a biology teacher major. Must reapply.	\$500	Biology department at 516-6204

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Hargis Scholarship	Scholarship awarded to Belton Missouri High School graduates that demonstrate financial need as determined by the Free Application for Federal Student Aid. Must reapply.	Varies	Student Financial Aid at 516-5526
INROADS/St. Louis, Incorporated Scholarship	First-time Freshmen enrolled in the INROADS/St. Louis College Component and be admitted to UM-St. Louis. Preference given to minority students. Candidate must complete the pre-engineering curriculum at UM-St. Louis in order to be admitted into the Joint Undergraduate Engineering Program, a cumulative GPA of 2.75 is required in all engineering courses. Renewable.	\$2,000	University Relations at 516-5267
INTERCO Scholarship	Minority student, high academic achievement in high school, Full-time enrollment. Renewable.	Full educational fees and books	Student Financial Aid at 516-5526
Key Work Force 2000 Scholarship	Competitive scholarship awarded to outstanding graduating high school senior who participated in the Key Program and are admitted to UM-St. Louis. Renewable.	Up to \$750 for educational fees	Key Program at 516-6404
Mark Twain Bancshares Scholarship	First-time freshmen minority full-time student with a high school cumulative GPA of 3.0. Students must reside in St. Louis Metropolitan area. Preference to students who wish to major in Business Administration. Renewable.	\$1,500	Student Financial Aid at 516-5526
May Department Stores/ Pierre Laclède Honors College Scholarship	Students enrolled in Honors College with outstanding academic abilities. Renewable.	Full educational fees	Pierre Laclède Honors College at 516-6870
Monsanto Minority Math/ Science Scholarship	Preference given to students who have successfully completed the Bridge Program. Minority or economically disadvantaged students with a major in Math, Computer Science, Biology, Chemistry, Engineering or Physics and at least a cumulative GPA of 2.4. Renewable.	\$2,000	Student Financial Aid at 516-5526.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Native American Scholarship	Full-time Native American students. Two letters of recommendation required. Native American status will be verified through submission of a copy of tribal identification or letter form an Urban Indian Center. Renewable up to four years.	\$500	Anthropology at 516-6024.
Marian Oldham Scholarship	Awarded to an African-American, first-time Freshman admitted to UM-St. Louis in a degree program. The award shall be made to a student(s) who ranks in the top 15 percent of his/her high school class, demonstrates leadership abilities at work or in school activities, and demonstrates financial need as determined by the Free Application for Federal Student Aid. Renewable.	\$1,600	Student Financial Aid at 516-5526
Payne Memorial Foundation Award	Awarded to graduates of South Pemiscot County or Cooter high schools. Renewable.	Varies	Student Financial Aid at 516-5526
John Perry Scholarship	Awarded to a dependent of UM-St. Louis staff employee enrolled at UM-St. Louis as a full-time student pursuing an undergraduate degree. Preference given to first-time freshmen. Nonrenewable.	\$500	Student Financial Aid at 516-5526
Professional Women of Southwestern Bell Foundation, Inc. Endowed Scholarship	Candidates shall be U.S. citizens, female and demonstrate financial need as determined by the Free Application for Federal Student Aid. Full or part-time enrollment and maintain a cumulative GPA of 3.0. First-time freshmen must graduate in the top 20% of their high school class or top 20% of SAT or ACT national scoring. Recipients must be Southwestern Bell customers. May reapply each year, but preference not given over other applicants.	\$500	Student Financial Aid at 516-5526
Reserve Officer Training Corps (ROTC) 4 Year Scholarship	High school Seniors/incoming Freshmen who apply by December 1, of the year prior to entering college. Applicants must score a minimum of 19-ACT or 850-SAT, possess a GPA of 2.5, be physically fit and at least age 17 before the scholarship starts. Renewable.	Full educational fees and book stipend	ROTC scholarship coordinator at 935-5537

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Randy Sanderson/ INROADS Scholarship	INROADS participant, first-time Freshman with a cumulative GPA of 2.5. Preference to Business Administration majors and/or graduates of Beaumont High School. Renewable.	Tuition and educational fees	University Relations at 516-5267
Saint Louis Symphony Scholarship	African-American full-time student attending UM-St. Louis; must be involved in at least one music ensemble with UM-St. Louis music department. Renewable.	\$2,000	Music department at 516-5981
St. Louis Internship Program Scholarship	Candidates shall be African-American and have a "B" average from their high school. Full-time students and must maintain a cumulative GPA 2.8 with preferences to graduate of the Bridge and/or Englemann programs at UM-St. Louis. Candidates must demonstrate financial need as determined by the Free Application for Federal Student Aid. The Internship program is designed for students who plan to major in mathematics, science, engineering, or computer science. Renewable.	Varies	Bridge Program at 516-5196
St. Louis Police/Urban League Scholarship/Loan	Applicants must be entering Freshmen students, St. Louis City resident high school graduates, majoring in Criminology and Criminal Justice and meet the qualifications of the St. Louis City Police department. Upon graduation from UM-St. Louis, participants will be hired by the St. Louis Metropolitan Police department. After five years of service, the entire amount of the loan will be forgiven. Renewable.	Full educational fees and book stipend	Student Financial Aid at 516-5526
Southwestern Bell Foundation Endowed Scholarship Fund for Math and Science	Applicants must be first-time Freshmen who have participated in the Engelmann Institute and/or Bridge Program and are enrolled full-time. Renewable for up to nine semesters.	\$2,000	Bridge Program at 516-5199
Herbert H. Sweeney Memorial Scholarship	Enrolled in the Joint Engineering, Program first-time Freshmen and transfer students must have "B" average from school of transfer. Renewable.	\$500	Engineering program at 516-6800

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Rosalie Tilles Scholarship	Entering full-time Freshman who demonstrates capability of maintaining a cumulative GPA of 3.0, likelihood of community success, unique non-academic interests. Renewable for up to 3 additional undergraduate academic years.	Full educational fees	Student Financial Aid at 516-5526
Times Mirror Foundation Minority Journalism Scholarship	Preference given to students who have participated in the UM-St. Louis Minority Journalism Workshop and plan to attend UM-St. Louis and pursue a B.A. in Communication. Renewable up to four years.	\$1,000	Continuing Education at 516-5916
Margaret Bush Wilson Scholarship	Freshmen student enrolled full-time who has participated in the Bridge Program, pursuing a degree in Biology, Chemistry, Physics, Math or Computer Science. Renewable.	\$3,000	Student Financial Aid at 516-5526

Scholarship Program-Transfer Students

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Charles W. Armbruster Fellowships	Chemistry major with a competitive academic record. Renewable.	\$500	Chemistry department at 516-5313
Adeline and Erwin Branahl Scholarship Fund	Candidates must be enrolled in one of the engineering specialties offered in the UM-St. Louis/Washington University Joint Engineering program. Minimum cumulative GPA of 3.0. Transfer students or first-time freshman having at least a "B" average from their school of origin. Preference shall be given to minority and women students who have completed their sophomore year (minimum 60 credit hours). Renewable.	Varies - will cover tuition cost only and shall be disbursed over multiple semesters, not as a lump sum.	Engineering Program at 516-6800
Community College Transfer Scholarship	Missouri resident graduating with an associate degree from an area community college, cumulative GPA of 3.25 or better. Enroll the semester immediately following graduation as a full-time student and be admitted to UM-St. Louis and be a Missouri resident. Recommendations from college administrators, deans or financial aid personnel will be accepted. Renewable.	\$1,000	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Community College President's Transfer Scholarship	Nominated by the Presidents of the Missouri Community Colleges. Renewable.	\$2,000	Student Financial Aid
Reserve Officer Training Corps (ROTC) 3 Year Scholarship	Awarded to students entering their Sophomore year. They must apply before December 1, of the year prior to college enrollment. Applicants must score a minimum of 19-ACT or 850-SAT, possess a minimum cumulative GPA of 2.5, be physically fit and at least age 17 before the scholarship starts. Renewable.	Full educational fees and book stipend.	ROTC scholarship coordinator at 935-5537
Residency Center Scholarship	St. Charles Community College or Jefferson Community College student who has participated in the 2+2 program, based on academic achievement. Renewable.	\$2,000	Student Financial Aid at 516-5526
School of Business Administration/Community College Transfer Scholarship	Awarded to student transferring from an area community college with a minimum of 30 credit hours completed and a minimum cumulative GPA of 3.5. Renewable up to 60 credit hours.	Varies	School of Business Administration At 516-5883
Herbert H. Sweeney Memorial Scholarship	Enrolled in the Joint Engineering Program, first-time freshmen and transfer students must have a "B" average from school of transfer. Renewable.	\$500	Engineering program at 516-6800

Scholarship Program-Missouri State

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Marguerite Ross Barnett Scholarship	Part-time student 18 or older, employed at least 20 hours a week, minimum cumulative GPA of 2.0 and demonstrates financial need as determined by the Free Application for Federal Student Aid. Renewable.	Educational fees	Student Financial Aid at 516-5526.
Missouri Academic Scholarship (Bright Flight)	Missouri residents in top 3% of state on ACT or SAT admission test. High school Seniors only and full-time enrollment required. Renewable.	\$2,000	High school counselor.

Financial Aid

Missouri Minority Teachers Scholarship	Awarded to Missouri minority residents in top 25% of high school class and score at or above the 75% on the ACT or SAT, and will complete teacher training at a 4 year college. Renewable up to 4 years.	\$3,000	High school counselor or Student Financial Aid at 516-5526
Missouri Teacher Scholarship	Missouri residents in top 15% of high school class or score in top 15% on ACT or SAT test, high school Senior, complete teacher training at 4 year school. Nonrenewable.	\$2,000	High school counselor or Student Financial Aid at 516-5526
Missouri Professional and Practical Nursing Scholarship/Loan	Missouri residents enrolled in the nursing program. Preference to individuals from rural or under served areas and minority individuals. Full or part-time students. A portion of the loan will be forgiven if recipient works in a designated shortage area. Renewable.	Varies	Bureau of Primary Care at (314)751-6219

Scholarship Program-Undergraduate College of Arts & Science

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Agents Scholarship in Economics	Full-time student majoring in Economics. Award based on academic performance. Must be recommended by faculty	\$500	Economics department at 516-5353
Charles W. Armbruster Fellowship	Chemistry major with a competitive academic record. Renewable.	\$500	Chemistry department at 516-5313
Anthropology Alumni Scholarship	Full-time student majoring in Anthropology who demonstrates academic promise. Nonrenewable.	\$1,000	Anthropology department at 516-6024
Art Department Barbara/ St. Cyr Scholarship	Awarded to undergraduate Art History major or Education major who has successfully completed Art 134. Students should be enrolled in at least 6 credit hours per semester and have at least a cumulative GPA of 3.0. Nonrenewable.	\$500	Art department at 516-6575
John and Elizabeth Aton Science Scholarship	Preference given to women who are graduates of Rosati-Kain High school, majoring in Biology, Chemistry or Physics. Applicant must have a cumulative GPA of	\$500	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Biology Alumni Scholarship Fund	3.2 and be enrolled as a full-time freshman at UM-St. Louis. Renewable for up to three years.	\$250	Biology department at 516-6204
Ruth Boulicault Memorial Scholarship	Student who has completed a minimum of 12 credit hours in Political Science. Must be full-time undergraduate Junior majoring in Political Science. Student must demonstrate financial need, and be a resident of St. Louis county. Preference given to residents of Creve Couer. Nonrenewable.	\$400	Political Science department at 516-5523.
Richard L. Brawley Memorial Science Scholarship	Must be a Junior or Senior majoring in Anthropology, Astronomy, Biology, Chemistry or Physics with a cumulative GPA of 2.5, enrolled full or part-time and demonstrate financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$250	Student Financial Aid at 516-5526
Jack and Carole Buck Family Communication Scholarship	Full-time student majoring in Communication with a cumulative GPA of 2.5. Nonrenewable.	Varies	Communication department at 516-5485
Roy Gene Burns History Scholarship	Full-time Senior majoring in History with outstanding academic progress, leadership and demonstrates financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$500	History department at 516-5681
Gay Carraway N.O.B.L.E. Memorial Scholarship	Preference to African-American students enrolled a minimum of six hours Junior or Senior level students must have a cumulative GPA of 2.8 and be a resident of St. Louis metropolitan area, pursuing a degree in Law Enforcement. Renewable.	Varies	Relations University at 516-5267

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
William and Erma Cooke Chemistry Scholarship	Student must be at least a Sophomore pursuing a degree in Chemistry with a cumulative GPA of 3.0. Student should exhibit financial need. Renewable.	\$1,000	Chemistry department at 516-5313.
Discover St. Louis Tours Scholarship	Preference to an instrumentalist, Music major. Selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	Varies	Music department at 516-5981
Doris Fishman AOJ Scholarship	Student must be a full-time Undergraduate Junior or Senior majoring in Criminal Justice with a cumulative GPA of 3.0. Eligible recipient will demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	Varies	Criminology and Criminal Justice department at 516-5032
Economics Undergraduate Scholarship	Full-time student majoring in Economics. Award based on academic performance. Must be recommended by faculty.	\$200	Economics department at 516-5353.
English Department Alumni Scholarship	An English major enrolled in at least 6 hours per semester who has completed a minimum of 75 credit hours, of which 18 credit hours are in English (excluding English composition). Nonrenewable.	\$500	English department at 516-5541
Jeffrey Earl Scholarship	Outstanding Senior, based on academic achievement with a minimum cumulative GPA of 3.5. Nonrenewable.	Varies	Physics department at 516-5933
Foreign Language & Literature Scholarship	Must have Junior or Senior level in the Foreign Languages and Literatures department (i.e. enrolled in 200 or 300 level foreign language courses) and completed a minimum of 6 credit hours in a particular foreign language at UM-St. Louis. Students should have a minimum GPA of 3.25 in the department and a have an overall cumulative GPA of 2.75. Must reapply.	\$350	Foreign Languages and Literatures department at 516-6242
German Scholarship	Junior or Senior status in department (i.e. enrolled in 200 or 300 level courses. Must have completed 6 credit hours of German courses at UM-St. Louis with 3.00	\$1000	Foreign Languages and Literatures department at 516-6242

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	GPA and a cumulative GPA of 2.5. Must reapply each semester.		
German Scholarship (Summer)	German major or minor attending summer language institute in a German speaking country, Junior or Senior status in department (i.e. enrolled in 200 or 300 level courses). Must have completed 6 credit hours of German courses at UM-St. Louis with 3.00 GPA and a cumulative GPA of 2.5. Nonrenewable.	\$1,500	Foreign Languages and Literatures department at 516-6242
Granger Biology Teacher Development Award	Scholarship awarded annually to high school seniors in the area planning to attend UM-St. Louis in the fall as a biology teacher major. Must reapply.	\$500	Biology department at 516-6204
Margaret Grigg Oberheide Fine Arts Scholarship	Selection base on academic achievement in the Fine Arts Program. Nonrenewable.	\$3,500	Fine Arts department at 516-6968
Arnold B. Grobman Scholarship	Biology major who has completed 10 hours of Biology course work, primary interest in field biology, ecology, evolution, behavior of animals and plants, and have a minimum cumulative GPA of 3.0. Must be recommended by Biology faculty. Nonrenewable	Varies	Biology department at 516-6204
History Alumni Scholarship	Senior level enrolled at least part-time and working, and enrolled in History 393 the semester of the award. Nonrenewable.	\$500	History department at 516-5681
William T. Isbell II Scholarship	Scholarship awarded to full-time undergraduate Art History student from the St. Louis area. Must have a cumulative GPA of 2.5 or above with recommendation from Art department. An essay is required. Renewable.	\$750	Art department at 516-6575
Jennings Do-Dads Juvenile Justice Scholarship	Full-time Junior or Senior with a cumulative GPA of 3.0 majoring in Criminology or Criminal Justice. Student must have commitment to work in juvenile justice area. Renewable.	\$1,000	Criminology and Criminal Justice department at 516-5032
Thomas J. Knapp Memorial Scholarship Fund	Student showing interest in becoming a history teacher. Nonrenewable.	\$500	History department 516-5681

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Mathematical Sciences Alumni Scholarship	Awarded to outstanding Junior or Senior majoring in Mathematical Sciences with a cumulative GPA of 3.5 and superior achievement in course work. Renewable	\$750	Mathematics department at 516-6355
Music Alumni Scholarship	Music major, selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	\$500	Music department at 516-5981
Music Faculty Scholarship	Music major, selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	\$500	Music department at 516-5981
Music Merit Scholarship	Music major, selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	Varies	Music department at 516-5981
Mark McDonough Memorial Scholarship	Full-time student majoring in Communication/broadcasting with a minimum cumulative GPA of 3.00. Selection consideration includes: personal character and integrity, potential in television as a career and demonstrates financial need. Nonrenewable.	Varies	Communication department at 516-5485
Marlin Perkins Wildlife Heritage Foundation Scholarship	Undergraduate Biology major who has demonstrated academic excellence and will be senior level when the scholarship is applied. Recipient will have a desire to work in wildlife conservation, natural resources, environmental education or some other related field or have demonstrated an interest in these areas through extra curricular activities. Must be nominated by Biology faculty. Nonrenewable.	\$1,000	Biology department at 516-6204
Mason Family Science Scholarship	Enrolled in UM-St. Louis science program and must have and maintain a minimum cumulative GPA of 3.0. Preference given to female minority students who demonstrate financial need as determined by the Free Application for Federal Student Aid. Must reapply.	\$500	Biology department at 516-6204

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Nannie Turner Mitchell Foundation Scholarship	Full-time student majoring in Communication with a minimum cumulative GPA of 2.5. Preference to female African-American students. Nonrenewable.	\$2,000	University Relations at 516-5267
Opera Theatre of St. Louis Scholarship	Candidates must be a graduate of the Opera Theatre "Artists-in-Training Program" from Normandy Beaumont, Roosevelt High Schools or Cleveland NJROTC Academy. Renewable up to four years.	\$1,000	Music Department at 516-5981
Charlotte Peters Memorial Scholarship	Candidates shall be Juniors and Seniors pursuing the Bachelor of Fine Arts degree. The recipient shall have a minimum cumulative of 2.5. Student will be evaluated on the basis of a portfolio review and a letter of intent. Nonrenewable.	\$500	Fine Arts Department at 516-6968
Physics & Astronomy Alumni Junior Scholarship	Physics Major, Junior level who has completed Physics courses 111 and 112 and earned a "B" or better. Nonrenewable.	\$500	Physics department at 516-5933
Physics & Astronomy Alumni Senior Scholarship	Physics major, Senior level who has earned the highest GPA in the class. Nonrenewable.	\$500	Physics department at 516-5933
Political Science Alumni Scholarship	Awarded to an outstanding Junior or Senior, Political Science major with at least 12 credit-hours of Political Science course work completed. Nonrenewable.	\$300	Political Science department at 516-5523
Politics in America Scholarship	Outstanding Political Science major, preference to student who has excelled in the study of American politics. Nonrenewable.	Varies	Political Science department at 516-5523
Psychology Alumni Scholarship	Student must possess and demonstrate leadership ability with evidence of significant contributions to the field of psychology. Student must be good academically with a nomination from the Department of Psychology faculty. Nonrenewable.	Varies	Psychology department at 516-5394
Muriel Pumphrey Scholarship	Preference given to female students majoring in Social Work. Renewable.	Varies	Social Work department at 516-6385

Financial Aid

Fund Name	Qualifications/Description	Year Amount	Maximum Academic Apply To
George R. Roulhac Pre-Med Scholarship	Full-time student pursuing a pre-med degree or a medical or health-related field. The recipient(s) must have and maintain a minimum cumulative GPA of 3.0. Must reapply each year, but no preference given over other applicants.	\$500	Biology department at 516-6204
George Dewey Ross Memorial Scholarship	Sophomore, Junior, or Senior pursuing a degree. The recipient shall be an outstanding student who demonstrates financial need as determined by the Free Student Application for Federal Aid and who is active in the community on behalf of the disadvantaged and/or themselves be a member of a racially or economically disadvantaged group. Nonrenewable.	Varies	Student Financial Aid at 516-5526.
Saint Louis Symphony Scholarship	African-American full-time student attending UM-St. Louis; must be involved in at least one music ensemble with UM-St. Louis music department. Renewable.	\$2,000	Music department at 516-5981
Social Work Alumni Scholarship	Student demonstrates a commitment to community service, school participation and maintains a minimum cumulative GPA of 3.0. Nonrenewable.	Varies	Social Work department at 516-6385
Sociology Alumni Scholarship	Junior or Senior majoring in Sociology based on academic achievement. Nonrenewable.	Varies	Sociology department at 516-6366
Hilda E. Stroh Scholarship	Music major, selection based on record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	Varies	Music department at 516-5981
Robert E. Smith Memorial Scholarship	Student must be a graduating Senior who is completing a writing Certificate and demonstrates strong assets in the writing program. Nonrenewable.	\$100	English department at 516-5587
Stuart and Evelyn Symington Scholarship	Awarded to an outstanding Junior or above, Political Science major with at least 12 hours in Political Science course work. Nonrenewable.	\$300	Political Science department at 516-5523

Financial Aid

Fund Name	Qualifications/Description	Year Amount	Maximum Academic Apply To
Times Mirror Minority Journalism Scholarship	Preference given to students who have participated in the Minority Journalism Workshop and who plan to attend UM-St. Louis, and pursue a B.A. degree in Communication. Renewable up to 4 years.	\$1,000	Communication department at 516-5485
Kathy Van Dyke Memorial Scholarship	Student must possess and demonstrate leadership ability with evidence of significant contributions to the field of psychology. Student must be good academically with a nomination from the Department of Psychology faculty. Nonrenewable.	Varies	Psychology department at 516-5394
John & Bina Jo Walters Music Scholarship	Outstanding Junior or Senior Music major with community involvement and ensemble experience. Renewable.	\$2,250	Music department at 516-5981

Athletics

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Don Dallas Memorial Soccer Scholarship	Soccer player for at least one year, in good academic standing, and exhibiting sportsmanlike conduct on and off the field. Renewable for one year.	Varies	Athletic department at 516-5661
Stan Musial Baseball Scholarship	A member of the baseball team, with acceptable GPA throughout UM-St. Louis attendance, who has made a definite contribution to the sport while exhibiting good sportsmanship. Renewable.	Varies	Athletic department at 516-5661
Sean Phares Soccer Scholarship	Successful UM-St. Louis soccer player; cumulative GPA of 2.25, commitment to and achievement in UM-St. Louis soccer and demonstrates financial need. Preference to male students. Nonrenewable.	\$500	Athletic department at 516-5661

Financial Aid

School of Business Administration

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Agents Council Scholarship	Junior or Senior with a cumulative GPA of 3.0. Nonrenewable.	\$1,000	University Relations at 516-5267
Alumni Agents Accounting and Finance Scholarship	Alternates every other year between Accounting and Finance students. Awarded to a student who demonstrates financial need. Renewable.	\$1,950	School of Business Administration at 516-5883
Anheuser-Busch Employees Scholarship	Eligible students must have completed 90 hours or more, be admitted to the School of Business Administration, maintain a minimum cumulative GPA of 3.0 and demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	\$500	School of Business Administration at 516-5883
Arthur Andersen & Co. Accounting Scholarship	Junior student majoring in Accounting, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Association of Government Accountants Scholarship	Award made to an Accounting major, based on academic achievement. Renewable.	\$500	School of Business Administration at 516-5883
Association for Systems Management Scholarship	MIS major, based upon academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Baird, Kurtz & Dobson Undergraduate Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Becker CPA Review Scholarship	Accounting major, based on academic achievement. Nonrenewable.	Free tuition to the Becker CPA Review Course	School of Business Administration at 516-5883
Buschart Scholarship	Employees of BT Office Products International, enrolled full-time and maintaining a cumulative GPA of 2.0 and demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	Tuition	Career Services at 516-5001
Business Alumni Entrepreneur Scholarship	Business major with an emphasis in Marketing, minimum cumulative GPA of 2.5 and demonstrated citizenship and demonstrates an entrepreneurial spirit. Renewable.	\$1,000	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Business Alumni Undergraduate Scholarship	Business student in Senior year, minimum cumulative GPA of 3.2. Preference given to female students supporting at least one child. Nonrenewable.	\$1,500	School of Business Administration at 516-5883
Conviser Duffy CPA Review Scholarship	Accounting student, based on academic achievement.	Free tuition to Conviser Duffy CPA Review Course.	School of Business Administration at 516-5883
Jack Cox Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$500	School of Business Administration at 516-5883
Deloitte & Touche Accounting Scholarship	Accounting majors, based on academic achievement. Renewable	\$1,000	School of Business Administration at 516-5883
Driemeier Scholars	Business major that has completed at least 24 credit hours at UM-St. Louis and has a total of between 45 and 60 credit hours, with a minimum cumulative GPA of 3.4. Renewable.	\$250	School of Business Administration at 516-5883.
A.G. Edwards Outstanding Finance Student Scholarship	Finance student, based on academic achievement.	\$1,500	School of Business Administration at 516-5883
Emerson Electric Co. Asian-American Scholarship	Scholarship awarded on even dated fall terms, (every other year). Candidates must be of Asian-American heritage, majoring in Undergraduate Engineering, Accounting, Finance or Computer Science with a cumulative GPA of 2.75 or submit an ACT score if Freshmen. Juniors and Seniors enrolled in the Joint Engineering program and must complete a minimum of 18 credit hours per year. Renewable for up to four years.	\$1,000	Engineering program at 516-6800
Enterprise Leasing Foundation Scholarship-The Enterprise Scholars	Based on academic ability. Renewable.	\$2,500	School of Business Administration at 516-5883
Ernst & Young LLP Accounting Scholarship	Accounting major based upon academic ability. Renewable.	\$1,000	School of Business Administration at 516-5883
David R. Ganz Accounting Scholarship	Student pursuing a Business degree with an emphasis in Accounting, minimum cumulative GPA of 3.0 and enrolled full-time. Eligible	\$1,000	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	student will be a non-traditional student that is not immediately returning to college or entering college after high school. Renewable for 1 year.		
Gearty Fox CPA Review Scholarship	Accounting student, based on academic achievement. Nonrenewable.	Free tuition to the Gearty Fox CPA Review Course	School of Business Administration at 516-5883
Mindy Griffin Finance Scholarship	Junior or Senior enrolled full-time, minimum cumulative GPA of 3.0 and demonstrate financial need as determined by the Free Application for Federal Student Aid. Preference to females enrolled in the School of Business pursuing Finance emphasis and a resident of St. Charles.	\$500	School of Business Administration at 516-5883
David P. Gustafson Memorial Scholarship for Overseas Studies	Business major students studying overseas. Preference to participants in the Missouri-London Program	\$500	School of Business Administration at 516-5883
Albert W. Haskell Memorial Accounting Scholarship	Senior majoring in accounting, enrolled full or part-time, minimum cumulative GPA of 3.0. Renewable.	\$600	School of Business Administration at 516-5883
KPMG Peat Marwick Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
John & Helen Martinich Scholarship in Logistics and Operations Management	Junior or Senior, full or part-time maintaining a minimum cumulative GPA 2.75. Students must reside in the state of Missouri and the scholarship is based on merit. Renewable.	Up to \$500 paying 1/2 of tuition of designated courses in logistics & operation management.	School of Business Administration at 516-5883
Mueller Prost Purk & Willbrand Accounting Scholarship	Junior or Senior, enrolled in the accounting program maintain a minimum cumulative GPA of 3.5. Nonrenewable.	\$1,000	School of Business Administration at 516-5883
Dan Norris Scholarship	Management Science and Information Systems major enrolled full-time and working part-time, minimum cumulative GPA of 2.5. Recipient will have demonstrated a strong desire to help others. Nonrenewable.	\$500	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Price Waterhouse LLP Accounting Scholarship	Accounting student based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Rubin, Brown, Gornstein & Co. Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
St. Louis Chapter of Missouri Society of CPA's Scholarship	Accounting major, based on academic achievement. Renewable.	\$500	School of Business Administration at 516-5883
School of Business Administration/Community College Transfer Scholarship	Awarded to student transferring from an area community college with a minimum of 30 credit hours completed and a minimum cumulative GPA of 3.5. Renewable up to 60 credit hours.	Varies	School of Business Administration At 516-5883
Service Corps of Retired Executives (S.C.O.R.E.) Scholarship	Full-time student must be able to demonstrate financial need. Must have completed two terms in their major with a minimum cumulative GPA of 3.0. Nonrenewable.	\$1,200	University Relations at 516-5267
Norbert Terre Memorial Scholarship	Accounting student based on academic achievement. Renewable.	\$2,000	School of Business Administration at 516-5883
Emery Turner Scholarship	Minority business student who demonstrates financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$400	School of Business Administration at 516-5883
Mark Twain Bancshares Scholarship	Minority full-time student with a cumulative GPA of 2.5, if Sophomore or 3.0 if Junior or Senior. Students must reside in St. Louis Metropolitan area. Renewable.	\$3,000	Student Financial Aid at 516-5526

Center for International Studies

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
AT&T Study Abroad Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
English Speaking Union Scholarship	Recipient shall be a resident of the St. Louis metropolitan area, in a UM-St. Louis Study Abroad or Exchange program in an English Speaking country, enrolled in any field of study. Undergraduate or graduate student. Must reapply	\$2,000	Center for International Studies at 516-5755
Marlyn Essman Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must Reapply	\$1,000	Center for International Studies at 516-5755
Exchange Program Scholarship	Student must be accepted for an UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
Lynn A. Hesterberg Study Abroad Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
Japanese American Citizens League Scholarship	Student must be enrolled full-time, taking a minimum of 12 credit hours, and maintain a cumulative grade point average of 3.0. Undergraduate or graduate student. Nonrenewable.	\$2,000	Center for International Studies at 516-5755
London Program Scholarship	Student participating in the Business Internship Program in London or the Missouri London Program. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
MiTek Study Abroad Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need also may be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
Manfred Rommel Scholarship	Student must be enrolled in a University Exchange Program with	\$500	Center for International Studies at 516-5755

Financial Aid

the University of Stuttgart with a minimum cumulative GPA of at least 2.75. Must reapply.

William & Anne Tao Scholarship	Asian-American student, junior or senior, enrolled in at least 12 credit hours, enrolled in a Center for International Studies Study Abroad, Exchange, or on-campus program. Must maintain at least a minimum cumulative grade point average of 3.5. Must reapply.	\$1,500	Center for International Studies at 516-5755
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School of Education

<u>Fund Name</u>	<u>Qualifications/Description</u>	<u>Maximum Academic Year Amount</u>	<u>Apply To</u>
Alpha Delta Kappa Eileen McHugh Memorial Scholarship	Awarded each January to a female Senior majoring in Education with a minimum cumulative GPA of 2.8. Nonrenewable.	\$200	University Relations at 516-5267
Ward E. & Julia Barnes Education Scholarship	Student enrolled in the School of Education with a minimum cumulative GPA of 2.5. Must reapply.	Varies	Student Financial Aid at 516-5526
Steve Beran Memorial Fund Scholarship	Junior majoring in Physical Education (either Secondary or Elementary) and enrolled full-time. Recipients must demonstrate a dedication and enthusiasm for teaching. Renewable.	\$500	Student Financial Aid at 516-5526
Biology Alumni Scholarship Fund	Scholarship awarded annually to high school seniors in the St. Louis area planning to attend UM-St. Louis in the fall term as biology teacher major. Applicants judged on academic achievement (science especially), interest and participation in science activities, good community spirit and expressed interest in teaching biology. Renewable.	\$250	Biology department at 516-6204
Granger Biology Teacher Development Award	Scholarship awarded annually to high school seniors in the area planning to attend UM-St. Louis in the fall as a biology teacher major. Must reapply.	\$500	Biology department at 516-6204
Kenneth & Ruth Levinson Hook Scholarship	Female Senior Elementary Education major enrolled full-time, minimum cumulative GPA of 3.0 and member of Kappa Delta Pi or MISTA. Recipient shall be an outstanding student who demonstrates potential to be highly successful. Nonrenewable.	\$1,000	School of Education at 516-5937

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Dorothy Moog Scholarships in Nursing and Education	Junior or Senior enrolled in School of Nursing or Education. Must demonstrate academic achievement and financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$1,250	Student Financial Aid at 516-5526
Wednesday Club Centennial Scholarship	Student who is a resident of the St. Louis metropolitan area majoring in teaching, at least Junior level or above, minimum cumulative GPA of 3.5. The student must have a recent history of enrolling in at least 6 credit hours per semester for a sustained period. The recipient will demonstrate leadership with potential to be an excellent teacher. Preference to females. Renewable.	\$1,000	School of Education at 516-5937

Evening College

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alpha Sigma Lambda Scholarship	Recipient will be a member of the Beta Epsilon Chapter of Alpha Sigma Lambda. The Evening College Student honor society, who has contributed significantly to student life. Renewable.	Varies	Evening College at 516-5161
Evening College Alumni Scholarship	Evening College student seeking first B.A. with a minimum cumulative GPA of 2.0. Renewable.	Varies	Evening College at 516-5161
Julius Swiener Memorial Scholarship	Evening College student who demonstrates financial need. Renewable.	Varies	Evening College at 516-5161
Wednesday Club of St. Louis Evening College Scholarship	Evening College undergraduate female of at least Junior level with a declared major and is working toward a degree and professional goal. The student will have completed at least six semester hours in the Evening College and maintained a minimum cumulative GPA of 3.0. Nonrenewable.	\$2,000	Evening College at 516-5161
Joy E. Whitener Evening College Scholarship	Evening College student with a minimum of six credit hours, minimum cumulative GPA of 2.0	Varies	Evening College at 516-5161

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	and working toward first B.A. Additionally, the student must work at least part-time and have obligations beyond studies. This scholarship is awarded on merit financial need is a secondary consideration. Renewable.		

Barnes College of Nursing

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Barnes Nursing Scholarship	Degree seeking student in the nursing program based on financial need. Recipient must accept employment at Barnes Hospital, if he/she does not accept employment the scholarship becomes an interest free loan. If no employment opportunities are available the loan will be excused. Must reapply.	Varies	Barnes College of Nursing at 516-6066
Missouri League of Nurses Scholarship/Loan	Recommended by the Dean of the UM-St. Louis Barnes College of Nursing. Must reapply.	\$1,000	Barnes College of Nursing at 516-6066
Missouri Professional and Practical Nursing Scholarship/Loan	Missouri residents enrolled in the nursing program. Preference to individuals from rural or underserved areas and minority individuals. Full or part-time students. A portion of the loan will be forgiven if recipient works in a designated shortage area. Renewable.	Varies	Bureau of Primary Care at (314)751-6219
Dorothy Moog Scholarships in Nursing and Education	Junior or Senior enrolled in School of Nursing or Education. Must demonstrate academic achievement and financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$1,250	Student Financial Aid at 516-5526
Nursing Alumni Scholarship	Returning student of Junior level in the UM-St. Louis' Barnes College of Nursing program who is making significant life style/career changes with a minimum cumulative GPA of 2.5. The recipient will have demonstrated leadership ability in the University setting and/or community and not eligible for any other tuition	Varies	Barnes College of Nursing at 516-6066

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	assistance or reimbursement through the student's, spouse's or parent's employment. Must reapply.		
Phillip B. Tidwell Scholarship	Registered and enrolled in nursing program at UM-St. Louis and pursuing a B.S.N. degree and have a minimum cumulative GPA of 3.0. Preference given to candidates diagnosed as being HIV/AIDS positive or candidates who have either physical or health-related challenges. Nonrenewable.	\$500	Barnes College of Nursing at 516-6066
Harry K. Waggoner Scholarship	Recipient must be enrolled in the BSN completion program with minimum cumulative GPA of 3.5 with 12 credit hours completed. Full-time and part-time students are eligible. Must reapply.	Varies	Student Financial Aid at 516-5526 Or Barnes College of Nursing at 516-6066
John S. Waggoner Scholarship	Recipient must be enrolled in the BSN completion program with minimum cumulative GPA of 3.5 with 12 credit hours completed. Full-time and part-time students are eligible. Must reapply.	Varies	Student Financial Aid at 516-5526 Or Barnes College of Nursing at 516-6066

Pierre Laclède Honors College

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Chancellor's Council Scholarship	High school Seniors or entering college Freshmen at UM-St. Louis. Preference given to students from economically disadvantaged backgrounds. Renewable.	Varies	Pierre Laclède Honors College at 516-6870
Julie & Robin Kerry Memorial Scholarship	Full-time student who works part-time and meets the following minimum cumulative GPA requirements: Sophomore - 3.2, Junior - 3.4, Senior - 3.5. The recipient will be of outstanding character and have recommendations from instructors. Nonrenewable.	\$300	Pierre Laclède Honors College at 516-6870
May Department Stores/ Pierre Laclède Honors College Scholarship	Students enrolled in Honors College with outstanding academic ability	Full educational fees	Pierre Laclède Honors College at 516-6870 Or Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Harriet Woods Leadership Scholarship	Female student in the Pierre Laclède Honors College with demonstrated leadership ability. Nonrenewable.	\$1,000	Pierre Laclède Honors College at 516-6870

Additional Undergraduate Program - Engineering

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Adeline and Erwin Branahl Scholarship Fund	Candidates must be enrolled in one of the engineering specialties offered in the UM-St. Louis/Washington University Joint Engineering program. Minimum cumulative GPA of 3.0. Transfer students or first-time freshman having at least a "B" average from their school of origin. Preference shall be given to minority and women students who have completed their sophomore year (minimum 60 credit hours). Renewable.	Varies - will cover tuition only and shall be disbursed over multiple semesters, not as a lump sum.	Engineering Program at 516-6800
Citizens' Committee on Engineering Scholarship	Junior or Senior in the UM-St. Louis Joint Engineering Program at Washington University with a minimum cumulative GPA of 2.5 or if a continuing student a minimum cumulative GPA of 2.0. Preference given to non-traditional, African-American and female students. Renewable.	Educational and supplemental engineering fees for up to six credit hours.	Engineering program at 516-6800
Emerson Electric Co. Engineering Scholarship	Candidates must be female or minority student accepted to the Joint Undergraduate Engineering Program. The student must be a second Sophomore in good standing or Junior or Senior level with a minimum cumulative GPA of 2.75 and carry a minimum of 18 credit hours per year. Renewable up to four years.	Educational fees up to \$1,500 per semester, plus possible paid internship program at Emerson Electric Co.	Engineering program at 516-6800
Fru-Con Engineering Scholarship	Student majoring in Mechanical, Civil or Electrical Engineering and have a desire to enter the construction/engineering industry upon graduation. Based on academic achievement and extra curricular activities. Renewable.	\$1,250	Engineering program at 516-6800

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
INROADS/St. Louis, Incorporated Scholarship	First-time Freshmen enrolled in the INROADS/St. Louis College Component and be admitted to UM-St. Louis. Preference given to minority students. Candidate must complete the pre-engineering Curriculum at UM-St. Louis in order to be admitted into the Joint Undergraduate Engineering Program, a cumulative GPA of 2.75 is required in all engineering courses. Renewable.	\$1,000 per semester	University Relations at 516-5267
Herbert Sweeney Memorial Scholarship	Enrolled in the Joint Engineering, Program first-time freshmen and transfer students must have a "B" average from school of transfer. Renewable.	\$500	Engineering program at 516-6800
Sverdrup Corporation Scholarship	Candidates must be enrolled in one of the engineering specialties offered in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program. Preference shall be given to minority and women students who have completed their sophomore year (minimum of 60 credit hours). Preference shall also be given to students with a minimum cumulative GPA of 2.5. Recipients will be considered for an internship or co-operative education experience at Sverdrup Corporation. Renewable.	\$500	Engineering program at 516-6800

Undergraduate Diversity Scholarships

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
African-American Alumni Chapter Book Stipend	Junior or Senior, full or part-time, maintaining a cumulative GPA of 2.5. Renewable.	\$200	Student Financial Aid at 516-5526
American Association of University Women	Independent part-time female undergraduate student maintaining a cumulative GPA of 2.5, demonstrating financial need as determined by Free Application for Federal Student Aid. Renewable.	Varies	Student Financial Aid at 516-5526
Black Faculty and Staff Association Scholarship	First-time Freshmen or evening student enrolled full or part-time and has a cumulative GPA of 2.0.	\$500	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	Preference to African-American students from economically disadvantaged backgrounds. Renewable.		
Gay Carraway N.O.B.L.E. Memorial Scholarship	Preference to African-American students in a minimum of enrolled six hours at Junior or Senior level. Student must have a cumulative GPA of 2.8 and be a resident of St. Louis metropolitan area, pursuing a degree in Law Enforcement. Renewable.	Varies	Relations University at 516-5267
Lena Key Cassidy Memorial Scholarship Fund	Preference to Junior or Senior single parents returning to formal higher education and undergoing significant lifestyle or career change, demonstrating financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Chancellor's Minority Journalism Workshop Scholarship	Recipients will have participated in the Minority Journalism Workshop majoring in Communication. Renewable up to four years.	\$1000	University Relations at 516-5267
Citizens' Committee on Engineering Scholarship	Junior or Senior in the UM-St. Louis Joint Engineering Program at Washington University with a minimum cumulative GPA of 2.5 or if a continuing student a minimum cumulative GPA of 2.0. Preference given to non-traditional, African-American and female students. Renewable.	Educational and supplemental engineering fees for up to six credit hours.	Engineering department at 516-6800
Emerson Electric Co. Asian- American Scholarship	Scholarship awarded on even dated fall terms, (every other year). Candidates must be of Asian-American heritage, Juniors and Seniors enrolled in the Joint Undergraduate Engineering program and must complete a minimum of 18 credit hours per year with a cumulative GPA of 2.75. Renewable for up to four years if recipient maintains a 2.75 GPA.	Full educational fees	Engineering program at 516-6800
Friends of Sharon Marglous Memorial Scholarship	Preference to female student 25 years or older who needs to enter or return to the workplace; resident of St. Louis County or City. Renewable.	Varies	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Elisabeth A. Horkits Scholarship Fund	Preference to women demonstrating financial need as determined by the Free Application for Federal Student Aid. Must be full-time student with a cumulative GPA of 3.0 and preferably from Lindbergh High School. Renewable.	Varies	Student Financial Aid at 516-5526
INROADS/St. Louis, Inc. Scholarship	First-time Freshmen enrolled in the INROADS/St. Louis College Component and be admitted to UM-St. Louis. Preference given to minority students. Candidate must complete the pre-engineering curriculum at UM-St. Louis in order to be admitted into the Joint Undergraduate Engineering Program, a cumulative GPA of 2.75 is required in all engineering courses. Renewable.	\$2,000	University Relations at 516-5267
INTERCO Scholarship	Minority student, high academic achievement in high school, full-time enrollment. Renewable.	Full educational fees and books	Student Financial Aid at 516-5526
Hazel L. Kohring Scholarship For Women in Transition	Displaced female, 25 or older, needing to enter or return to the work force. Must be a full-time student, have a cumulative GPA of 2.25 and be a St. Louis City or County resident. Renewable.	\$500	Student Financial Aid at 516-5526
Mason Family Science Scholarship	Enrolled in UM-St. Louis science program and must have and maintain a minimum cumulative GPA of 3.0. Preference given to female minority students who demonstrate financial need as determined by the Free Application for Federal Student Aid. Must reapply.	\$500	Biology department at 516-6204
May Department Stores Minority Scholarship	Preference to an African-American student with financial need and strong academic performance. Internship may be required. Renewable.	\$1,000	Career Planning and Placement at 516-5111
May Department Stores/Pierre Laclède Honors College Scholarship	Member of the Pierre Laclède Honors College. Preference to minority student or St. Louis City resident who demonstrates financial need. Renewable.	\$2,000	Pierre Laclède Honors College at 516-6870 Or Student Financial Aid at 516-5526
Theodore McNeal Memorial Scholarship	Minority student desiring a career in public service, a graduate of an	\$400	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Monsanto Minority Math/ Science Scholarship	<p>accredited St. Louis area high school, maintain a cumulative GPA of 2.5 or above. Nonrenewable.</p> <p>Preference given to students who have successfully completed the Bridge Program. Minority or economically disadvantaged students with a major in Math, Computer Science, Biology, Chemistry, Engineering or Physics and at least a cumulative GPA of 2.4. Renewable.</p>	\$2,000	Student Financial Aid at 516-5526.
Monxmode Foundation African-American Parent/ Child Scholarship	<p>Missouri resident, African-American single parent with a cumulative GPA of 3.0. Must have completed between 60 and 90 credit hours and demonstrate financial need as determined by the Free Application for Federal Student Aid. Must be full-time and enrolled in a degree program. The recipient will have at least one child between the age of six weeks to five years. Renewable up to four semesters.</p>	\$5,000 (for four semesters)	Student Financial Aid at 516-5526
Native American Scholarship	<p>Full-time Native American students. Two letters of recommendation required. Native American status will be verified through submission of a copy of tribal identification or letter from an Urban Indian Center. Renewable up to four years.</p>	\$500	Anthropology at 516-6024.
Professional Women of Southwestern Bell Foundation, Inc. Endowed Scholarship	<p>Candidates shall be U.S. citizens, female and demonstrate financial need as determined by the Free Application for Federal Student Aid. Full or part-time enrollment and maintain a minimum cumulative GPA of 3.0. First-time freshmen must graduate in the top 20% of their high school class or top 20% of SAT or ACT national scoring. Recipients must be Southwestern Bell customers. May reapply each year, but preference not given over other applicants.</p>	\$500	Student Financial Aid at 516-5526
Marian Oldham Scholarship	<p>Awarded to an African-American, first-time Freshman admitted to UM-St. Louis in a degree program. The award shall be made to a student(s) who ranks in the top 15% of his/her high school class,</p>	\$1,600	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Year Amount	Maximum Academic Apply To
George Dewey Ross Memorial Scholarship	demonstrates leadership abilities at work or in school activities, and demonstrates financial need as determined by the Free Application for Federal Student Aid. Renewable.	Varies	Student Financial Aid at 516-5526
St. Louis Internship Program Scholarship	Candidates shall be African-American and have a "B" average from their high school. Full-time students must maintain a cumulative GPA of 2.8 with preference to graduates of the Bridge and/or Engelmann programs at UM-St. Louis. Candidates must demonstrate financial need as determined by the Free Application for Federal Student Aid. The internship program is designed for students who plan to major in mathematics, science, engineering or computer science. Renewable.	Varies	Bridge Program at 516-5196
Saint Louis Symphony Scholarship	African-American full-time student attending UM-St. Louis; must be involved in at least one music ensemble with UM-St. Louis music department. Renewable.	\$2,000	Music department at 516-5981
Randy Sanderson/ INROADS Scholarship	INROADS participant, first-time Freshman with a cumulative GPA of 2.5. Preference to Business Administration and/or graduates of Beaumont High School. Renewable.	Tuition and educational fees	University Relations at 516-5267
Southwestern Bell Foundation Endowed Scholarship Fund for Math and Science	Applicants must be first-time Freshmen who have participated in the Engelmann Institute and/or Bridge Program and are enrolled full-time. Renewable for up to nine semesters.	\$2,000	Bridge Program at 516-5199

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Sverdrup Corporation Scholarship	Candidates must be enrolled in one of the engineering specialties offered in the UM-St. Louis/Washington University Joint Engineering Program. Preference shall be given to minority and women students who have completed their sophomore year (minimum 60 credit hours). Preference shall also be given to students with a minimum cumulative GPA of 2.5. Recipients will be considered for an internship or co-operative education experience at Sverdrup Corporation.	\$500	Engineering Program at 516-6800
Lucinda DeLeftwich Templin Scholarship	Women demonstrating financial need as determined by the Free Application for Federal Student Aid. Must reapply.	Varies	Student Financial Aid at 516-5526
Times Mirror Foundation Minority Journalism Scholarship	Preference given to students who have participated in the UM-St. Louis Minority Journalism Workshop and plan to attend UM-St. Louis and pursue a B.A. in Communication. Renewable up to four years.	\$1,000	Continuing Education at 516-5916
Towards Independence Scholarship	Female in a transitional period, demonstrating financial need as determined by the Free Application for Federal Student Aid. Renewable.	\$500	Student Financial Aid at 516-5526
Gwendolyn M. Tsadik Memorial Scholarship	Minority or disadvantaged student living in the St. Louis metropolitan area with special emphasis on inner-city youth. Students must have 24 credit hours from UM-St. Louis maintaining a cumulative GPA of 3.0 and pursuing a career in public service. First consideration given to immediate family member of Gwendolyn M. Tsadik. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Emery Turner Scholarship	Minority business student who demonstrates financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$400	School of Business Administration at 516-5883
University Women Scholarship	Undergraduate female, who has previously completed 12 credit hours at UM-St. Louis, returning to or continuing education after a significant lifestyle or career change. Must be a full or part-time student	Varies	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	with a cumulative GPA of 2.5 and demonstrating financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.		
Margaret Bush Wilson Minority Scholarship	Freshmen students who have participated in the Bridge Program, pursuing a degree in Biology, Chemistry, Physics, Math or Computer Science. Renewable.	\$3,000	Student Financial Aid at 516-5526
Harriet Woods Leadership Scholarship	Female student in the Pierre Laclède Honors College with demonstrated leadership ability. Nonrenewable.	\$1,000	Pierre Laclède Honors College at 516-6870

Scholarship Program General Undergraduate

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Association Scholarship	Must be a child of a graduate from UM-St. Louis and be enrolled at least 12 credit hours. Nonrenewable.	\$1,000	University Relations at 516-5267
Alumni Agents Council Scholarship	Junior or Senior with a cumulative GPA of 3.0. Nonrenewable.	\$1,000	University Relations at 516-5267
Buschart Scholarship	Employees of BT Office Products International, enrolled full-time and maintaining a cumulative GPA of 2.0. Demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	Tuition	Career Services at 516-5001
Ray and Lucia Kramer Collins Memorial Scholarship	Students who are the sole supporter of one or more dependents demonstrating financial need as determined by the Free Application for Federal Student Aid. Student must be full-time and expect to complete degree in four additional semesters. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Farmers Insurance Group of Companies Scholarship	Insurance, Mathematics, Business Administration or Human Resources majors demonstrating financial need and maintaining a cumulative GPA of 2.75. Nonrenewable.	\$500	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Farmers Insurance Group of Companies Scholarship -UM System	Insurance, Mathematics, Business Administration or Human Resources majors demonstrating financial need and maintaining a cumulative GPA of 2.75. Nonrenewable.	\$500	Student Financial Aid at 516-5526
Ferguson Rotary Scholarship	Full or part-time students, preference to Freshmen but not excluded to Freshmen. Recipient must be from the Ferguson Rotary area which includes: Ferguson and Berkeley School Districts, the local Lutheran High School and Incarnate Word Academy. Must reapply.	\$1,000	University Relations at 516-5267
Friends of Dudley Grove Scholarship	Full or part-time student maintaining a cumulative GPA of 2.5, pursuing either undergraduate or graduate degree. Must have done volunteer work. Renewable.	\$500	Student Financial Aid at 516-5526
Friends of UM-St. Louis Scholarship	Full or part-time undergraduate students maintaining a cumulative GPA of 2.5 Must reapply each year.	Varies	Student Financial Aid at 516-5526
Jean DeBerry Fritsche Memorial Scholarship	Graduate from public high school in St. Louis County enrolled in office related business program and maintaining a cumulative GPA of 2.8. Must have completed two or more business courses. Must reapply.	\$500	University Relations at 516-5267
Clarke Mahaffy Scholarship	U.S. resident, full-time student demonstrating financial need as determined by the Free Application for Federal Student Aid. Student must maintain a minimum cumulative GPA of 2.0 as a Freshman, 2.5 as a Sophomore, 3.0 as a Junior or Senior. Renewable.	\$1000	Student Financial Aid at 516-5526
LaVerne Noyes Scholarship	Direct descendants of persons who served in the army or navy in World War I and honorably discharged. Renewable.	Varies	Student Financial Aid at 516-5526
Ralston Purina Scholarship	Undergraduate students enrolled in UM-St. Louis' Nonprofit Management and Leadership program. This scholarship is to assist staff from nonprofit organizations in the St. Louis metropolitan area to enroll in this program. Candidates must be employed with a human or social	Varies	Nonprofit Management and Leadership Program at 516-6713

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Reserve Officer Training Corps (ROTC) Scholarship	<p>service organization. Staff and board leaders are eligible. Candidates must exhibit financial need and reside in the St. Louis city or county. Submit a letter explaining the purpose for which the education is sought and how what is learned will be applied back at organization. Include evidence of need, including why you or your organization cannot cover tuition costs, as well as an annual report or annual operating budget from you organization. Non renewable.</p> <p>Student must be a U.S. citizen, high school graduate, physically fit, and be at least 17 before the scholarship starts. Student must score a minimum of 19 on the ACT or 850 on the SAT and maintain a cumulative GPA of 2.5 Additional requirements may apply. Available to students on a competitive basis for four, three, and two-year periods.</p>	Based on a tiered system paying \$12,000, \$8,000, \$5,000, and \$2,000 per year depending on the category and an additional allotment of \$450 for books and a tax free monthly subsistence allowance of \$150.	ROTC Scholarship Coordinator at 935-5537
St. Louis Mayors' Scholarship	<p>Full or part-time undergraduate, resident of Missouri, maintaining a cumulative GPA of 3.0 for 24 hours of graded course work at UM-St. Louis. Must show evidence of a commitment to public service in the city of St. Louis. Must present a statement describing community service experiences and plans for applying University education in the area of public service. Requires three letters of recommendation. Nonrenewable.</p>	Varies	Student Financial Aid at 516-5526
Virgil N. Sapp Scholarship Fund	<p>Students should be registered and enrolled in credit courses administered by continuing Education & Outreach, or shall be full-time (75% FTE or more) secretarial staff in a County Extension Center in one of the counties of University Extension's East Central Region who are enrolling in credit courses offered by UM-St. Louis. In all cases, applicant must:</p> <p>a) If enrolling at UM-St. Louis for the first time, the student must meet the campus and department standards and demonstrate</p>	Varies	Continuing Education at 516-5195

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	<p>promise of academic success through the submission of two letters of recommendation; in the case of extension secretarial staff, one of the the letters must be from his/her county program director of the East Central regional director.</p> <p>b) If enrolling at UM-St. Louis, the student must have a minimum cumulative GPA of 2.5.</p> <p>c) Applicants for the scholarship will complete the General Scholarship Application and submit it to the Dean of Continuing Education.</p> <p>Nonrenewable.</p>		
Solar Foundation	<p>Full-time Juniors enrolled in any degree program. Candidates must maintain a minimum cumulative GPA of 3.0 and demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.</p>	\$1,000	Financial Aid at 516-5526
Tau Kappa Epsilon Scholarship	<p>Full-time student, working at least part-time, involved in at least one student organization, maintaining a cumulative GPA of 2.2 with a minimum of 12 credit hours completed. Renewable up to one additional year.</p>	Varies	Student Financial Aid at 516-5526
Rosalie Tilles Scholarship	<p>Entering full-time Freshman that demonstrates capability of maintaining a cumulative GPA of 3.0, likelihood of community success, unique non-academic interests. Renewable for up to 3 additional undergraduate academic years.</p>	Full educational fees	Student Financial Aid at 516-5526
Trans World Airlines Inc. Scholarship	<p>Student must be pursuing a career in natural resources or environmental law and must have completed at least 60 credit hours. Student must be enrolled in one of the four UM-system campuses and be a Missouri resident. Must reapply.</p>	Varies	Graduate School at 516-5897

Financial Aid

Scholarship Program Graduate

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Muriel E. Babcock Memorial Scholarship	UM-St. Louis Biology major who has graduated in the previous summer/fall or who plans to graduate in the coming spring with a cumulative GPA of 3.5 or above, has declared the intention to undertake a graduate program for research in the biological sciences. Nonrenewable.	Varies	Biology department at 516-6204
Baird Kurtz & Dobson Accounting Scholarship	Graduate Student pursuing a MACC degree. Selection based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Nancy Sue Claypool Memorial Scholarship	Deserving Graduate Student in Nursing at UM-St. Louis. Student and career nurse whose field of study involves cancer-related issues. Nonrenewable.	Varies	Barnes College of Nursing at 516-6066
Department of Health and Human Services (DHHS) Professional Nurse Traineeship	Graduate student, U.S. citizen, attending full-time with a minimum cumulative GPA of 3.0. Special criteria is designated yearly by the DHHS. Recipient will demonstrate financial need and not receive any other federal support at the time of the grant. Must reapply.	Varies	Barnes College of Nursing at 516-6066
Stephen Mitchell Doyle Scholarship in Fund Tropical Ecology	M.S. or Ph.D. student who is conducting tropical research in either, ecology conservation or systematics. Student must submit a current curriculum vitae, budget justification for all items, and either a description of the proposed research and how funding will enhance the student's ability to carry out that research (500 word limit); or an abstract presentation (if applicable), and description (250 word limit) on how proposed participation at the scientific meeting will enhance the student's graduate program. Nonrenewable.	\$750	Biology department at 516-6204
Economics Graduate Scholarship	Graduate student in the Economics program. Must be recommended by faculty.	\$200 minimum	Economics department at 516-6710

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Graduate Business Scholarship	Graduate business student in the MBA, MACC, or MMIS program, demonstrates financial need and is based on academic achievement. Renewable.	Varies	School of Business Administration at 516-5883
Arnold B. Grobman Scholarship	Student must have completed 10 hours of Biology course work with A primary interest in field biology and have a minimum cumulative GPA of 3.0. Nonrenewable.	Varies	Biology department at 516-6204.
Noel K. Mahr Graduate Accounting Scholarship	Graduate minority student in Accounting requires recommendation from School of Business Administration. Should have undergraduate GPA of 3.4 or above. Renewable.	\$500	School of Business Administration at 516-5883
Raju Mehra Scholarship	International graduate student who has demonstrated outstanding work in Biology. Nonrenewable.	\$100	Biology department at 516-6204
Missouri Professional and Practical Nursing Scholarship/Loan	Missouri residents enrolled in the nursing program. Preference to individuals from rural or under served areas and minority individuals. Full or part-time students. A portion of the loan will be forgiven if recipient works in a designated shortage area. Renewable.	Varies	Bureau of Primary Care at (314)751-6219
Nursing Alumni Scholarship	Graduate student in the UM-St.Louis' Barnes College of Nursing program who is making significant life style/career changes with a minimum cumulative GPA of 3.0. The recipient will have demonstrated leadership ability in the University setting and/or community and not eligible for any other tuition assistance or reimbursement through the student's, spouse's or parent's employment. Must reapply.	Varies	Barnes College of Nursing at 516-6066
Phillip B. Tidwell Scholarship	Registered and enrolled in Nursing program at UM-St. Louis and pursuing a Ph.D. or MSN degree and have a minimum cumulative GPA of 3.0. Preference given to candidates diagnosed as being HIV/AIDS positive or candidates who have other physical or health-related challenges. Nonrenewable.	\$500	Barnes College of Nursing at 516-6066

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Robert E. Rea Mathematics Scholarship	A graduate student who has an elementary teaching certificate, minimum 3.0 GPA, and maintains a 3.5 GPA while in graduate school. Nonrenewable.	\$500	Mathematics and Computer Science department at 516-6355
Lewis J. Sherman Memorial Scholarship	Graduate or undergraduate student in Clinical Psychology, selection by faculty. Nonrenewable.	\$600	Psychology department at 516-5394
Kent A. Tomazi Memorial Student Research Fund	Independent research student in Biology studying electron microscopy activities. Student will help maintain library of books, Magazines and pamphlets on electronic microscopy within the library of the Electron Microscopy Suite I Study area. Nonrenewable.	Help defray cost of operational supplies, equipment, books, maintenance, etc.	Biology department at 516-6204

Scholarship Program General Graduate

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Lucinda DeLeftwich Templin Scholarship	Women demonstrating financial need as determined by the Free Application for Federal Student Aid. Must reapply.	Varies	Student Financial Aid at 516-5526
Friends of Sharon Marglous Memorial Scholarship	Preference to female student 25 years or older who needs to enter or return to the workplace; resident of St. Louis County or City. Renewable.	Varies	Student Financial Aid at 516-5526
Friends of Dudley Grove Scholarship	Full or part-time student maintaining a cumulative GPA of 2.5, pursuing either undergraduate or graduate degree. Must have done volunteer work. Renewable.	\$500	Student Financial Aid at 516-5526
Monsanto/Marguerite Ross Barnett Memorial Fund	Academically promising graduate student who is a graduate of the Bridge Program who is actively involved in the Bridge Program, (University City, Normandy, Wellston and St. Louis City). Completion of degree within 6 semesters, must maintain academic progress. Renewable.	\$2,000	Bridge Program at 516-5196

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
LaVerne Noyes Scholarship	Direct descendants of persons who served in the army or navy in World War I and honorably discharged. Renewable.	Varies	Student Financial Aid at 516-5526
Ralston Purina Scholarship	Graduate students enrolled in UM-St. Louis' Nonprofit Management and Leadership program. This scholarship is to assist staff from nonprofit organizations in the St. Louis metropolitan area to enroll in this program. Candidates must be employed with a human or social service organization. Staff and board leaders are eligible. Candidates must exhibit financial need and reside in the St. Louis city or county. Submit a letter explaining the purpose for which the education is sought and how what is learned will be applied back at organization. Include evidence of need, including why you or your organization cannot cover tuition costs, as well as an annual report or annual operating budget from your organization. Non renewable.	Varies	Nonprofit Management and Leadership Program at 516-6713
Towards Independence Scholarship	Female in a transitional period, demonstrating financial need as determined by the Free Application for Federal Student Aid. Renewable.	\$500	Student Financial Aid at 516-5526

Library Services

UM-St. Louis Libraries

Joan Rapp, Director of Libraries
M.L.S., Rutgers; M.A., University of Washington;
M.B.A., Southern Illinois University-Edwardsville

Librarians

Amy Arnott, Head, Access Services
M.A., University of Missouri-Columbia
Frances Behrman, Reference Librarian
M.S., University of Illinois-Urbana-Champaign
Clinton Berry, Reference Librarian
M.A., University of Missouri-Columbia
Cheryle Cann, Head, Health Sciences Library
M.A., University of Missouri-Columbia
Mary Doran, Reference Librarian
M.S., University of California-Los Angeles
Judith Friedrich, Technical Services Librarian
M.A.L.S., University of Missouri-Columbia
Ellen Grewe, Head, Technical Services
M.A., University of Missouri-Columbia
John Hoover, Director, St. Louis Mercantile Library
at UM-St. Louis and Associate Director of Libraries
for Special Collections
M.L.S., University of Missouri-Columbia;
M.A., History, Southern Illinois University-Edwardsville
Peter Monat, Reference Librarian
M.A., St. Louis University
M.S., University of Illinois-Urbana-Champaign
Raleigh Muns, Reference Librarian
M.L.S., University of California-Los Angeles
David Owens, Technical Services Librarian
M.A., University of Missouri-Columbia
Frances Plesbergen, Reference Librarian/Government
Documents
M.A., University of Missouri-Columbia
Marilyn Rodgers, Reference Librarian
M.A., University of Missouri-Columbia
John Mark Scheu, Reference Librarian
M.A., A.B.D., University of Kansas;
M.S., University of Illinois-Urbana-Champaign
Helen Shaw, Reference Librarian
M.Ed., University of Illinois-Champaign;
M.L.S., University of Missouri-Columbia
Melissa Silvestre, Reference Librarian
M.L.S., University of California-Los Angeles
Sandra Snell, Head, Reference
M.A., University of Wisconsin;
M.S., University of Illinois-Urbana-Champaign
Anne Taylor, Reference Librarian
M.L.S., University of Pittsburgh
Virginia Workman, Head, Ward E. Barnes Education Library
M.A., University of Missouri-Columbia

The University Libraries support the educational objectives of the University and meet the teaching, research, and informational needs of the campus community. Housed in three locations—the Thomas Jefferson Library (North Campus), the Ward E. Barnes Education Library and the Health Sciences Library (both on South Campus)—the Libraries' collections consist of more than 845,000 volumes, 2,900 periodical subscriptions, one million U.S. Government documents, and over one million

items in microform. Effective March 3, 1997, the St. Louis Mercantile Library became part of the UM-St. Louis Libraries. This collection will move to the Thomas Jefferson Library in early 1998.

Materials from all University of Missouri libraries can be identified through MERLIN, the online catalog. Interlibrary Loan provides fast delivery of materials from other libraries across the country. Many automated databases are available, in both online and CD-ROM formats.

The libraries are open more than 85 hours per week during regular sessions. Specific hours for various library services are posted in all libraries.

Western Historical Manuscript Collection and University Archives

Archivists

Ann N. Morris, Associate Director, Western Historical Manuscript Collection; Archivist, University Archives
M.A., Webster University
Kenneth F. Thomas, Senior Manuscript Specialist, Western Historical Manuscript Collection
M.A., University of Missouri-St. Louis
William M. (Zelli) Fischetti, Senior Manuscript Specialist, Western Historical Manuscript Collection
M.A., University of Missouri-St. Louis
Linda J. Belford, Senior Manuscript Specialist, University Archives
M.A., University of Missouri-St. Louis

The Western Historical Manuscript Collection (WHMC) contains primary source materials for research in many fields, including local history, the environment, labor history, women's history, politics, and black history. The Collection is open to the University community and the general public. Material from the other three campuses in the WHMC System may be borrowed for research use at UM-St. Louis. A catalogue of the holdings of the other branches of WHMC is available.

The Archives contain official records, campus publications, student newspapers, photographs, and other material on the history of the University of Missouri-St. Louis.

Located on Level II in the Thomas Jefferson Library, the office is open for reference service Monday through Friday, 8 am to 4:45 pm and until 9 pm on Tuesday. Archival and manuscript material does not circulate.

University Center

The University Center houses University food services, the Bookstore, Normandy Bank, University Center, and Student Activities administrative offices and meeting rooms. Student government offices and the Black Culture Room are also located in the University Center. Lounge space provides a comfortable environment for relaxation or study and a TV room and amusements area provide places for recreation.

University Center Funding

At the University of Missouri-St. Louis, as is the case with the majority of universities and colleges, students themselves made the financial commitment necessary to construct the University Center and administer its functions. Every semester a Facilities Fee is collected from each student. This money is used to retire the bonds which were originally sold to raise the \$2,000,000 spent in construction. In addition, some money is spent on administering the facility and some is set aside for major repairs and replacements. (All student money collected for the building is used to support it.)

Food Services

The University Center's dining area features a "food market" or "scramble-type" food service in the lower level Underground, offering customers a complete menu selection ranging from popular fast-food items to hot meal service, between the hours of 7:30 am and 7:00 pm, Monday through Thursday, and 7:30 am to 2 pm on Friday. The upper level Summit is designed as a comfortable lounge-dining area, with vending service available for those seeking snacks or beverages.

Complete catering services are also available and may be arranged through the reservations office in room 267 of the University Center.

Audiovisual Services

The University Center can provide rental audiovisual equipment for student organizations and campus departments scheduling events in the University Center and J.C. Penney Building only. Equipment includes 16mm, slide, and overhead projectors; record and tape players; a 1/2" and a 3/4" VHS player/recorder with a 25" color monitor; lecterns and portable sound systems. Experienced operators are also available for an additional charge.

Bookstore

In addition to the programs and services listed above, the Bookstore is located in the University Center and is headquarters for ordering and selling textbooks and supplementary reading materials, including paperback books. The Bookstore also sells class and study supplies, college jewelry, and insignia items. Commencement announcements, caps, and gowns are ordered through the Bookstore.

Organizations

There are approximately 100 student organizations at UM-St. Louis ranging in size from three to 50 members. The scope of their activities address the educational, cultural, social, recreational, and spiritual co-curricular needs of the campus community.

Social fraternities and sororities, performing and fine arts, curriculum-related support groups, ice hockey, bowling, and other special interest clubs exist to enhance the collegiate experience. The Associated Black Collegians, International Students Organization, and the Women's Center exist as resources for students on campus.

Information regarding student organizations is available in Room 267 of the University Center. Specific organizations may be contacted by mail through the same address.

The University Program Board, a 15-student volunteer group, initiates and implements a variety of lectures, appearances by comedians, and musical groups throughout the year. The Board also sponsors games, tournaments, and discounted tickets for local sporting events, concerts, and theatre. Most campus events are free to the campus community and are subsidized by student activity fees. Membership in this organization is open to students who are interested in coordinating these types of programs. Information is available by calling 516-5531 or by stopping by the Program Board office in Room 256, University Center

Housing Referral

The University Center/Student Activities Office maintains a list of available apartments, rooms, and flats in the North County area. Lists of persons requesting roommates are also available.

Black Culture Room

The Black Culture Room, located in room 254, University Center, houses a tutorial service and is equipped with a study area and lounge. Sponsored by the Associated Black Collegians, the room is called "Umajaa," an African word meaning brothers and sisters working together. For more information call the Black Culture Room at 516-5731.

Student Affairs Office

Office of the Vice Chancellor for Student Affairs

The Office of the Vice Chancellor for Student Affairs, located in 301 Woods Hall, offers assistance and a wide variety of services to students. The office is responsible for administering the Student Conduct Code, confidentiality of student records, and Discrimination Grievance Procedure for Students.

In addition, the Administrator for Special Student Programs is located in this office. This staff member provides information, guidance, referral services, and assistance for students with disabilities. Special arrangements and assistance in providing for the accessibility needs of students with permanent or temporary disabling conditions are available through this office. A TDD is provided for individuals with a hearing impairment. For more information or questions, call the Office of the Vice Chancellor for Student Affairs at 516-5211 (voice) or 516-5212 (TDD).

Office of Residential Life

On campus housing is available to students year round. The Office of Residential Life offers air conditioned furnished residence halls, in which 98% of rooms are singles. It is possible for students to live in the halls throughout the year. Rates for the residence halls include all utilities, local phone service and a tax exempt declining balance board plan. The University Meadows is a privatized complex offering efficiencies, one- and two-bedroom units. Nine and twelve month leases are available. A variety of amenities are available in all housing choices, including swimming pool, laundry facilities, recreational facilities, and data communications hook-ups in each room.

A variety of social, cultural, and educational programs and activities are offered by the Office of Residential Life and the Residence Hall Association (RHA), which serves as the residence hall student government. The "Spirit of St. Louis" Series provides opportunities for students to enjoy many of St. Louis's most popular attractions and venues. Residential students are also active in intramurals, student organizations, and other campus activities.

For more information on residential choices or to schedule residence hall tours, call 516-6877 or visit the Office of Residential Life in Honors Hall. Information on apartment leases and tours may be obtained by contacting University Meadows at 516-7500.

Counseling Services

Counseling Services offers professional counseling regarding personal, social, educational, and career concerns. Services include individual and couple's counseling, a range of psychoeducational workshops and groups as well as career testing and career development counseling.

Our "Career Resource Center" includes a well stocked library of career related materials and SIGI PLUS, a computer-based interactive career exploration and decision-making program. SIGI PLUS may be used by all members of the University community for a small fee.

Counseling Services houses the "Helping Hand" African American student mentoring program and the "Horizons"

undergraduate peer educators. We also provide training and supervision for graduate student interns. For information about participating in any of these programs, call 516-5711.

The Counseling Services' receptionist will arrange an appointment with a counselor or to use SIGI-PLUS. There are some evening appointments available for Evening College students. In an emergency, however, students can be seen almost immediately. For more information, call 516-5711 or visit Counseling Services office at 427 SSB. Visit our web site: <http://www.umsl.edu/services/counser>

Horizons Peer Educators

Horizons is a group of undergraduate students who are dedicated to educating and informing the students about a variety of personal and academic issues. The peer educators distribute useful information throughout the year and present programs and workshops on topics such as alcohol awareness, time management, career exploration, stress management, and sexual awareness.

Horizons' peer educators are trained and supervised by Counseling Services professional staff. Peer Educators assist students researching information on career options or academic majors in the Counseling Services' Career Resource Center. They also instruct students on the use of SIGI PLUS, a computerized career exploration program, and two computer programs (CASSI and SBI) which assist students in the development of academic skills. Horizons is housed in Counseling Services' office which is located in 427 SSB. Their phone number is 516-5730.

Women's Center

The Women's Center serves as an educational resource center offering an information and referral service, advocacy, programs on women's issues and career choices, cultural events and exhibits, a library of literature by and about women, topical resource files, and information on women's activities, networks, organizations, and services in St. Louis.

Located in 211 Clark Hall, the Women's Center is a good place to get support and assistance in coping with sexual harassment, help in doing research on women, and answers to questions about almost anything. The Center is also a good place to relax, drink coffee, and share ideas and experiences with other UM-St. Louis students in a comfortable atmosphere.

There are opportunities for students to get involved at all levels in the activities and work of the Women's Center, which is open full time, Monday through Friday; evening hours vary by semester. The coordinator of the Women's Center directs the campus-wide orientation program so students can become acquainted with University rules, procedures, and services. For more information call 516-5380.

The Student Emergency Contact Form has been developed by the Center for students who may need to be contacted in emergency situations. This service is especially useful for students who are parents. Call the Center or stop by

Student Affairs Office

and complete an Emergency Contact Form.

Career Services

Job placement services are available to all UM-St. Louis students and alumni. Students may call 516-5111 for an appointment or stop by the office in 308 Woods Hall for career information.

Career Services offers a variety of services to job-hunting students, including Resume Expert. This powerful registration and resume software may be accessed in the student IBM labs from menu items or from any IBM compatible.

Students can visit the Career Library where career-related brochures, company information, videos, and a variety of information are available. Workshops on resume writing, interviewing skills, and orientations to the services are scheduled regularly.

"Careers On-Line" can be accessed in all the student computer labs and through our web home page: <http://www.umsl.edu/depts/career/>. Students may view special event schedules, and the on-campus interview schedule, as well as obtain information on specific job openings.

On-campus recruiting by representatives of business, school districts, and government begins in September. Students must register early each semester to take advantage of this opportunity.

"Careers on Call" is a phone-in job hotline. Job information and special announcements are available 24 hours a day. This service is open to students who have registered to use our service.

The Career Experience Employment Program offers part-time, full-time and summer employment opportunities to current students. These positions allow students to gain career-related and general workforce experience while in school.

Students may also obtain on and off campus employment through the Federal Work Study Program. Students eligible for Work-Study funds have the opportunity to participate in off-campus community service jobs.

Hours are Monday and Tuesday, 8 am to 7 pm, and Wednesday, Thursday, and Friday, 8 am to 5 pm. For more information, call 516-5111

University Health Services (UHS)

University Health Services, located in 127 Woods Hall, offers wellness through care and education. Some of the basic health services offered are treatment of minor injury and illness, screening exams, strep throat testing, pregnancy testing, tuberculin skin testing, urinalysis, and allergy injection. Consultation is offered on a variety of issues and concerns, such as nutrition and diet management, sexually transmitted diseases, contraception, and health promotion. Additionally, consultation is available to clients with chronic health problems (such as asthma, diabetes, and others) in assisting with health problem management.

Educational materials on a variety of health related topics are available in the UHS office. Educational programs addressing current health issues and needs are also offered through UHS. Assistance with referral to medical facilities is provided upon request and when deemed necessary.

The University requests that students born after 1956 provide documented proof of immunity to measles and rubella, through current immunization records or disease documentation by a physician. Immunization records may be sent to University Health Services.

Information, application and claim forms for the Student Accident and Sickness Insurance Plan are available at the UHS office. Validation for handicapped parking is handled through UHS upon presentation of medical documentation verifying a disability that impairs mobility. Automobile information and license number is also necessary to obtain verification for Handicapped Parking.

University Health Services is open Monday-Thursday 8:00 a.m. until 8:30 p.m. and Friday 8:00 a.m. until 5:00 p.m. Generally there is no charge for services; however, selected screenings, tests, and services may be offered on fee-for-service basis. To make an appointment, or for further information, call 516-5671. For a medical emergency on campus call 911.

Drug and Alcohol Prevention Program

Pursuant to the Drug-Free Schools and Communities Act Amendments of 1989, the University of Missouri-St. Louis is required to establish a drug and alcohol prevention program for its students and employees. A biennial review of this program will be done to determine its effectiveness, to implement changes to the program if they are needed, and to ensure the University's disciplinary sanctions are consistently enforced.

Standard of Conduct

University of Missouri regulations prohibit the unlawful possession, use, distribution, and sale of alcohol and illicit drugs by University students and employees on University-owned or controlled property and at University-sponsored or supervised activities.

Legal Sanctions

Local, state, and federal laws also prohibit the unlawful possession, use, distribution, and sale of alcohol and illicit drugs. Criminal penalties for violation of such laws range from fines up to \$20,000 to imprisonment for terms up to and including life.

University Discipline

Violation of these University of Missouri regulations can result in disciplinary action up to and including expulsion for students and discharge for employees.

Health Risks

Specific serious health risks are associated with the use of illicit drugs and alcohol. Some of the major risks are listed below.

Student Affairs Office

Alcohol and Other Depressants

(barbiturates, sedatives, and tranquilizers) Addiction, accidents as a result of impaired ability and judgment, overdose when used with other depressants, damage to a developing fetus, heart and liver damage.

Marijuana: Addiction, panic reaction, impaired short-term memory, increased risk of lung cancer and emphysema (particularly in cigarette smokers), impairment of driving ability.

Cocaine: Addiction, heart attack, seizures, lung damage, severe depression, paranoia, psychosis. Similar risks are associated with other stimulants, such as speed and uppers.

Hallucinogens (acid, LSD, PCP, MDMA, etc.): Unpredictable behavior, emotional instability, violent behavior, organic brain damage in heavy users, convulsions, coma.

Narcotics (heroin, Demerol, Morphine, Codeine, etc.): Addiction, accidental overdose, risk of hepatitis and AIDS from contaminated needles.

Inhalants (gas, aerosols, glue, nitrites, etc.): Loss of consciousness, suffocation, damage to brain and central nervous system, sudden death, nausea and vomiting, nosebleeds, impaired judgment.

Resources

A variety of resources exist for drug or alcohol counseling, treatment, or rehabilitation programs. For detailed information concerning these resources available from the University and/or community agencies, students, employees, and faculty may contact the offices below. Such referrals will respect individual confidentiality. The UM-St. Louis Drug and Alcohol Prevention Program is described in a brochure. To obtain the brochure and more information, contact:

Counseling Service,
427 Social Sciences and Business Building, 516-5711;

Student Health Center,
127 Woods Hall, 516-5671;

Office of Human Resources,
211 General Services Building, 516-5804; or

Vice Chancellor for Academic Affairs,
407 Woods Hall, 516-5371.

Smoke-Free Campus Policy of UM-St. Louis
Effective June 1, 1991, smoking is prohibited throughout the University of Missouri-St. Louis campus.

Sports

Recreational Sports

The University's recreational sports program is geared toward the interests of the entire University community. Students, faculty, staff, and alumni are encouraged to take active roles in the creation of new recreational sports programs.

Intramural activities currently offered include touch football, basketball, volleyball, swimming ("Swim the Mississippi River Club"), racquetball, golf, tennis, bowling, softball, hoc soc, fun run, soccer, and weight lifting. For more information call 516-5125.

Intercollegiate Sports

A variety of intercollegiate sports are available for both men and women at UM-St. Louis.

The Rivermen and Riverwomen compete at the NCAA Division II level and are members of the Great Lakes Valley Conference.

Both the men's and women's athletic teams have brought both local and national recognition to the University for more than 20 years, with one national championship and trips to the NCAA Tournament in at least one sport in 19 of the last 20 years.

The women's intercollegiate athletic program includes basketball, soccer, tennis, volleyball, and softball. The men's intercollegiate athletic program includes basketball, soccer, golf, baseball, and tennis. Scholarships are available for both men and women in all sports.

Intramurals and intercollegiate athletics are supported in part by the University Center and Student Activities fees. UM-St. Louis students with validated IDs are admitted free to all home athletic contests.

For more information about Intercollegiate Athletics, please call 516-5661.

Facilities

The athletic and exercise areas in the Mark Twain Building are available for use by the University community at specified hours. During the regular semester, the building is open seven days a week and on specified evenings. Facilities include basketball, volleyball, badminton, and handball/racquetball courts, an aerobic dance room, and an NCAA regulation swimming pool.

The facilities also include two conditioning and fitness rooms with state-of-the-art equipment, an indoor running track suitable for walking or running, and a sauna. Outdoor facilities include baseball, softball, soccer, intramural fields, and tennis courts. For further information call 516-5641.

Student Government

The Student Association of the University of Missouri-St. Louis is the student governance body composed of both elected student representatives from each School and College, and of organizational representatives from every recognized student organization which petitions for representation on the Assembly.

The purpose of the Student Association is to represent University of Missouri-St. Louis student concerns at every level of governance within the University and at the state and local level. This is done by ensuring adequate and capable student representation within the University Senate, the policy-making and governance body of the University of Missouri-St. Louis. In addition, Student Government, the policy-making arm of the Student Association, has its own standing committees to address student concerns.

On the local and state levels, Student Government leaders visit various officials to address student concerns and priorities throughout the year.

An educated, qualified, well-rounded individual is the desired result of a college education. The University of Missouri-St. Louis Student Association, in its capacity as representative of and advocate for students, plays an important role in developing such individuals.

For more information call 516-5105 or drop by 262 University Center.

The Student Court is nominated by the Student Assembly and appointed by the Vice Chancellor for Student Affairs. The five-member Court rules on student appeals concerning matters such as parking violations and disputes between individuals and organizations; organizations and organizations.

The Evening College Council serves the evening student body as a liaison between students, faculty, and administrators. It functions as a sounding board for Evening College students' ideas and interests, and it coordinates social activities of special interest to evening students. Membership is open to all Evening College students who are in good standing. Contact the Evening College, 324 Lucas Hall, or any council member for more information or call 516-5162.

Senate

The Senate is the governing body of the campus. Its membership includes 75 faculty members, up to 25 students, the campus's top-ranking administrators, and other ex officio members.

Students are elected to the Senate in the winter semester, and they are required to file their candidacy in advance of the election. The filing deadline and election dates are widely publicized on the campus. The number of student senator seats is dependent on the number of eligible candidates filing for election, but the maximum number of seats available to students is 25.

To qualify for service on the Senate, a student must be enrolled in good standing, must not be on disciplinary probation, must have a cumulative grade point average calculated by UM-St. Louis to be at least 2.0, and must have completed a minimum of nine hours of academic credit on this campus.

The Senate has a number of standing committees which include student members. They are Budget and Planning; Bylaws and Rules; Committee on Committees; Computing; Curriculum and Instruction; Executive Committee; Faculty Teaching and Service Awards; International Relations; Physical Facilities and General Services; Recruitment, Admissions, Retention, and Student Financial Aid; Student Affairs; Student Publications; University Libraries; University Relations; and Video and Instructional Technology. The Senate establishes ad hoc committees as needed, and these committees sometimes include student members.

To qualify for service on Senate committees, students must satisfy the eligibility requirements stated above.

For additional information about the Senate or Senate committees, students may contact Joan M. Arban, the Senate's Executive Assistant, at 516-6769.

Other Services

Alumni Relations Office

UM-St. Louis alumni, now numbering more than 50,000, not only help shape the future of the University, but the entire St. Louis region. The Alumni Association and the Alumni Relations offices are located at 7952 Natural Bridge Road, across the street from the main campus entrance. The two work together to promote the St. Louis campus and build mutually beneficial relations between the University and its alumni. Membership in the Alumni Association is open to all graduates and former students with payment of modest dues.

The Alumni Association sponsors a scholarship fund for UM-St. Louis undergraduates, provides special funding of certain campus projects, and works as an organization to obtain increased public support for the University. For more information, call 516-5833.

A historic and elegant setting, the Alumni Center, located at 7956 Natural Bridge Road across the street from the main campus entrance, offers students, faculty, staff, and alumni a unique gathering place for community receptions and other social events. Contact the Alumni Center at 516-5722 for more information and reservations.

Gallery 210

Gallery 210, located in 210 Lucas Hall, sponsors five major art exhibitions yearly. These include professional work of national and international importance in all media, with a primary emphasis on contemporary art. In conjunction with these exhibits, the Gallery frequently sponsors symposia, lectures, and other events which enhance the impact of the works of art that are displayed.

Under the auspices of the Department of Art and Art History, the exhibits offered by the Gallery meet the best of both educational and aesthetic standards, and serve the visual interests of both the metropolitan community and the University's students and staff.

Police Department

The UM-St. Louis Department of Police is located in the Tele Community Center and serves the students, faculty, and staff by providing year-round campus security. The UM-St. Louis police are trained to give emergency aid in the event of accident or illness, and all incidents should be reported immediately to the police department, telephone 516-5155. This number is monitored 24 hours a day. Call for help or to report fire or any existing hazardous conditions. Emergency telephones on campus include the red "Hot-Line" phones, which are located in every building. In addition, there are a number of outdoor emergency phones that connect directly to the police dispatcher.

Traffic regulation is also a responsibility of the campus police, including issuance of faculty/staff parking permits and any temporary parking permits. These permits may be picked up at the police department office. Informational booklets on traffic regulations and parking, as well as campus maps, tips on crime

prevention, and other useful publications are available outside the police department office.

The department has an ongoing bicycle registration program, offering registration tags to students, faculty, and staff. A registration file with bicycle serial numbers and description is maintained for each registrant. Also available during normal working hours the University provides limited emergency vehicle service, at no charge, to vehicles on campus except for fuel. Any person requiring such service (due to dead battery, empty fuel tank, flat tire, etc.) should phone the University Police for assistance. An escort service to your car is available 6 pm to 11 pm, Monday through Friday, by calling 516-5155.

The UM-St. Louis police report and investigate all crimes that occur on campus.

For information on any of these services, contact the University of Missouri-St. Louis Police by calling 516-5158, Monday through Friday, 8 am to 5 pm. For emergencies, remember to call 516-5155.

Specialized Centers and Facilities for Research, Teaching and Public Service

Research

Center for Business and Industrial Studies

The Center for Business and Industrial Studies is organized within the School of Business Administration for studying managerial problems and performing applied research. The Center operates on a not-for-profit basis, helping organizations nationwide to understand factors affecting their business environments and to enhance their productivity. University faculty, supported by powerful computer systems, statistical databases, and sophisticated software, provide multi-disciplinary consultation in a wide variety of business applications. Studies are undertaken in computer systems, operations management, human resources management, planning and business development, facilities location, distribution, marketing, and financial analysis. Organizations contract with the Center for studies tailored to their specific needs. A brochure outlining the Center's services can be obtained by writing the Center for Business and Industrial Studies School of Business Administration University of Missouri-St. Louis 8001 Natural Bridge Rd. St. Louis, MO 63121-4499, or by calling (314) 516-5857.

Center for Entrepreneurship and Economic Education

The Center for Entrepreneurship and Economic Education is sponsored by the College of Arts and Sciences and Continuing Education-Outreach to support and enhance economic education in elementary and secondary schools. The Center provides in-service programs in economic education to area teachers. Working closely with local school districts, the Center serves to improve and evaluate present economics curriculum. The Center develops and publishes curriculum units for use in elementary and middle schools. Entrepreneurship education, grades 3 through 6, is another focus for Center activities. The Center also promotes the goals of entrepreneurship and economic education among business, professional, educational, labor, and other organizations and individuals in the St. Louis community.

Center for International Studies

The Center for International Studies supports academic programs, seminars, and conferences designed to promote and improve research in international studies, improve the methods of teaching international studies in schools and colleges, and encourage an interest in international affairs in the University and area communities. The Center's Office of International Student Services coordinates and provides services for international students including admissions, immigration, orientation, non-academic advising, etc. In addition, the Center administers the campus Exchange and Study Abroad programs and disseminates information on study, work, and travel abroad. The Center promotes the development of interdisciplinary and multidisciplinary courses, assists in staffing courses within individual departments, houses the Joint Center for East Asian Studies of UM-St. Louis and Washington University, the Karakas Family Foundation Alliance for the Advancement of Hellenic Studies and the Endowed Professorships in Chinese Studies, Greek Studies and Irish Studies. It conducts seminars that address specific faculty and

student needs and interests, sponsors conferences for academic and community audiences, organizes international business development programs, issues occasional papers, administers undergraduate certificate programs in Africana studies, East Asian studies, European studies, international business, international studies, and Latin American studies and the Graduate Certificate in International Studies. In addition, the Center's Community Education Office serves pre-collegiate educators statewide through the Missouri International Studies Resource Collection and operates a comprehensive global education program.

Center for Molecular Electronics

Molecular electronics lies at the cutting edge of recent developments in the study and application of thin-film materials, in the growth of semiconductor device material, in the fabrication of electronic sensors and devices, and in the development of high-performance polymers. In all of these areas, knowledge and control at the atomic or molecular level is essential for state-of-the-art materials and devices. In recognition of the critical importance of research, education, and industry-university cooperation in these areas, the University of Missouri-St. Louis has established the Center for Molecular Electronics. The goals of the Center are both research at the forefront of the field of molecular electronics and assistance in the development of high-technology products by St. Louis area corporations.

To encourage cooperation between university and corporate scientists and engineers, the membership of the Center includes physicists, chemists, and engineers from the following St. Louis-based institutions: University of Missouri-St. Louis, Washington University, MEMC Electronic Materials, and Monsanto Company. Through the shared expertise, equipment, and facilities, the Center will investigate the following technological areas: (a) Organometallic Vapor Phase Epitaxy; (b) Plasma Chemical Vapor Deposition of Diamondlike Carbon Films; (c) Electro-Optics of High Performance Polymers; (d) Nanometer-scale Lithography; (e) Electrochemistry of Sensors; (f) Gallium Aluminum Arsenide Lasers and Waveguides; and (g) Langmuir-Blodgett films. All these technological areas are of interest to St. Louis area companies, as well as being exciting and important fields of scientific inquiry.

Center for Neurodynamics

This Center sponsors basic research on the transmission and processing of information by the brain and the sensory nervous system. The research functions are performed largely by faculty, graduate students and postdoctoral research associates, though exceptionally talented and motivated undergraduate students also make valuable research contributions. The Center is interdisciplinary, being composed of faculty from the Departments of Biology and Physics and the School of Optometry. It maintains a program of external Associates with whom collaborative research projects are pursued. Current Associates are in Baylor College of Medicine, Houston, Texas; the Department of Biomedical Engineering, Boston University, Boston, MA and Viatch Imaging, Inc. of Ivoryton, CT. The research focus underlying all projects

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is on the role of random processes, or "noise", and chaos in the detection of weak environmental stimuli and the processing of information within small networks of neurons and within the brain. The Center is host to frequent scientific visitors and maintains an active program of seminars on contemporary problems in neuroscience and in the physics underlying neural processes. The Center was created by a University Research Initiative grant from the Department of Defense through the Office of Naval Research, which provides ongoing financial support for its research projects. For further information please consult the URL <http://natasha.umsl.edu>

Center for Science and Technology

The University of Missouri-St. Louis Center for Science and Technology was established in 1987 to serve as a resource broker between the University of Missouri-St. Louis and the St. Louis scientific community.

The Center fosters research collaboration and provides customized postbaccalaureate programs on technological advances for the almost 40,000 scientists and engineers in the St. Louis area, and for science educators, corporate managers, and for top-level executives. The Center also promotes citizen awareness on technological trends and issues, linking University projects with organizations such as the St. Louis Science Center and the National Center of Environmental Information and Technology.

International Center for Tropical Ecology

The International Center for Tropical Ecology promotes education and research concerning the study of biodiversity, conservation, and sustainable use of tropical ecosystems. It was established to centralize the activities of faculty at UM-St. Louis and researchers at the Missouri Botanical Garden who specialize in ecology, evolution, systematics, and conservation biology. A major priority of the International Center is to provide funding for international and United States graduate students interested in tropical ecology and conservation who are enrolled in the cooperative graduate program between UM-St. Louis and the Missouri Botanical Garden. The International Center for Tropical Ecology sponsors multidisciplinary lectures and symposia on biological, political, and cultural issues related to tropical ecology. The International Center for Tropical Ecology also provides funding and assistance to the undergraduate certificate in Conservation Biology which focuses on Missouri conservation and the graduate certificate in Tropical Biology and Conservation. These certificate programs are administered by the Department of Biology. By supporting talented international and United States graduate students and by attracting visiting scholars in ecology, evolution, systematics, and conservation biology, a major goal of this Center is to create an intellectual atmosphere that can contribute to the solutions of our global crisis concerning the destruction of tropical ecosystems.

Inter-University Consortium for Political and Social Research

The consortium, an academic partnership between the University of Michigan Center for Political Studies and more than 350 colleges and universities in the United States and abroad, is an interdisciplinary, inter-university

research and training facility for both students and faculty in the social sciences. Through various consortium archives, students and faculty have direct access to a variety of multipurpose data of a socio-political nature that may serve a variety of research and training needs. The Office of Computing provides data-processing services for consortium resources. Students and faculty are also eligible to participate in the consortium's summer training program, a series of intensive eight-week courses of interdisciplinary work for historians, political scientists, sociologists, and other social scientists.

Office of Computing

Computing facilities at the University of Missouri provide access to powerful computing resources, which are available to students, faculty, and staff for educational, research, and administrative needs. Access to local facilities is provided at no cost.

Hardware on the UM-St. Louis campus, used primarily for academic computing, includes two Sun Sparc 1000 systems, an HDS EX31, Apple Macintoshes, and a variety of DOS-compatible systems. These microcomputers are housed in public computing labs located throughout the campus. All microcomputer labs are equipped with printers. Dial-up access is provided to the HDS system and the Internet. UM-St. Louis is part of the University of Missouri Computer Network, the Missouri Research and Education Network (MOREnet), and the Internet.

Six Advanced Technology Classrooms (ATC's) are available in the Computer Center Building. Each room is equipped with a state of the art projection system and a computer at each student desk. Two rooms contain Apple Macintoshes, three rooms are equipped with DOS systems and the remaining room has Sun workstations. One ATC, equipped with Apple Macintoshes, is available on the South Campus.

Media-enhanced lecture halls are available in Lucas and Stadler Halls. These rooms are equipped with projection systems, and DOS and Macintosh computers for the instructor.

Staff provides consultation, programming, error analysis, and operations services. Data entry services are available from an outside vendor. Noncredit short courses are taught during the fall and winter semesters on a wide variety of microcomputer and mainframe topics. Microcomputers, peripherals, and software are available for purchase at substantial discounts in the bookstore.

University Computing Services operates an IBM 3090 which supports the University's administrative applications.

The office telephone number is 516-6000. Questions concerning open student labs and general information should be directed to the Help Desk at 516-6034.

Office of Research Administration

The Office of Research Administration provides services to faculty, graduate students, and staff for obtaining external support for research, instruction or public service programs.

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Services include providing information, application materials and instruction for submitting proposals, assisting in developing project budgets, contract negotiations, and fiscal monitoring of awards. The ORA is responsible for administering grants and contracts from federal, state, and local government programs, and grants awarded by private foundations. The ORA works together with faculty committees to award and administer internal research grants. Administrative support is provided to committees charged with monitoring University compliance with various federal and state regulations concerning research. The ORA provides on-line information through its home page (<http://www.umsl.edu/services/ora/>).

Urban Information Center

The UIC is a specialized unit of the Office of Computing. The UIC specializes in applications programming related to U.S. Census and other public data. Using the SAS® software package, the UIC maintains one of the larger public data archives in the country, specializing in data from the U.S. decennial censuses. This archive is accessible via the WWW using custom interface applications developed and maintained by the Urban Information Center. For more information about UIC resources and services you can visit their home page on the WWW at <http://www.umsl.edu/services/uic>. The UIC is a cost recovery unit that develops and sells data products and services. Access to their database via the web is currently free, however. As a core agency of the Missouri State Census Data Center (MSCDC), the UIC periodically offers workshops and participates in conferences where information is presented related to demographic and economic data resources, web access tools, and the status of state and federal data collection and dissemination programs.

One of the areas in which the UIC has developed special expertise is in working with geographic data and with GIS (Geographic Information System) technology. They provide services to link user address files to census geographic areas, such as census tracts and blocks, and then to the census data related to those geographic areas. They specialize in producing large (up to 36"), high quality computer-generated maps using their GIS software package. Typically, these maps involve thematic display of census data and/or of client-provided data that has been linked and aggregated to census geographic units by the UIC.

Public Service

Center for Excellence in Metropolitan Education

The Center houses large, innovative school-based programs and projects which are designed to enhance K-12 learning and instruction, especially in mathematics, science, and communication skills. Such programs and projects usually involve several school districts, many schools within the districts and other outside agencies, as well as several academic and service units within the University which are involved in the delivery of the projects. Support for the projects is provided principally by the University, but with important supplementary funding by major corporations and federal grants. Projects presently housed in the Center include the Bridge Program; the Access to Success Program; The Junior Science, Engineering, and Humanities Symposium; the Youth Employment and Career Development Program;

the Key Work Force 2000 Program; the Human Services Unit; the Reading Clinic; and the Citizenship Education Clearing House.

Child Development Center

The Child Development Center, located in the South Campus Classroom Building, Room 130, on the South Campus, 7800 Natural Bridge Rd., provides quality day programs for children of student, faculty, staff, and community families. The program operates from 7 a.m. to 5:30 p.m., Monday through Friday, year round. This program serves children from six weeks to five years of age. Plan ahead as the Center usually fills quickly!

The Child Development Center also provides University students with observation, participation, research and similar educational and clinical opportunities. Please contact the Center at 516-5658 for additional information.

Adult Day Services Center

The Adult Day Services Center, 8351 S. Florissant Road, is an adult day health care facility for adults who need supervision during the daytime. Professional services include nursing, social work; recreation, music and physical therapies. There is a Special Care Unit for persons with advanced dementia. Practicum and research opportunities are available to students. The Center is open Monday through Friday from 6:30 am to 6:00 pm. The Mid-East Area Agency on Aging is a major cooperating agency. Call 524-0155 for further information.

Center for Humanities

The Center for the Humanities has two major objectives: to provide visibility and focus for humanities activities at UM-St. Louis and to attract and channel resources for the support of interdisciplinary humanistic inquiry. To this end the Center sponsors a variety of conferences, symposia, and lectures. Over the last several years, the Center has sponsored a conference entitled, "What is a City?", which examines the structure and social environment of cities and their effects on social and cultural diversity. The Center for the Humanities also sponsors the Monday Noon Cultural Series through out the academic year, which features a variety of lectures and musical performances every Monday at 12:00 noon. The Center supports and coordinates the Poetry and Writing Series, which features contemporary authors reading their works. In addition the Center houses and funds the major, international journal, *Theory and Society*, a refereed, interdisciplinary journal of social theory and practices, published by Kluwer Academic in The Netherlands. The Center disseminates information on the humanities on its web site and promotes the development of interdisciplinary outreach courses.

KWMU

KWMU, 90.7 FM, is the 100,000-watt public radio station of the University of Missouri-St. Louis and National Public Radio/Public Radio International affiliate. The professionally staffed station broadcasts news, talk, and entertainment 24 hours a day. KWMU provides programming that is responsive to the needs of the community. In training students who plan to pursue broadcast careers, KWMU augments the educational and training function of the University.

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Public Policy Research Centers

The Public Policy Research Centers are the focal point of the university's activities in basic and applied policy research. The Centers provide a variety of research services to local governments and agencies, state policy makers, and nonprofit organizations. The Centers have recently been actively engaged in research on local and regional economic development, housing and homelessness, natural resources and environmental protection, children at risk, racism and cultural diversity, crime and drugs, education, international competitiveness, and state revenue policy.

The Public Policy Research Centers also promote basic policy research through its support of faculty fellows. Drawn from a variety of disciplines such as economics, criminology, political science, business, and education, fellows receive reduced teaching loads to support their research projects and efforts to disseminate knowledge in the community through conferences, seminars, etc. Although not offering regular courses or degrees, the Centers serve as a policy laboratory for a number of graduate students participating in research activities.

The Centers coordinate educational programs for the community, research opportunities for faculty, and unique learning experiences for students. Services include survey research, applied policy analysis, program evaluation research, economic assistance projects, community outreach and education programs, policy leadership development, and dissemination and publication of research that addresses critical public policy issues. The Centers produce reports, a newsletter, and publications.

The Centers combined four productive research units: the Center for Metropolitan Studies (CMS); the James T. Bush, Sr., Center for Law, Social Change and Conflict Resolution (the Bush Center); Public Policy Extension/Survey and Applied Research (PPE/SAR); and the Institute for Policy Leadership (IPL) at UM-St. Louis. The fellows, research staff, and graduate students of all four units work in concert on major research projects that address particular needs of the St. Louis region.

The Center for Metropolitan Studies—conducts research on urban problems, offers training experiences for students in urban research, and provides information to the St. Louis metropolitan area for aiding community groups and civic leaders in dealing with significant regional problems.

The James T. Bush, Sr., Center—works to enhance the ability of St. Louis and the state of Missouri to promote and constructively manage social change. The Bush Center initiates research and workshops in areas such as employment, education, housing, and law.

Public Policy Extension/Survey and Applied Research—conducts scientific polls and provides research and analysis for local governments and nonprofit organizations. Public Policy Extension measures attitudes and opinions on a variety of policy topics.

Institute for Policy Leadership—The Institute's mission is twofold: first, to help citizen legislators improve the way they do business, and second, to transform public policy challenges into constructive community action.

University Eye Center

The University Eye Center located on the South Campus is open to the public, as well as to the faculty, staff, and students of the University. The goal of the Center is to provide patients with high-quality vision care, and optometry students with diverse educational opportunities. In addition to the University Eye Center, the School operates the Optometric Center, a comprehensive optometric eye care facility in the Central West End of the city of St. Louis and the East St. Louis Eye Center, jointly owned and operated by the University of Missouri-St. Louis School of Optometry and Southern Illinois University at Edwardsville.

Teaching

Center for Academic Development

The Center for Academic Development is an academic support unit which focuses attention on the needs of UM-St. Louis students who seek success in pursuing higher education. The Center is comprehensive in nature and consists of the following programs:

The Writing Lab (409 SSB): This lab offers tutorial assistance to students working on papers for their classes. No appointment is necessary, and tutors are prepared to help both undergraduate and graduate students in all the disciplines. Some of the issues covered in the lab include organization, sentence clarity, development, grammar, and usage. The Writing Lab houses 24 Macintosh computers for student use, and tutors provide computer assistance. There is no charge for any Writing Lab service.

Supplemental Instruction: Student assistants (SI Leaders) conduct study groups for specific courses. Course content and study skills are reviewed several times a week at scheduled sessions. Students participate on a voluntary basis without charge for the service.

English-as-a-Second-Language Program (ESL): The Center is the administrative home for the English as a Second Language Program. The program provides coursework and assessment for international students. Courses are listed under the Foreign Languages and Literatures Department.

Mathematics Lab (425 SSB): This lab offers free individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or any course involving mathematical skills. In addition, the lab offers on-site use of videotaped lessons that accompany some mathematics courses, computer packages covering certain topics, and mathematics textbooks and worksheets on several basic topics. Students or prospective students who are preparing to take the Mathematics Placement Test or C-Base Exam may come to the lab for help. Review materials for these two tests are available on general reserve in the Thomas Jefferson Library.

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Math Workshops and Reviews: Periodic review sessions and workshops are offered for students needing a review of pre-college mathematics. An intensive one day or two evening review is offered for those who need a quick brush-up of previously learned material. For a more extensive review, zero-credit workshops are offered as a semester-long lecture class or as an independent study course with flexible beginning and ending options. Schedules for the reviews and workshops can be found in the current Schedule of Courses.

Multi-Cultural Relations/Academic Affairs 516-6807: This office was designed to support the University's goal of academic success for all students. Cognizant of the unique challenges facing its minority population, Multi-Cultural Relations/Academic Affairs works to enhance and promote the academic success of these students. While there are a variety of services available to our students, this office provides and directly links students to such services as: new student orientation, scholar retention, tutoring, academic counseling, career exploration, and leadership development. Throughout the school year, workshops and discussion groups are held to foster a larger awareness of the school and its resources. Each semester, the office publishes a newsletter with articles of interest and resource information as well as recognition of students making 3.0 GPA and above. Students meet with counselors to work on individual academic plans and are assigned tutors if necessary. Student Support Services Program and African-American Scholars Retention Program are now a part of Multi-Cultural Relations/Academic Affairs and will assist in insuring that the mission of this office is accomplished. Additionally, Multi-Cultural Relations/Academic Affairs was designed to foster effective communication among students, faculty, staff and alumni.

Campus Assessment: This unit administers the Campus Assessment Plan. Currently there are two types of assessment required of all students: 1) a test of general educational development, given to incoming freshmen and administered to graduating seniors, and 2) a test or project, specified by the major department, given to graduating seniors. In addition, the unit is involved in the survey of alumni, currently enrolled students, faculty and employers.

Tutorial Services: Student tutors, certified by the appropriate academic departments, are available to give assistance in many disciplines; times and costs are arranged by student and tutor.

For more information, contact the Center for Academic Development office at 516-5194.

UM-Rolla Engineering Education Center

The UM-Rolla Engineering Education Center is housed on the University of Missouri-St. Louis campus. This is an Engineering Graduate program administered by UM-Rolla for nontraditional students in the St. Louis area. The program is conducted in the evening and on weekends, making it suitable for students who are employed full-time. Graduate

work leading to the Master of Science degree is available in computer science, engineering management, and engineering mechanics, as well as aerospace, civil, electrical, environmental, and mechanical engineering.

The Center also provides information to St. Louis area residents about UMR programs in Rolla. Advisers can assist area pre-engineering students with transfer to the Rolla campus and with entry into the Cooperative Training Program that exists between UMR and numerous U.S. industries. This co-op program allows engineering students to gain valuable industrial experience during their school years and to be partially or totally self-supporting.

The Center also assists St. Louis area companies by offering noncredit short courses, in-house training courses and engineering consultation services in the technical areas of competence of UMR faculty.

Video Instructional Program

The Video Instructional Program offers flexible, self-paced learning for students who are far from campus or whose schedules make it difficult to attend regular classes.

Course Listing. A catalogue listing all Video Instructional Program courses and offering complete information on the program is available by calling 516-5370. New courses are currently being developed. The following courses from the UM-St. Louis curriculum are offered:

Comm 70, Introduction to Cinema.
Education 308, Foundations of Adult Basic Education
Elementary Education 341, Teaching Science in the Elementary School
Philosophy 210, Significant Figures in Philosophy
Philosophy 290, Philosophical Issues in Other Disciplines: Humanities in the Arts
Psych 245, Abnormal Psychology
Social Work 312, Women's Social Issues.
Anthro 19, Archaeology
Anthro 25, World Cultures
Anthro 124, Cultures of Africa
History 31, Topics in European Civilization: Emergence of Western Europe to 1715
History 32, Topics in European Civilization: 1715-present
Psych 03, General Psychology
Sociology 10, Introduction to Sociology
Anthro 350, Special Studies
Biology 01, General Biology for Non-Science Majors
Biology 120, Environmental Biology

Courses are available on the Higher Education Channel (HEC) on St. Louis area cable stations. For complete information, call 516-5370.

Textbooks and Study Materials. Textbooks and study materials accompany the video lessons for each course and are available through the bookstore.

Career Experience & Employment

Internships and Other Career-Related Work Arrangements

You have many decisions to make about what programs of study you will follow, how you will help with the cost of college, and, of course, where you will find a job when you are finished. UM-St. Louis offers career experience positions in a broad range of academic majors. Cooperative Education and Internships can give you the edge in your college studies and career choices for today and for the future.

Career Experience & Employment Program combines classroom studies with work experience in a field related to your education and career goals. Co-ops and internships give you a wonderful opportunity to gain professional job experience and earn money to help with expenses while you are in school. Through these programs, you will begin to understand what career choices you might make, gain valuable contacts in your field, and, in many cases, get paid for your work. You will graduate with a college degree and an impressive resume.

Career Experience & Employment Program links you, UM-St. Louis, and employers in an exceptional partnership. Throughout your career experience program, your department and Career Services will work with you and your employers to ensure that your positions are linked to your curriculum and career development. Students who work in this program and do not receive academic credit will receive a transcript notation each semester employed.

The following is an overview of work arrangements available to UM-St. Louis undergraduate students. Refer to the academic department or Career Services for details on each program, requirements for participation, the opportunities available to graduate students, and the opportunities for students pursuing certificate programs or minors.

College of Arts & Sciences

Anthropology

315 Senior Seminar - required, for-credit
325 - 329 Internship in Cultural Anthropology, Archaeology, Folklore, Museum Studies, Physical Anthropology - elective, for-credit

Positions available on competitive basis as lab and research assistants, teachers/facilitators, and interns/assistants - optional, non-credit

Human Origin and Cultural Diversity program offers internships in educational anthropology and diversity education.

Art

288 St. Louis Art Museum Internship - elective, for-credit
287 Professional Internship - elective, for-credit

Biology

231 Undergraduate Internship in Biotechnology - optional as part of Certificate Program, for-credit or non-credit, enrollment in Certificate Program required
347 Practicum in Conservation - required as part of Certificate Program, for-credit, enrollment in Certificate Program required

Chemistry

Opportunities are available to pursue research with faculty members for credit during the academic year. Normally requires enrollment in Chemistry 290. Stipend available in some cases. Expanded opportunities available in the summer through the Research Experiences for Undergraduates Program, which is typically funded by the National Science Foundation and local industry. In some cases students may conduct Chemistry 290 research at a local company through collaborative arrangement between a faculty member and an industrial chemist.

Communication

193, 194, 196, 197 Practicum in Applied Communication, Debate/Forensics, Radio, and Television/Film - required, for-credit. On-campus positions, as available
393, 394, 396, 397 Internship in Applied Communication, Journalism, Radio, and Television/Film - required, for-credit. Senior standing, 3.0 GPA, and faculty recommendation required; off-campus positions

Criminology and Criminal Justice

280 Internship in Criminology and Criminal Justice - elective, for-credit

Economics

Career-related work arrangements for students majoring in economics are primarily administered through the Department, located in 408 SSB. These positions are generally paid and non-credit bearing; however, students receive a transcript notation each semester worked. Occasionally credit may be earned for selected assignments with departmental approval.

English

320 Independent Writing Project - internships offered in areas such as journalism, public relations, advertising, publishing, and technical writing; for-credit, enrollment in Writing Certificate Program required
198 Practicum in Theatre - optional, credit
398 Internship in Theatre - optional, credit

Foreign Languages and Literatures

Positions as tutors in language lab available on a competitive basis - paid, non-credit. Students of German can apply for summer internships abroad through the German-American Student Exchange Program - non-credit. Information available in department.

History

390 Special Readings - internships occasionally available with historical agencies; department chair and/or undergraduate coordinator must approve to obtain credit.

Mathematics and Computer Science

Career-related work arrangements for students majoring in math and/or computer science are primarily administered through Career Services located in 308 Woods Hall. These positions are paid and non-credit bearing; however, students receive a transcript notation each semester worked.

Career Experience & Employment

Music

292 Internship - required, for-credit, enrollment in Bachelor of Music Business required

Department sponsored internships available for all majors at St. Louis area arts institutions

Physics and Astronomy

The department funds research internships in the department in both physics and astronomy. The awards are competitive, and preference is given to students who have completed the Physics 111/112 sequence.

Political Science

295 Public Affairs Internship - required, for-credit, for Bachelor of Science in Public Administration program. Elective, for-credit for Bachelor of Arts in Political Science program; open to all majors.

Placements include municipal, state, and federal governmental agencies, nonprofit organizations, courts, and political campaign offices.

Psychology

295 Selected Projects in Field Placement - elective, for-credit

Social Work

320 & 321 Supervised Field Experience in Social Work I & II - required, for-credit, enrollment in BSW program and prior consent of instructor is required

Sociology

298 Practicum in Field and Laboratory Research - elective, for-credit

385 Internship in Sociology - elective, for credit
Students should consult the Sociology Department, 707 Tower, for requirement guidelines.

Many departments within the College of Arts & Sciences work in cooperation with the School of Education for students seeking teaching certification in an emphasis area. Student teaching work arrangements are coordinated through the School of Education.

School of Business Administration

Career-related work arrangements for students majoring in all areas of business are primarily administered through Career Services located in 308 Woods Hall. These positions are paid and non-credit bearing; however students receive a transcript notation each semester worked.

395 Practicum in Finance - recommended course for credit and compensation for students enrolled in the financial planning track. Students work closely with a local financial planning firm to gain practical work experience.

School of Education

Student Teaching - required, for-credit

The School of Education is involved with a variety of programs which provide students with academically-related work opportunities. These include: Center for Excellence in Urban Education, Parkway Central Middle

School/UM-St. Louis Internship Program, Professional Development School Program, and Schools for Thought - Compton-Drew Middle School. These programs are optional and both for-credit and non-credit. Positions at Parkway Central Middle School and Compton-Drew Middle School are paid.

Engineering

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

Career-related work arrangements for students majoring in all areas of engineering are primarily administered through Career Services located in 308 Woods Hall. These positions are paid and non-credit bearing; however students receive a transcript notation each semester worked.

Barnes College of Nursing

Clinical experiences are required in both the undergraduate and graduate programs. These experiences are limited to nursing majors only.

Pierre Laclède Honors College

Internships chosen by Honors College students, or arranged by their major departments, are valuable opportunities to broaden educational experience while also meeting the Honors independent study requirement for graduation.

Visit Career Services, 308 Woods, or call 516-5111 for more information on these programs and other work arrangements available to you.

Continuing Education & Outreach

As the comprehensive public university in a metropolitan region, the University of Missouri-St. Louis serves students who are in many ways nontraditional in their demographic make-up, their approach to higher education, and their educational needs. Meeting the requirements of these nontraditional students while extending the expertise of the University to the community is the mission of Continuing Education & Outreach at the University of Missouri-St. Louis.

Through Continuing Education & Outreach, the University's Schools and Colleges administer a wide variety of credit courses, noncredit programs and problem-oriented research for the benefit of the people of the greater St. Louis metropolitan area and beyond. Credit and noncredit courses are offered at remote sites through interactive video with courses held simultaneously on campus. Programs reflect the wide variety of interests and educational needs as well as the diversity of a metropolitan area, applying University research to urban-related issues.

Arts and Sciences

Continuing Education & Outreach in the College of Arts and Sciences includes credit courses and noncredit programs for the college's departmental disciplines, including courses and workshops in the arts, microcomputers, music appreciation, writing, languages, and history. Interdisciplinary teaching and research programs deal with such fields as social work, the humanities and economics.

Continuing Education & Outreach in the College of Arts and Sciences also sponsors the Center for Entrepreneurship and Economic Education, which provides programs and curriculum consultations to local teachers and schools.

The Microcomputer Program, which develops and teaches applied computer courses and awards the Chancellor's Certificate on the Computer, is also a unit of Arts and Sciences Continuing Education & Outreach.

The Advanced Credit Program is administered by Arts and Sciences. This program provides an enrichment experience for secondary students who are university bound by providing freshman-level courses for credit in selected high schools.

The Nonprofit Management and Leadership Program offers credit and noncredit programs and courses oriented toward current managers and volunteer leaders of nonprofit organizations.

The Gateway Writing Project offers credit and noncredit that enable classroom teachers to enhance their own writing skills and their skills in helping their students to be better writers.

A wide variety of credit courses is offered at several locations throughout the St. Louis metropolitan area to enable students to obtain academic credit at locations convenient to where they live and work.

The Annual St. Louis Storytelling Festival is also sponsored by Continuing Education & Outreach in the College of Arts and Sciences.

Adult Day Services Center

The Adult Day Services Center is an adult day health care center serving people who are in need of health care supervision, socialization, and/or rehabilitation during the daytime. A unique feature of the Adult Day Services Center is the Special Care Unit, for persons with advanced dementia. The center, which is sponsored by the University of Missouri-St. Louis in cooperation with Mid-East Area Agency on Aging serves as a clinical and research site for faculty and students. For further information, call (314) 524-0155.

Center for Science and Technology

The UM-St. Louis Center for Science and Technology provides an important link between UM-St. Louis and the community it serves. Its purpose is to facilitate collaborative research in the St. Louis area and to provide targeted, concentrated information to area employers and to the general public regarding scientific and technological advancements.

Training and research opportunities are provided by the Center to area industries, while informational lectures and workshops on current issues are offered to the interested public.

Business Administration

Continuing Education programs through the School of Business and Administration are offered in several areas, including organizational and management development and individual professional growth. Programs include a certificate program for first-line supervisors and a certificate program for human resources administrators. Special seminars and conferences are offered regularly on specific topics of current interest. In addition, the school co-sponsors programs in the area of microcomputing.

Education

The overall aim of the School of Education's outreach activities is to provide services that bring about better teaching and learning situations in educational settings. The programs and courses help students complete Missouri teacher certification requirements, as well as provide work either toward advanced degrees or for in-service professional growth. The school extends instructional research and service to educational personnel in other parts of Missouri and the Midwest in addition to the St. Louis metropolitan area.

Nursing

Barnes College of Nursing at UM-St. Louis offers a variety of Continuing Education programs for nurses and other health care professionals. Undergraduate nursing and arts and sciences credit courses are offered for those wishing to complete their B.S.N. or finish prerequisites to begin work on a master's degree.

Optometry

The University of Missouri-St. Louis offers Continuing Education & Outreach programs for optometrists through

Continuing Education & Outreach

the UM-St. Louis School of Optometry. Diagnostic and therapeutic classes are held on a frequent basis with doctors coming from a variety of states. Each spring, the Optometric Institute draws several hundred optometrists, optometric assistants, and technicians for a two-day conference covering the latest optometric techniques.

Video Instructional Program

Various credit courses are offered by UM-St. Louis on several cable stations in cooperation with the Higher Education Channel (HEC). For more information, call (314) 516-5370.

UM-St. Louis Outreach Sites

Continuing Education & Outreach offers selected graduate and undergraduate credit courses at UM-St. Louis Lindbergh, a satellite center located at Lindbergh High School in south St. Louis County. Continuing Education & Outreach offers credit courses at other metropolitan sites, including St. Charles West Senior High School, Fox High School in Arnold, and Jefferson College in Hillsboro.

UM-St. Louis Educational Centers

The UM-St. Louis St. Charles County Educational Center has been established on the campus of St. Charles County Community College. Junior- and senior-level courses are offered at this site. In Jefferson County, courses are offered at Fox High School in Arnold and Jefferson College in Hillsboro.

In-house Training

Specialized research and technical assistance and in-house training programs are available to local businesses and organizations. With the help of expert faculty and staff consultants, the University of Missouri-St. Louis is equipped to deliver specialized training on an in-house basis.

J.C. Penney Conference Center

This large conference facility at UM-St. Louis houses a 435-seat auditorium, as well as six large conference rooms, designed to provide an excellent academic environment and maximum convenience for course participants. A complete conference staff provides administrative support for seminars and conferences, as well as coordination for hundreds of hosted programs each year.

For more information on programs and services offered by Continuing Education & Outreach, call (314) 516-5958.

DEGREE PROGRAMS



**College of Arts
and Sciences**

**School of
Business Administration**

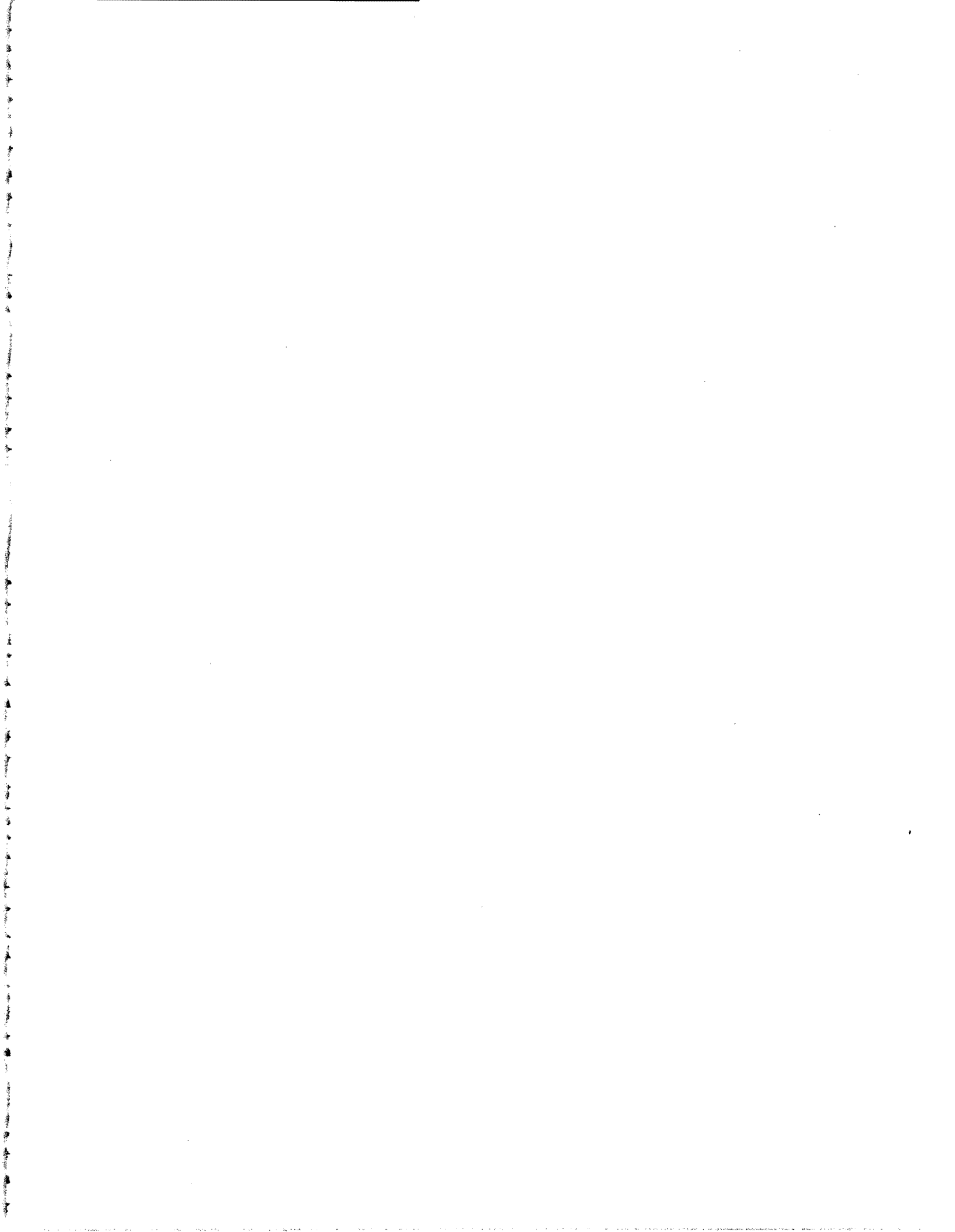
School of Education

Evening College

**Barnes College
of Nursing**

School of Optometry

**Pierre Laclède
Honors College**



Degree Programs

Undergraduate Studies

Undergraduate degree programs are offered by the College of Arts and Sciences, School of Business Administration, School of Education, Evening College, and Barnes College of Nursing. Information on these programs can be found on the pages indicated.

Bachelor of Arts (B.A.)

anthropology, p. 109
art history, p. 118
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chemistry, p. 155
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psychology, p. 280
sociology, p. 295
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Bachelor of Fine Arts (B.F.A.)

p. 119

Bachelor of General Studies

(B.G.S.), p. 401

Bachelor of Music (B.M.)

music, p. 238
music education, p. 238

Bachelor of Science (B.S.)

applied mathematics, p. 225
biology, p. 132
chemistry, p. 156
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economics, p. 181
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mechanical engineering (joint program with Washington University), p. 459
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Bachelor of Science in Business Administration (B.S.B.A.), p. 330

Bachelor of Science in Education

B.S.Ed., p. 388
early childhood education, p. 388
elementary education, p. 388
physical education, p. 396
secondary education, p. 373
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Bachelor of Science in Nursing

(B.S.N.), p. 426

Bachelor of Science in Public Administration

B.S.P.A., p. 266

Bachelor of Social Work

B.S.W., p. 289

Graduate Studies

The Graduate School administers all degrees and certificates beyond the bachelor's degree in all divisions except the School of Optometry, which administers the professional program leading to the Doctor of Optometry degree.

From its beginnings, graduate education at UM-St. Louis has been guided by four broad purposes: development of excellence in scholarship; encouragement of creative productivity in research; fostering of the highest standards in professional competence and commitment; and development of skill in the communication of knowledge. Responsive to the unique and comprehensive demands of the St. Louis area, the University has moved rapidly in the development of specialized facilities, a distinguished and creative faculty, and appropriate graduate programs to achieve these objectives.

In most cases, master's degree programs can be completed through part-time study.

Information on graduate degrees offered at UM-St. Louis can be found on the following pages.

Degree Programs

Master of Accounting

M.Acc, p. 337

Master of Arts (M.A.)

criminology and criminal justice, p. 174

economics, p. 182

English, p. 192

history, p. 215

mathematics, p. 228

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psychology, p. 281

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Master of Fine Arts (M.F.A.)

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Master of Music Education (MME), p. 240

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Master of Education (M.Ed.), p. 340

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elementary education, p. 389

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special education, p. 364

Master of Public Policy Administration (MPPA), p. 407

Master of Science (M.S.)

biology, p. 135

chemistry, p. 158

gerontology, p. 412

management information systems, p. 337

physics, p. 258

physiological optics, p. 443

Master of Science in Nursing (M.S.N.), p. 427

Doctor of Education (Ed.D.), p. 358

Doctor of Optometry (O.D.), p. 442

Doctor of Philosophy (Ph.D.)

applied mathematics, p. 228

biology, p. 136

chemistry, p. 158

criminology and criminal justice, p. 174

nursing p. 427

physics (cooperative with UM-Rolla) p. 258

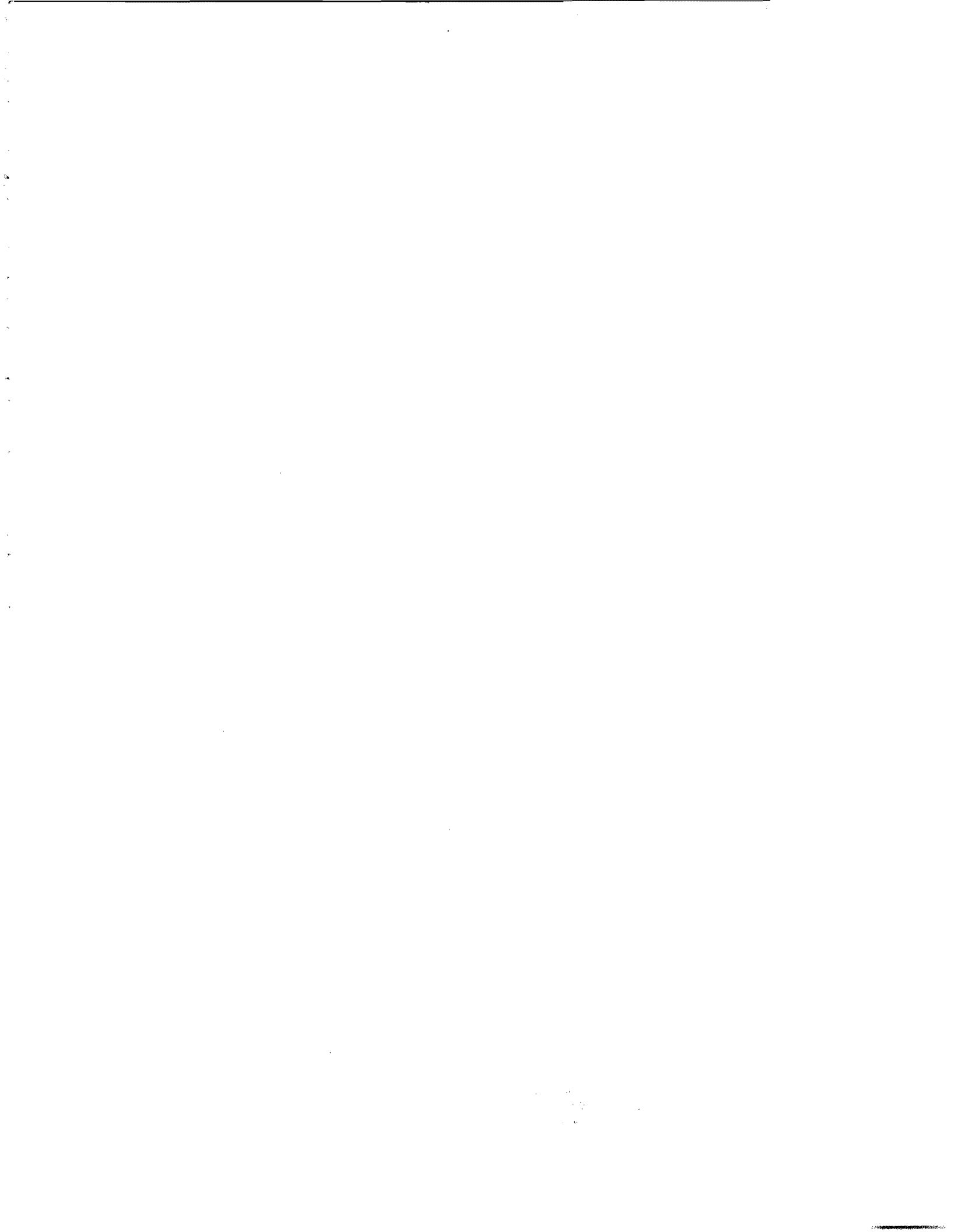
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COLLEGE OF ARTS AND SCIENCES

UM-St. Louis 1997-98 Bulletin



General Information

The College of Arts and Sciences consists of some 275 full-time faculty members in the following departments, each offering work in specific undergraduate degree programs: anthropology; art history and fine arts; biology; chemistry; communication; criminology and criminal justice; economics; English; foreign languages and literatures; history; mathematics and computer science; music; philosophy; physics and astronomy; political science; psychology; social work; and sociology.

Graduate study degree programs, administered through the Graduate School, are also offered in the following departments of the College of Arts and Sciences: biology, chemistry, criminology and criminal justice, economics, English, history, mathematics and computer science, physics and astronomy, political science, psychology, and sociology. An interdisciplinary master's degree in public policy administration is offered in cooperation with the School of Business Administration. Specific degree requirements for both undergraduate and graduate degree programs are described in the departmental sections which follow this general information on the College.

Requirements of the College of Arts and Sciences for Undergraduate Study

In addition to the University General Education requirements, all majors in the College of Arts and Sciences must meet the following requirements:

I Cultural Diversity Requirement

To expand cultural awareness, all students are required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or comparable cultures. Courses that satisfy this requirement involve substantial material independent of the cultures' interactions with European cultures. If a course focuses on one facet of a culture, it must treat the topic within the context of the culture as a whole. This requirement may be met by one of the following courses:

Anth 25, World Cultures
Anth 29, Cultural Diversity through Literature
Anth 33, World Prehistory
Anth 41, Sex and Gender Across Cultures
Anth 71, Native American Literature
Anth 110, Cultures of Asia
Anth 111, Cultures of East Asia
Anth 112, Cultures of Southeast Asia
Anth 113, Cultures of South Asia
Anth 114, Cultures of the Near and Middle East
Anth 120, Native Peoples of North America
Anth 121, Native Peoples of Eastern North America
Anth 122, Native Peoples of Western North America
Anth 124, Cultures of Africa
Anth 131, Archaeology of Missouri
Anth 132, Archaeology of North America
Anth 134, The Inca, Aztec, and Maya
Anth 136, Archeology of East Asia
Anth 140, Cultures of Mexico and Central America
Anth 145, Indians of South America

Anth 191, Special Topics in Non-Western Cultures
Anth 201, Comparative Economic Behavior
Anth 202, Culture, Politics, and Social Organization
Anth 225, Topics in Tribal Arts
Anth 235, Women in Subsaharan Africa: A Contemporary Perspective
Anth 273, Archeology and Cultures of the Biblical World
Anth 238, Culture and Business in East Asia
Art 8, Introduction to Asian Art
Art 15, Art of Africa, Oceania, and the Americas
Art 107, The Arts of China
Art 108, The Arts of Japan
Art 116, North American Indian Art
Art 117, African Art
Art 119, Pre-Columbian Art of Mexico and Central America
Art 208, Topics in Asian Art
Art 215, Topics in Tribal Arts
Art 217, Topics in African Art
English 71, Native American Literature
English 128, The Contemporary World in Literature
History 61, East Asian Civilization
History 62, East Asian Civilization
History 71, Latin American Civilization
History 72, Mexican Civilization
History 81, African Civilization To 1800
History 82, African Civilization Since 1800
History 83, The African Diaspora to 1800
History 84, The African Diaspora since 1800
History 201, History of Women in Comparative Cultures
History 252, The World of Islam
History 262, Modern History of the Pacific Rim
History 358, Central Asia, Nationalism and the Contemporary World
History 361, Modern Japan: 1850 to the Present
History 362, Modern China: 1800 to the Present
History 371, History of Latin America: To 1808
History 372, History of Latin America since 1808
History 380, West Africa to 1800
History 381, West Africa Since 1800
History 382, History of Southern Africa
History 385, African Diaspora to 1800
History 386, African Diaspora since 1800
Music 9, Non-Western Music I
Music 10, Non-Western Music II
Phil 120, Asian Philosophy
PolSci 155, East Asian Politics
PolSci 253, Political Systems of South America
PolSci 254, Political Systems of Mexico, Central America, and the Caribbean
PolSci 258, African Politics
PolSci 289, Middle Eastern Politics

II To graduate, **all** majors in the College also **must complete** the following:

- 1) the requirements of their chosen baccalaureate degree (i.e., B.A., B.S., B.M., etc.) in accordance with the policies of the College of Arts and Sciences, explained below.
- 2) the requirements of the department for their selected major or interdisciplinary program.

General Information

College of Arts and Sciences Academic Policies

Grade Requirements

To graduate, all majors in the College must satisfy **either** of the following **grade point options**:

- 1) Earn 120 graded hours with a C grade or better, which constitutes a complete degree program and does not include a satisfactory/unsatisfactory basis. A C- does not meet this requirement.
- 2) Earn a cumulative grade point average of 2.0 or better for all hours attempted with a minimum of 120 hours.

This College of Arts and Sciences policy supersedes the statement under General Education Requirements.

Residency Requirements

Unless otherwise specified, a transfer student must complete 12 hours of graded work at UM-St. Louis at the 100 level or above within the minimum number of hours required for each major.

A transfer student must complete six hours of graded work at UM-St. Louis at the 100 level or above within the minimum number of hours required for each minor.

Specific Baccalaureate Degree Requirements

Bachelor of Arts (B.A.) All B.A. degree candidates must successfully complete a curriculum which includes a departmental major or an approved interdisciplinary field. A major must include at least 30 credit hours, but no more than 45 hours.

Foreign Language Requirement Candidates for the B.A. degree are required to complete 13 credit hours or the equivalent in proficiency in one foreign language. Guidelines for students according to prior foreign language training are as follows:

- 1) Students entering with **no high school language units** must enroll in Language 1 or may enroll in the 115 series (see section 5).
- 2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption and/or credit by passing the department's placement exam. The specific dates for the exam are announced in the *Schedule of Courses* or may be obtained from the admissions office or the Department of Foreign Languages and Literatures.
- 3) **Native speakers** of language other than English may meet the foreign language requirement by presenting a transcript from a university or secondary school of their native country. The department will certify native speakers of those languages which are taught at the University. Those who are proficient in other languages must submit certification of competence to the College.
- 4) Language 115 a, b, c (Intensive) will satisfy the foreign language requirement.
- 5) Students may not repeat, for either credit or quality points, an elementary course if they have already

completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

Applied Music and Studio Art All students in the College may count any number of hours of applied music (private lessons) or studio art courses toward any degree in the College. This also includes transferred credit. However, students not majoring in music may count no more than eight hours in music-performing organizations (Music 40, 41, 50, 52, etc.) toward graduation, including credit transferred. Moreover, courses in studio art and applied music (private lessons or performing organizations) do not fulfill general education requirements in the humanities.

Bachelor of Science (B.S.) The College offers the B.S. degree in applied mathematics, biology, chemistry, computer science, criminology and criminal justice, economics, physics (with emphasis in applied physics, astrophysics, engineering physics or medical physics), and sociology. The requirements are generally the same as for the B.A. degree with the following exceptions:

- 1) More credit hours in the major discipline may be counted toward satisfying the 120 hours needed for graduation. See departmental degree requirements for information.
- 2) Not all departments require foreign language proficiency. See departmental degree requirements for information.

Bachelor of Science in Public Administration (B.S.P.A.) The B.S.P.A. degree program is administered through the political science department and offers an interdisciplinary approach requiring 12 hours in a particular specialization along with a core curriculum in political science.

Bachelor of Social Work (B.S.W.) The Department of Social Work offers the B.S.W. degree, stressing the scientific and applied aspects of social work.

Bachelor of Music (B.M.) The requirements are the same as for the B.A. degree with the addition of music education courses for those music majors seeking state teacher certification. Although a foreign language proficiency is not required, foreign language study is required for applied voice students.

Minors

A number of minors are available at UM-St. Louis. Some are offered by individual departments while others, such as Classical Studies and Black Studies, are interdisciplinary in nature and involve a number of departments. The requirements for the various minors are listed either in the departmental or interdisciplinary sections of this Bulletin.

Special Programs in the College of Arts and Sciences

Certificate Programs

Certificate programs are offered in Biochemistry, Biotechnology, Gerontology, Photographic Studies, Studies in Religions, Trauma Studies, Undergraduate

General Information

Certificate in Tropical and Conservation Biology, Undergraduate/Graduate Certificate Program in Non-Profit Organization Management and Leadership, Institute for Women's and Gender Studies, and Writing. For details, see Certificate Programs.

International Studies Certificate

In cooperation with College of Arts and Sciences, the Center for International Studies offers certificate programs in Africana, East Asian, European, Latin American, and International Studies. Also, the College cooperates with the School of Business Administration and the Center for International Studies in offering the International Business Certificate. For information on the certificates, see the Inter-School Studies section of this Bulletin.

Departmental Honors

Majors in the following departments may pursue Departmental Honors: biology, chemistry, economics, English, foreign languages and literatures, history, music, and political science.

Cooperative Education and Internship Programs

Cooperative Education and Internship Programs are available for students seeking career-related employment while enrolled in school. These programs afford Arts and Sciences students an opportunity to gain practical experience and earn a substantial income. Co-ops and internships are administered through the Career Placement Services Office, 308 Woods Hall.

College of Arts and Sciences Extension

Credit courses are offered at off-campus locations through the continuing education branch of the College of Arts and Sciences. These courses are open to UM-St. Louis students and qualify for regular academic credit toward degrees in the College. In addition, noncredit courses are offered in a range of disciplines within the College.

Anthropology

Faculty

Van A. Reidhead, Associate Professor*; Chairperson
Ph.D., Indiana University

Susan E. Brownell, Assistant Professor*
Ph.D., University of California-Santa Barbara

Sheilah Clarke-Ekong, Assistant Professor
Ph.D., University of California-Los Angeles

Mridula Durbin, Adjunct Associate Professor
Ph.D., SUNY-Buffalo

Margo-Lea Hurwicz, Associate Professor*
Ph.D., University of California-Los Angeles

Jian Leng, Director of Archaeology Laboratories
Ph.D., Washington University

Castle McLaughlin, Assistant Museum Professor
Ph.D., Columbia University

Charles Shannon, Lecturer
Ph.D., Sussex, England

John Wolford, Assistant Museum Professor
Ph.D., Indiana University

Patti Wright, Adjunct Instructor
A.B.D., Washington University

Pamela Ashmore, Adjunct Assistant Professor
Ph.D., Washington University

*members of Graduate Faculty

General Information

The aim of anthropology is to understand the cultural diversity of humans. For 100 years we have studied the cultures of the world, teaching people how to see themselves more clearly through those who are different from themselves and how to work with the underlying humanity that unifies all cultural differences.

Anthropology is the study of humans through all time and space. The discipline considers our struggle to adapt to and survive in the natural and social environments and to improve our lot in the face of perpetual change. Anthropologists teach how cultures evolve and the role of individuals and groups in the invention and perpetuation of cultural beliefs, behaviors, symbols, and systems. Anthropologists have accumulated in-depth knowledge of thousands of cultures and use this to understand better our own cultural beliefs, actions, and institutions, as well as those of people from other cultures. As the science of cultures, anthropology brings a powerful perspective to bear in understanding the emerging global order. Cross-cultural and evolutionary insights and knowledge help us envision how we can incorporate vast human diversity into a unified world order of peace, prosperity, justice, and opportunity.

The Department of Anthropology strives to teach and encourage the following:

- 1) the concepts and skills required for responsible individual participation in the evolution of culture in the family, the work place, the local community, the nation, and the globe;
- 2) mastery of the academic skills of theoretical conceptualization and critical evaluation, applied to multi-cultural contexts and understanding;

- 3) individual and community skills for material and emotional survival in the global high technology age;
- 4) development of ability to conduct independent investigations of social and cultural conditions, to draw conclusions, and to present findings and recommendations in a professional manner;
- 5) the use of academic and personal skills to make oneself valuable in diverse local, national and global employment settings;
- 6) growth, in the individual, of a rooted sense of place and meaning in relation to self, society, and humanity. The study of anthropology, in fact, provides a liberal education that is applicable to any work or life context.

Degrees and Areas of Concentration

A bachelor of arts in anthropology is offered with a focus on applied and theoretical skills. The anthropology faculty is actively involved in cultural, archaeological, folkloric, and biological anthropology research at home and abroad.

Cultural Anthropology: faculty are involved in research in St. Louis, Ghana, South Africa, China, Japan, India, Native American communities, and monasteries in the United States. They encompass studies of student success in inner city schools, health care choices of elder citizens, economic development, body culture, culture diversity principles, human-animal relations, educational anthropology, the evolution of consciousness, and more. With a large core of cultural anthropology faculty, opportunities abound for students to pursue diverse research experiences on a vast range of topics on human actions, beliefs and organization. Through its partnership with the School of Education, selected students are able to work with a team of Anthropology and Education faculty and students in the design and teaching of human origin and cultural diversity lessons for K-12th grade school children and their teachers.

Archaeology: faculty are involved in research in St. Louis, through the Fort Belle Fontaine Research Partnership, headed by UM-St. Louis. The Department of Anthropology has a summer field school where students learn excavation and artifact analysis techniques. Faculty and students are active in two research projects in the Yellow River Valley of China, where they are studying the origin of Chinese civilization and dynasties and study of Paleolithic cultures throughout China and Southeast Asia. Opportunities exist for field study in archaeology in virtually any area of the world. The Department has an archaeology lab with the largest extant collection of prehistoric and historic artifacts from the St. Louis metro area and surrounding Missouri counties.

Folklore: faculty are active in the study of the folklore of diverse communities in St. Louis and of religious communities. Interests include how communities express their beliefs about who they are, and the ways that peoples use space and time markers to create and express identity. Interested students can pursue a wide range of independent research and study options in urban folklore.

Biological Anthropology: faculty are active in the study of the behavior, ecology, and evolution of primates and of educational issues in the study of paleoanthropology (fossil record of human origins). Students have conducted

Anthropology

original research at the St. Louis Zoo and have designed experiential lessons on human origin, fossil classification, and the foundations of human diversity for school children.

Student Experience: a hallmark of the Department is the opportunity for students to work closely with faculty in designing their personal course of study and carrying out their own research projects in any of the above fields of study. Research results written by students have been presented at professional meetings, published, and presented to government and community agencies for use in planning and development. Students are encouraged to participate in the Department's network of internships, providing an opportunity to practice newly acquired skills. As a capstone experience, all students, under faculty supervision, complete a significant independent research project for Senior Seminar, culminating in written and oral reports to student colleagues and the faculty. The department encourages study abroad and in other regions of the U.S. and has scholarship funds to assist. There is an active Anthropology Club that sponsors an intercultural film series, speakers, and social activities.

Paid undergraduate positions are available on a competitive basis to Anthropology majors as 1) Human origins teaching lab assistants, 2) faculty research assistants, 3) human origin and cultural diversity lab teachers/facilitators working with school groups grades K-12, and 4) staff intern/assistant at the St. Louis Art Museum.

Minor in Anthropology

The minor in anthropology is designed to offer students a flexible introduction to the fundamentals of the discipline to complement their major field of study. A minor is advisable for anyone planning a career with intercultural or international dimensions, where knowledge of cultural systems, environments, values, and symbols is useful.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. Any foreign language may be used to meet the language requirement for the B.A. degree. Six hours of credit will be accepted for courses taken on a satisfactory/unsatisfactory (S/U) basis from any departmental elective. Anthropology 5, 11, 202, 301, 308, 315, and the statistics requirement cannot be taken on a S/U basis.

Degree Requirements

Bachelor of Arts in Anthropology Candidates must complete the following requirements:

Anthro 5, Human Origins
Anthro 11, Introduction to Cultural Anthropology
Anthro 202, Culture, Politics, and Social Organization
Sociology 220, Sociological Statistics, or any other college level statistics course
Anthro 301, Ideas and Explanations in Anthropology
Anthro 308, Practicum in Cultural Research Methods
Anthro 315, Senior Seminar

- 1 archaeology area course in Anthropology numbered 100-199.
- 1 culture area course in Anthropology numbered 100-199.
- 2 courses in Anthropology numbered 200-299, in addition to 202.

Students may elect to take up to, but not to exceed, 12 additional hours in anthropology courses of their choice.

After fulfilling the general education and specific major degree requirements, students are to take the remaining 57 hours required to complete the B.A. degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/ literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, interdisciplinary, and other areas or courses not listed, upon approval by the chair of anthropology.

Minor in Anthropology

All minor degree candidates must take:

Anthro 5, Human Origins
Anthro 11, Introduction to Cultural Anthropology

Candidates for the minor must also take:

Anthro 301, Ideas and Explanations in Anthropology or **Anthro 308**, Practicum in Cultural Research Methods

- 1 Anthropology course at the 100-199 level.
- 1 Anthropology course at the 200-299 level.
- 1 elective Anthropology course at any level.

Grades of C or better should be attained in all courses used to satisfy these requirements. One elective course taken on satisfactory/unsatisfactory (S/U) basis may be applied toward the minor.

Career Outlook

The B.A. in anthropology equips the student for employment in almost any area in which a bachelor's degree is sufficient and a sensitivity to cultural values and diversity are important. Graduates of UM-St. Louis' program have found employment as university professors, lawyers, in archaeology research programs, urban development, planning programs, health care delivery, human services, many areas of business, government service, teaching, computer systems design, university administration, and many other areas.

Anthropology is an excellent preparation for graduate and professional training in administration, the helping professions, development work, law, environmental studies, international and human resource areas of

Anthropology

business, and in many other areas, depending upon individual interests. Many UM-St. Louis anthropology graduates have gone on to advanced training in master's, doctoral, and professional programs in respected universities around the country. The employment forecast for people with M.A. and Ph.D. degrees in anthropology is good and is also good for bachelor degree graduates wishing to work in the business sector or to take advanced degrees in related fields. For more career information, contact the department at 516-6020 for an appointment to talk with an appropriate faculty member or to request an information packet.

Anthropology

Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 05, 05a, 11, 15, 19, 25, 29, 33, 41, 71, 109, 110, 111, 112, 113, 114, 120, 121, 122, 124, 126, 131, 132, 134, 135, 136, 140, 145, 191, 201, 202, 203, 204, 207, 208, 210, 212, 215, 220, 225, 232, 234, 235, 238, 240, 242, 244, 250, 273, 286, 291, 301, 308, 309, 310, 315, 350, 391.

05 Human Origins (4)

A survey of evidence and interpretations of how humans originated as a species and of the origins of physical and cultural differences. Examines evidence of fossil humans, the evolution of gender roles and relationships, the origin of racial, ethnic, and cultural differences, basic facts about race and the concepts of race that are in use today, the roles of genes, technology, and thought in the evolution of humans, and the origin of technology, culture, language, religion, etc. In addition to 3 hours of lecture, 1 hour per week is spent in lab classifying ancient human fossils, observing monkeys and apes at the zoo, and doing other projects.

05a Human Origins (3)

This course is the same as Anthro 05, minus laboratory activities. This course does not meet the requirements for the Anthropology major.

11 Introduction to Cultural Anthropology (3)

Cultural anthropology is the study of human beings as creatures and creators of society. This course is an introduction to that study which aims to demonstrate how the basic concepts and techniques developed by cultural anthropologists help us to understand societies of various degrees of complexity, including our own. We will consider topics such as language, kinship, gender, ethnicity, economics, politics, religion, and social change in a broad comparative framework. Major goals are an increased awareness of the social and cultural dimensions of human experience; the diversity and flexibility of human cultures; and processes of intercultural communication and conflict.

15 Introduction to Folklore (3)

Introduces the basic concepts of folklore. Examines the connections between folklore as a discipline and anthropology as a discipline. Examines specific folk cultures both in Western societies and in non-Western societies. Emphasizes the view of folk culture as a dynamic part of modern as well as historical societies, with a constant focus on the human element—that comprises the very heart and soul of culture.

19 Archaeology (3)

How do archaeologists determine how old things are and which ancient culture they belong to? How do they reconstruct the religious meanings, economies, and politics of ancient civilizations and cultures? What can the study of the past teach us about life today, how our own culture changes, and how cultures diversify to form new cultures and consolidate to form nations? Using cases from ancient cultures around the world, this course will answer these and many other questions about the study of archaeology. This course is a basic introduction to archaeology as an interpretive discipline.

25 World Cultures (3)

An ethnographic survey of the major culture areas of the world (Africa, Asia, North and South America, Europe, and Oceania). This course satisfies the Cultural Diversity requirement.

29 Cultural Diversity Through Literature (3)

This course emphasizes the application of anthropological concepts to literary works to gain greater understanding of the richness and the relative validity of the expressions of people from a wide variety of geographical, ethnic, religious, and cultural backgrounds. Both male and female writers will be covered, and both male and female-oriented works will be read. Authors representing Africa, South America, and Asia will be represented, as well as a broad range of ethnic groups within the United States, such as Hispanics, African American, Asian Americans, and Native Americans. This course satisfies the Cultural Diversity requirement.

33 World Prehistory (3)

An introduction to the prehistoric cultures of Asia, Africa, Europe, and the Americas from the Paleolithic Age to the establishment of civilization. Examines the rise of complex societies leading to civilization in the different areas of the world, concentrating on social and ecological conditions contributing to their development and on comparisons between civilizations. This course satisfies the Cultural Diversity requirement.

41 Sex and Gender Across Cultures (3)

This course considers womanhood, manhood, third genders, and sexuality in a broad cross-cultural perspective. The focus of the course is on the diverse cultural logics that separate females, males and sometimes third genders into different groups in different societies, with the male group usually being the more prestigious one. Focusing on indigenous non-Western cultures, this course examines gender roles and sexuality within the broader cultural contexts of ritual and symbolism, family, marriage and kinship, economy, politics, and public life. This course will help students understand what it is like to be male or female in non-Western cultures. This course fulfills the Cultural Diversity Requirement.

71 Native American Literature (3)

(Same as English 71.) The course surveys the literature of American Indians from its oral tradition of myth, legend, song, and oratory through its modern forms. The course satisfies the ethnic literature requirement for Missouri state certification in Secondary Education and the College of Arts and Sciences Cultural Diversity requirement.

109 Field Study in Archaeology (3-6)

Prerequisite: Consent of instructor. This course is designed to introduce students to field methods in archaeology and to the methods of recording, storing, analyzing, and reporting archaeological findings. Experience is gained through participation in a field research project including excavation and survey projects. Emphasis is placed upon research design and implementation and upon the use of archaeological data in describing and explaining human behavior.

Anthropology

110 Cultures of Asia (3)

A survey of the cultures of Asia including the prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of these groups. This course satisfies the Cultural Diversity requirement.

111 Cultures of East Asia (3)

An ethnographic and historical survey of the various people of East Asia including Japan, China, North and South Korea, Hong Kong, and Macau. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments. This course satisfies the Cultural Diversity requirement.

112 Cultures of Southeast Asia (3)

An ethnographic and historical survey of the various people of Southeast Asia including Laos, Cambodia, Singapore, Indonesia, Myanmar, Malaysia, Brunei, Thailand, Vietnam, and the Philippines. Includes an examination of the varying cultural and social developments within and through the historical geographical, and cultural environments. This course satisfies the Cultural Diversity requirement.

113 Cultures of South Asia (3)

An ethnographic and historical survey of the various people of South Asia including India, Pakistan, Afghanistan, Bangladesh, Sri Lanka, Tibet, and Nepal. Includes an examination of the varying cultural and social developments within and through the historical, geographical, and cultural environments. This course satisfies the Cultural Diversity requirement.

114 Cultures of the Near and Middle East (3)

A study of the cultural diversity and unity of the peoples of the Near and Middle East. Emphasis on historical and ethnological relationships, social and political structure, religious beliefs, and contemporary problems. This course satisfies the Cultural Diversity requirement.

120 Native Peoples of North America (3)

A survey of the aboriginal cultures of Native Peoples of North America, including prehistory of the area, the ethnographic and linguistic groupings, and the social organization and cultural systems of North American groups. This course satisfies the Cultural Diversity requirement.

121 Native Peoples of Eastern North America (3)

An introduction to the native peoples of Eastern North America, including the Midwest, Great Lakes, Southeast, northeast, and Subarctic. The diversity and complexity of cultures in these regions will be demonstrated. Prehistory, history, ethnography, linguistics, art, and literature will be among the topics discussed. This course satisfies the Cultural Diversity requirement.

122 Native Peoples of Western North America (3)

An introduction to the native peoples of Western North America, including those of the Arctic, Subarctic, Pacific Coast, Southwest, and Plains. The diversity and complexity of cultures in these regions will be demonstrated. Prehistory, history, ethnography, linguistics, art, and literature will be among the topics discussed. This course satisfies the non-Euro-American requirement.

124 Cultures of Africa (3)

A basic ethnographic survey of African cultures, with attention to social groupings, tribalism, religion, language and social change, and the ecological relationship between humans and nature. This course satisfies the Cultural Diversity requirement.

126 Archaeology of Historic St. Louis (3)

Native Americans, Frenchmen, and other Europeans shaped the history of St. Louis from prehistoric times through the Industrial Revolution to the present. The record of this long series of events remains buried beneath city streets and buildings. This class will utilize historic documents, archaeological reports, cultural geography, history, and historic archaeology to explore the archaeology of St. Louis.

131 Archaeology of Missouri (3)

An introduction to the prehistoric Indian cultures of Missouri and adjacent areas from 20,000 B to the coming of Europeans. Examines the development of prehistoric cultures in Missouri from small bands of hunters to agricultural city builders. Discusses the decline of indigenous cultures as they came into contact with European civilization. This course satisfies the Cultural Diversity requirement.

132 Archaeology of North America (3)

In this course, the archaeological record of cultural development throughout prehistoric North America is examined. Topics of discussion include the origins of human culture in North America, the process of prehistoric cultural development in the different regions of the continent, and archaeological approaches to explaining the behavior of North America's prehistoric inhabitants. This course satisfies the Cultural Diversity requirement.

134 The Inca, Aztec, and Maya (3)

A survey of the cultural evolution of Meso-America and Andean South America, from the early hunters to the high civilizations. The course will conclude with the sixteenth-century Spanish conquest of these civilizations. Satisfies the Cultural Diversity requirement.

135 Old World Archaeology (3)

Examines the origins, major transformations, and cultural systems in the rise and decline of the civilizations of prehistoric and early historic Africa, Asia, and Europe.

136 Archaeology of East Asia (3)

An introduction to the development of cultures in China, Japan, and Korea from the most ancient origin of humans in the region to the rise of early Chinese Dynastic states. Examines discoveries from archaeological excavations, emphasizing China. This course satisfies the Cultural Diversity requirement.

140 Cultures of Mexico and Central America (3)

A survey of Indian cultures in Mexico and Central America. The course focuses on modern communities after a brief introduction to the European conquest and colonialism as they affected the Indian communities. Topics include preservation of Indian culture in Hispanic world, impact of modernization and tropical deforestation, Indians as an

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oppressed minority, Indian ethnic identity, "liberation theology". This course satisfies the Cultural Diversity requirement.

145 Indians of South America (3)

Explores the cultures and environmental adaptations of South American Indians from European contact to the present. Focus is on culture change and diversity, and on the consequences for tribal peoples and their environments of conflict between their world views, political motivations, and economic policies and those of multinational corporations and of nation states like Brazil, Peru, and the United States. This course satisfies the Cultural Diversity requirement.

191 Special Topics in Non-Western Cultures (3)

This course focuses on a specific non-western culture, or geographically related groups of cultures. Ethnographic and/or archaeological cultures are chosen and their ecological, economic, social, religious, cosmological, political, ethnic, linguistic and other cultural domains are examined. Students are exposed to basic concepts and knowledge for understanding diverse cultures in their historical and/or contemporary contexts of development and relationship. Topics will vary. This course satisfies the Cultural Diversity requirement.

201 Comparative Economic Behavior (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An introduction to the range of economic organizations found in the world. Anthropological models of production and exchange. The notion of "rationality" as applied to non-Western economic systems. The contribution of anthropology to the understanding of economic development. Emphasis is placed on native and non-Western cultures. This course satisfies the Cultural Diversity requirement.

202 Culture, Politics, and Social Organization (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. A survey of political organizations and processes with emphasis on native and non-Western cultures. Included are topics such as strategies for obtaining and maintaining power, ethnicity, tribalism, and the relationship of ideology to politics. This course satisfies the Cultural Diversity requirement.

203 Culture and Cognition (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An introduction to psychological anthropology focusing on cultural influences on cognition and perception. Theories of "primitive mind" will be reviewed in historical perspective, and cross-cultural research in perception, learning, and cognition considered. Recent studies of sociocultural systems and cognitive styles will be examined and their implications for education explored.

204 Culture and Personality (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. Analysis of behavior from the standpoint of interaction between psychological, sociological, and cultural systems.

207 Culture Change (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An intensive investigation into the elements and processes of culture change with regard to specific theories of culture change. The course examines the relationship between microchange in primitive and modern complex societies.

208 Language and Culture (3)

Prerequisite: Anthro 11, or introductory course in the social sciences, or consent of instructor. This course examines the place of language in culture. It will consider the relationships between language, gender, class, ethnicity, and other social categories. It will also utilize the approaches of anthropological linguistics, sociolinguistics, and semiotics for an understanding of the encoding and communication of meaning.

210 Applied Anthropology (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. A description and analysis of the methods, principles, and use of anthropology in solution of problems associated with the changing conditions of our times. The course will examine a wide variety of cross-cultural case studies.

212 Medical Anthropology (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An examination of the growing interaction between anthropology and medicine, and the increasing use of anthropologists in medical and health-care settings. In addition to teaching current theory in medical anthropology, the course focuses on anthropologically based skills essential to those working in health-related fields.

215 Growing Old in Other Cultures (3)

(Same as Gerontology 215.) This course examines the wide-ranging variability in the roles of older people across different cultures and the effects these have on older people, their families, and their societies.

220 Evolution of Culture and Communication (3)

Prerequisite: Anthro 5 or 11, or introductory course in another social science, or consent of instructor. Examines the uniformity of communication processes in the evolution of culture from prehuman primates through human prehistory to the present. A theoretical course rooted in cases from specific primate groups and human cultures.

225 Topics in Tribal Arts (3)

(Same as Art History 215) Prerequisite: One of the following: Art 15, 116, 117, 119 or consent of the instructor. Intensive study of the arts of several tribal groups. Inquiry into relationships between art and culture by means of an examination of myth, literature, festival and social life. Seminar format. May be repeated for credit with permission of adviser. This course fulfills the cultural diversity requirement.

232 Introduction to Historic Archaeology (3)

Explores the growing field of historic archaeology. Four basic topics will be discussed: (1) how historic archaeology developed as a subfield of Anthropology; (2) specialized

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historic sites; (3) analysis of historic materials and how this information is used to determine the date of occupation, social status, economic behavior, social ideas, etc.; and (4) current theories in historic archaeology and how these are used to understand past human behavior.

234 Cultural Continuity and Change in Sub-Saharan Africa (3)

Prerequisite: Anthro 11 or intro course in another social science or consent of instructor. This course is intended to examine cultural phenomena within Africa from the 19th century to the present. Our goal will be to reach an understanding of continuities and change in the existing universal social institutions. A thematic approach will include discussions on kinship; geo-politics; natural and supernatural forces; gender relations; economics in the world economy; and prospects for the future. Ethnographic and other supporting social scientific resources gathered from African people will be investigated. Problems and accomplishments are both reviewed so as to acknowledge the complexity of contemporary African societies. Student discussion is encouraged.

235 Women in Subsaharan Africa: A Contemporary Perspective (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of the instructor. Examines important traditional concerns of anthropologists such as the nature of kinship obligation and privilege; gender as a basis for the division of labor; social organization for formal and informal networks; and ritual and ceremony. In addition we look closely at the changing role of African women, as related by African women testing the very limits of what is "socially and culturally acceptable". The roles women continue to play in politics, comprehensive development (i.e. cultural and economic) and evolving social structures are reviewed to gain an understanding of the historical and contemporary mandates for their social action. This course fulfills the Cultural Diversity requirement.

238 Culture and Business in East Asia (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of the instructor. This course looks at the influence of local history and culture on the course of economic development in Mainland China, Taiwan, Hong Kong, Japan and North and South Korea. This course will consider how East Asia has departed from the Western model of modernization and will look at the clash of cultures as Western corporations try to do business in East Asia. The course will analyze the role of family, kinship, and social hierarchy in shaping East Asian business practices. The largest part of the course will be devoted to Mainland China. This course fulfills the Cultural Diversity Requirement.

242 The Culture of Cities (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. A comparative analysis of the cultural roles of urban centers and the processes of urbanization in non-Western and Western societies, past and present. A consideration of urban influences on rural America and the traditional peasant and primitive peoples of Africa, Asia, and Latin America.

244 Religion, Magic, and Science (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of the instructor. A consideration of the roles of religion, magic, and science in culture and social organization.

250 American Folklore (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of the instructor. Focuses on United States society from humanistic and cultural viewpoints. Operates under the basic definition of folklore as "artistic communication in small groups," and thus embraces the idea of folklore as an ongoing creative process combining the conservative elements of tradition with the dynamic aspects of cultural creation. Comparing United States folklore with that from the borderlands of Canada and Latin America, the course will use fieldwork and concepts in folkloristics to focus on folklore genres (such as narratives, arts, crafts, architecture, oral history, and others) and folk groups (such as ethnic populations, age groups, gender groups, occupations, college students, and others).

273 Archaeology and Cultures of the Biblical World (3)

A survey of the cultures of the Old Testament World with attention to their evolution, internal and external relationships, as well as their diverse religious, social, economic, and political institutions. Teaches skills in evaluating popular vs. scientific and historical evidence of Biblical events. This course fulfills the Cultural Diversity requirement.

286 Society, Arts, and Popular Culture (3)

(Same as Sociology 286.) Prerequisite: Sociology 10 or Anthro 11. The relationship of artists, writers, and musicians; their traditions and modes of artistic expression to variant social structures and institutions; and social pressures and rewards.

291 Current Issues in Anthropology (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated provided topic is different.

301 Ideas and Explanations in Anthropology (3)

Prerequisite: Anthro 11 or consent of instructor. Major developments in anthropological explanations of social and cultural behavior through intensive reading and discussion of source materials.

308 Practicum in Cultural Research Methods (4)

Prerequisites: One course in statistics and Anthro 11, or consent of instructor. (With computer laboratory.) Emphasizes hands-on training in techniques for both the collection and analysis of ethnographic data, including participant observation, selection of ethnographic informants, key informant interviewing, and more systematic methods such as survey research. The use of computer programs for the development of protocols to collect, analyze, and display data will be covered in lab.

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309 Field Study in Archaeology (3-6)

Prerequisite: Consent of instructor. This course is for advanced students. It is designed to introduce students to advanced methods in field archaeology and laboratory analysis. Emphasis is placed on sampling, the use of theory in guiding field and laboratory work, advanced field techniques, and specialty analysis. Opportunities are provided for the development of field and laboratory leadership skills. Independent research is encouraged.

310 Laboratory Methods in Archaeology (3)

Prerequisite: Anthro 109, or 309, or consent of instructor. This is a course in basic laboratory analysis and curation methods. The emphases are (1) mastery of general lab methods and procedures, and (2) development of independent analysis skills in one or more specialty areas such as lithics, ceramics, graphics, paleobotany, experimental analysis, and soils. Purchase of individual supplies not to exceed \$10.

315 Senior Seminar in Anthropology (3)

Prerequisite: Senior standing or the consent of the instructor. Required of anthropology majors. Discussion of critical issues; preparation of senior paper; presentation of selected papers by students.

325 Internship in Cultural Anthropology (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Cultural Anthropology internships are aimed at providing students with opportunities to learn to apply their knowledge of social and cultural process and diversity to practical situations in the market place of ideas, goods, and services. Specific placements will be selected to match a student's interests and career goals.

326 Internship in Archaeology (1-6)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. Internships will consist of a period of study, observation, and training in an appropriate public or private institution, business, or government office. Archaeology internships are aimed at providing students with opportunities to work with professional archaeologists in public and private research environments including laboratories and curation centers. Specific placements will be selected to match a student's interests and career goals.

327 Internship in Folklore (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. Internships will consist of a period of study, observation, and training in an appropriate public or private institution. Folklore internships are aimed at providing students with opportunities to work with professional folklorists and anthropologists in an applied setting. Further, it allows a student to devote an entire semester to produce a viable urban fieldwork report. Specific placements will be selected to match a student's interests and career goals.

328 Internship in Museum Studies (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. Internships will consist of a period of study, observation, and training in an appropriate museum or other exhibition oriented institution. Museum internships are aimed at providing students with opportunities to work with professional museologists to learn skills relating to areas such as exhibition, curation, public programming, research, and publication. Specific placements will be selected to match student's interests and career goals.

329 Internship in Physical Anthropology (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. Internships will consist of a period of study, observation, and training in an appropriate institution, lab or research setting related to forensics, primate behavior and biology, human genetics, population, environmental policy, and other domains related to physical anthropology.

350 Special Study (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, or field research. No student may take more than a cumulative total of 6 hours of Special Study.

391 Current Issues in Anthropology (1-4)

Prerequisite: Anthropology 11 or consent of instructor. Selected topics in social, cultural, and physical anthropology, with emphasis on current issues and trends in the field of anthropology. May be repeated. (Non-majors may register in Anthropology 191.)

425 Peoples and Cultures of Southeast Asia (3)

An analysis of the cultures of peninsular and insular Southeast Asia. Topics include, but are not limited to, prehistory, tribal groups, cultural systems, political organizations, religious traditions, refugee movements, the culture of conflict, and modernization.

430 Global Refugee Crisis (3)

A study of both the theory and methods in attempts to understand the issues confronting displaced peoples, their hosts, and the international community. Includes an analysis of the problems and reasons for refugee situations around the world in such regions as Southeast Asia, Africa, the Middle East, Europe, and Central America. Varying perspectives including those of academics, refugees, agency personnel, and government representatives are surveyed.

440 Cultural Aspects of Aging (3)

(Same as Gerontology 440.) Focuses on the variety of solutions encountered in different sociocultural contexts for dealing with the problems, challenges and opportunities of growing old. It is organized around topics that are of concern to both anthropology and social gerontology: The status of the aged, intergenerational relations, aging in modernizing societies, ethnic dimensions of aging in complex societies, health in later life, death and dying. Both in-depth case studies and cross-cultural comparisons are examined in an effort to arrive at a culturally informed assessment of factors affecting aging and the aged in the United States.

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480 Culture, Crime, and Criminal Justice (3)

This seminar will examine: (1) the nature and conduct of ethnographic research; and (2) how ethnographic approaches have been and can be used to understand the criminal justice system and its institutions. Readings will be drawn from anthropological and other social science materials on ethnographic methods as well as selected (post-1960s) monographs and articles illustrating the use of such approaches in criminal justice settings.

491 Gender, Ethnicity, and Nationalism (3)

This course considers contemporary theories and case studies on the cultural construction of collective identity and difference, concentrating on the issues of gender, ethnicity, and nationalism. Of particular concern is the relationship between culturally constructed social groups (divided by gender, race, or nationality) and the distribution of power. Case studies are selected from both North American and world cultures.

Art & Art History

Faculty

Ruth L. Bohan, Associate Professor*, Chairperson
Ph.D., University of Maryland

Janet C. Berlo, Professor*
Ph.D., Yale University

Tom Patton, Professor*
M.F.A., University of New Mexico, Albuquerque

Kenneth Anderson, Professor*
M.F.A., Southern Illinois University, Edwardsville

Yael Even, Associate Professor*
Ph.D., Columbia University

Paul Corby Finney, Associate Professor*
Ph.D., Harvard University

W. Jackson Rushing III, Associate Professor*
Ph.D., University of Texas

Jeanne Morgan Zarucchi, Associate Professor*
Ph.D., Harvard University

Judith W. Mann, Museum Assistant Professor*
Ph.D., Washington University

Terry L. Suhre, Assistant Professor, Gallery Director*
M.F.A., Southern Illinois University, Carbondale

Dan Younger, Assistant Professor, B.F.A. Coordinator
M.F.A., University of Iowa

Juliana Y. Yuan, Lecturer/Slide Curator
M.A., University of Kansas

*members of Graduate Faculty

The department of art and art history represents a diverse faculty actively engaged in the production of art and in its historical and critical evaluation. The department prides itself on its commitments to high standards of teaching and sound research achievements. Individual faculty have been cited for their teaching excellence. Art history faculty have authored books, articles and critical reviews and regularly participate in national and international conferences. For their research art history faculty have received research grants from such major institutions as the J. Paul Getty Foundation, the National Endowment for the Humanities, the Andrew W. Mellon Foundation and the American Philosophical Society. Studio art faculty exhibit nationally and internationally in group- and solo-juried and invited exhibitions. Their work has been accorded various show awards and received financial support from the National Endowment for the Arts, the Ford Foundation and University Research grants.

General Information

Degrees and Areas of Concentration

The department offers course work leading toward the B.A. in art history and the B.F.A. in studio art.

Courses included in the B.A. in art history cover the arts of Asia, Africa, Europe and North America, including Native American arts, from ancient times to the present. Courses examine the entire range of human visual expression from painting, sculpture, architecture and photography to performance and festival arts in the tribal world. In each case the arts are examined within their historical, aesthetic and cultural contexts.

The B.F.A. in studio art is offered in partnership with the Saint Louis Community College. The degree consists of a Foundation Art Program and an Emphasis Area in one of the following: Drawing, Graphic Design, Painting, Photography, Printmaking and General Fine Arts. Students will generally complete the Associate of Fine Arts degree in Studio Art (A.F.A.) at one of the Saint Louis Community Colleges before transferring to UM-St. Louis to complete the upper division courses leading to the Bachelor of Fine Arts degree in Studio Art (B.F.A.).

To support its teaching and research objectives, the department maintains a slide collection of over 80,000 slides. The collection, which includes examples of painting, sculpture, architecture, photography and decorative arts, is under the supervision of a professional slide curator, who is available for special assistance to staff and students.

Gallery 210

Gallery 210 offers visual arts programming of regional, national and international importance that would otherwise not be shown in St. Louis. The gallery's exhibitions and related arts programming have enjoyed a long and distinguished history of service to the University and to the St. Louis community. Gallery activities are supervised by a professional Gallery Director.

Scholarships/Internships

Two scholarships are available on a competitive basis within the department: the Art Department/Barbara St. Cyr Scholarship and the William T. Isbell, Jr., Scholarship. The department also sponsors a variety of internships with local arts institutions, including the Saint Louis Art Museum, the Missouri Historical Society, Laumeier Sculpture Park and various private art galleries.

Undergraduate Studies

General Education Requirements

Majors in art history must meet the College and University general education requirements. A foreign language is required. French or German is recommended. Art history courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis. All art history courses fulfill the humanities general education requirement. The following art history courses meet the Cultural Diversity Requirement:

008, Introduction to Asian Art
015, Art of Africa, Oceania, and the Americas
107, The Arts of China
108, The Arts of Japan
116, North American Indian Art
117, African Art
119, Pre-Columbian Art of Mexico and Central America
208, Topics in Asian Art
215, Topics in Tribal Arts

Art history courses can be applied toward minors in Anthropology, American Studies, Black Studies, Classical Studies, Philosophy and Urban Studies, or certificates in Studies in Religions, Institute for Women's and Gender Studies, and Photographic Studies.

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Majors in studio art must meet the College and University general education requirements. A foreign language is not required. Studio art courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis. A total of 123 hours is required for graduation. Studio art courses do not fulfill the humanities general education requirement.

Degree Requirements

Bachelor of Arts in Art History

Art history majors must complete a minimum of 36, but no more than 45 hours in art history. The following courses are required:

- 5, Introduction to Art
- 195, Sophomore/Junior Seminar: The Methods of Art History
- 203, Media and Technique in Art History
- 395, Senior Art History Seminar

Students must take three lower division courses from three of the following four categories:

Ancient and Medieval

- 111, Art and Archaeology of the Ancient World
- 112, Greek Art and Archaeology
- 113, Roman Art and Archaeology
- 114, Early Christian Art
- 125, Medieval Art

Renaissance and Baroque

- 135, European Art & Architecture 1300-1800
- 137, Early Renaissance Art & Architecture
- 138, High Renaissance Art & Mannerism
- 145, Baroque Art

Modern and American

- 155, Modern Art
- 158, American Art
- 159, American Architecture
- 191, Art Since 1945

Non-European

- 08, Survey of Asian Art
- 15, Art of Africa, Oceania, and the Americas
- 107, Chinese Art
- 108, Japanese Art
- 116, North American Indian Art
- 117, African Art
- 119, Pre-Columbian Art

Students must take four 200-level courses. Two of these courses must be chosen from two of the following four categories:

Ancient and Medieval

- 212, Topics in Ancient Art
- 225, Topics in Medieval Art

Renaissance and Baroque

- 235, Topics in Renaissance Art
- 245, Topics in Baroque Art

Modern and American

- 255, Topics in Modern European Art
- 258, Topics in American Art
- 263, Photography Since 1945
- 291, Topics in Contemporary Art

Non-European

- 208, Topics in Asian Art
- 215, Topics in Tribal Art

The remaining two 200-level courses should be chosen from the following list:

- 205, Advanced Issues and Ideas in Art History
- 274, Philosophy of Art
- 275, The Art of the Print
- 276, Women and the Visual Arts
- 285, Topics in Architectural History
- 294, Art Criticism
- 295, The Artist and the City
- 296, The Nude in Art
- 297, Landscape Perspectives in Art
- 298, The Portrait in Historical and Cross-Cultural Contexts

Students must also take one course in studio art beyond Art 203. Up to nine hours in studio art may be applied toward the B.A. in art history. Art 134, Art Activities for Elementary Schools does not fulfill this requirement.

To complete the 36-45 hours for the degree, art history majors may take additional courses from those previously noted or any of the following:

- 65, Photography and Society
- 105, Issues and Ideas in Art History
- 165, History of Photography
- 179, Special Topics in Art History
- 265, Topics in Photographic Studies
- 287, Professional Internship
- 288, UM-St. Louis-Saint Louis Art Museum Internship
- 289, Visual Resource Management
- 290/390, Special Study
- 292, Museum Studies
- 293, Art Gallery Management

Note: Art history majors who began in the program before 1991 have their choice of completing the major under the old requirements or the new. Consult with your adviser for details.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the Art History degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/ computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

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Bachelor of Fine Arts in Studio Art

Candidates for the B.F.A. degree must complete a Foundation Art Program (which is largely satisfied by the A.F.A. degree) and an emphasis area in one of the following: Drawing, Graphic Design, Painting, Photography, Printmaking or General Fine Arts. Studio art majors are required to take 75 hours in Studio Art (this includes 30 hours in the Foundation Art Program) and 15 hours in Art History. Art 134, Art Activities for Elementary Schools cannot be applied toward this degree. The final 24 hours must be completed in residence at UM-St. Louis. Graduating students must also pass a faculty portfolio review.

The following courses are required for the Foundation Art Program:

- 40, Drawing I
- 42, Figure Drawing I
- 50, Design I
- 140, Drawing II
- 150, Design II
- 240, Drawing III or
- 142, Figure Drawing II*
- 250, Composition

9 hours of Studio Art Electives

*Those planning an emphasis in drawing or painting must take Art 142.

Students must complete 45 hours in **one** of the following emphasis areas:

Drawing

- 240, Drawing III
- 242, Figure Drawing III
- 340, Drawing IV
- 342, Figure Drawing IV
- 350, Design III
- 387, Advanced Problems in Drawing I
- 388, Advanced Problems in Drawing II
- 396, Senior Studio Seminar (6 hours)
- 6 hours of Painting or Printmaking
- 12 hours of Studio Art Electives

Graphic Design

- 210, Graphic Design I
- 211, Graphic Design II
- 220, Computer Art I
- 221, Computer Art II
- 310, Graphic Design III
- 311, Graphic Design IV
- 340, Drawing IV or
- 342, Figure Drawing IV
- 350, Design III
- 383, Advanced Problems in Graphic Design I
- 384, Advanced Problems in Graphic Design II
- 396, Senior Studio Seminar (6 hours)
- 9 hours of Studio Art Electives

Painting

- 180, Painting I
- 280, Painting II
- 350, Design III
- 380, Painting III

- 381, Painting IV
- 385, Advanced Problems in Painting I
- 386, Advanced Problems in Painting II
- 396, Senior Studio Seminar (6 hours)
- 6 hours from the following list:
- 240, Drawing I
- 242, Figure Drawing III
- 340, Drawing IV
- 342, Figure Drawing IV
- 12 hours of Studio Art Electives

Photography

- 260, Digital Photography II
- 261, Color Photography I
- 262, Non-Silver Photography
- 264, Video Art I
- 350, Design III
- 360, Photography III
- 361, Color Photography II
- 391, Advanced Problems in Photography I
- 392, Advanced Problems in Photography II
- 396, Senior Studio Seminar (6 hours)
- 12 hours of Studio Art Electives

Printmaking

- 270, Printmaking I
- 271, Printmaking II
- 340, Drawing IV
- 342, Figure Drawing IV
- 350, Design III
- 370, Printmaking and Relief
- 393, Advanced Problems in Printmaking I
- 394, Advanced Problems in Printmaking II
- 396, Senior Studio Seminar (6 hours)
- 6 hours from the following list:
- 272, Printmaking: Lithography I
- 273, Printmaking: Screenprinting I
- 277, Printmaking: Photolithography
- 372, Advanced Lithography
- 9 hours of Studio Art Electives, including one course in photography

General Fine Arts

24 hours must be taken at the 200 level or above.

The following courses are required:

- 350, Design III
- 396, Senior Studio Seminar (6 hours)
- 12 hours of Studio Art electives

Students must complete 15 hours of Art History, with at least 9 hours taken in residence at UM-St. Louis.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the Studio Art degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/ computer science, music

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(appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Minors

Minor in Art History A minor in art history requires the completion of a program of courses, at least 15 hours and normally not more than 18, with a grade point average of 2.0 or better. This program can consist of an historical survey of the basic periods in world Art History. Alternatively, it can be a group of courses which are coherent in theme, methodology, or art-historical scope, which has been specified in advance with an adviser from the art department, and which has the approval of the department chairperson.

Minor in Studio Art Students who wish to minor in studio art must take a minimum of 18 hours with a grade point average of 2.0 or better. The requirements for the minor are as follows:

40, Drawing I
140, Drawing II
50, Design I

and two consecutive courses (six hours) in any single area to be selected from the following (students should be aware that courses are not always available in all areas):

Painting
Printmaking (any one subfield)
Photography
Graphic Design
Advanced Drawing

plus a studio art elective: one three-hour course.

Photographic Studies Certificate

UM-St. Louis students, graduates, and postbaccalaureate candidates may obtain a certificate in photographic studies by coordinating courses in and related to photography.

To be eligible for the certificate, undergraduates must complete a degree in a chosen major field. A faculty member of the Interdisciplinary Photographic Studies Committee will act as adviser to all students and will consult with the faculty adviser in the student's major to plan appropriate credits.

The Photographic Studies Certificate is the only such program in the country and should be of special interest to those considering a career in the arts, communications, history, science, business, advertising, or in photography itself. The program should also interest professional photographers, teachers, interested lay people, and graduates who are returning to school. This certificate is designed for all who have an intense interest in the myriad aesthetic and practical aspects of the medium.

Requirements

The following courses are required:

Art 60, Photography I
Art 160, Photography II
Art 165, History of Photography, or **History 168**, Photohistory
Interdisciplinary 65/Art 65, Photography and Society
Art 360, Photography III, or **Interdisciplinary 390**, Independent Studies in Photographic Studies

Students must also take at least one three-hour course selected from the following departmental offerings: (New courses will be reviewed periodically for inclusion.)

Art 5, Introduction to Art
Art 161, Introduction to Digital Photography
Art 261, Color Photography I
Art 262, Non-Silver Photography
Art 263, Photography Since 1945
Art 264, Video Art I
Art 274/Philosophy 274, Philosophy of Art
Art 277, Printmaking: Photolithography
Art 360, Photography III
Art 361, Color Photography II
Art 364, Video Art II
Art 390, Special Studies
Art 391, Advanced Problems in Photography I
Art 392, Advanced Problems in Photography II
Biology 360, Techniques in Electron Microscopy
Comm 50, Introduction to Mass Media
Comm 70, Introduction to Cinema
Comm 210, Television Production
English 214/Comm 214, News Writing
English 215, Feature Writing
History 168, Photohistory
Interdisciplinary 40, The Black World
Interdisciplinary 365, Seminar in Photographic Studies
Interdisciplinary 390, Independent Studies in Photographic Studies
Psych 213, Principles of Perception
Psych 355, Psychology of Perception
Extension course, Professional Photography Seminar

Pre-Professional Graduation: Architecture

The Department of Art sponsors the 3+4 Program for the School of Architecture at Washington University.

A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:

- 1) The student has completed all general education requirements and all requirements for a major and lacks only the total hours (electives) necessary for a degree.
- 2) A student who has not completed required courses for a degree must remedy the deficiency with courses taken at the University of Missouri-St. Louis within three years of entering the professional school. At the time of

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graduation the student must remain in good standing in the professional school or have successfully graduated from the professional school.

3) A student who has not completed all the courses required for a major may, if the major department at UM-St. Louis agrees, substitute up to six hours of appropriate course work from the professional school.

The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure.

Career Outlook

Study in art history broadens and enriches a general education, offering insight into the visual, architectural, and cultural artifacts left by earlier, as well as modern, civilizations. Art history graduates have found career opportunities in teaching, museums, galleries, libraries, historical societies, sales and auction houses, historic preservation, as travel guides, art administrators, editors and in art restoration.

Students with degrees in studio art find careers in teaching, advertising, public relations, graphic design, illustration, film and video production, art administration, art restoration, product and industrial design, framing and commercial photography.

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Course Description

Courses in this section are grouped as follows: Art History and Studio Art. Prerequisites may be waived by consent of instructor. For the nonmajor, any number of studio courses will be accepted as electives.

The following courses fulfill the Humanities [H] breadth of study requirements: ART HISTORY: 5, 8, 15, 65, 90, 105, 107, 108, 111, 112, 113, 114, 116, 117, 119, 125, 135, 137, 138, 145, 155, 158, 159, 165, 179, 191, 195, 205, 208, 212, 215, 217, 225, 235, 245, 255, 258, 263, 265, 274, 275, 276, 285, 290, 291, 292, 293, 294, 295, 296, 297, 298, 390, 395.

Art History

5 Introduction to Art (3)

An introduction to major historical movements in Western art.

8 Introduction to Asian Art (3)

A survey of the major achievements in architecture, sculpture, and painting of India, China, Japan and Southeast Asia. Emphasis on religious, historical, and social context of the arts. This course fulfills the Cultural Diversity requirement.

15 Art of Africa, Oceania, and the Americas (3)

A survey of the art of tribal people of Africa, Oceania, and the Americas from prehistoric times through the present. The relationship of art to religion, myth, festival, and social life will be considered, as well as the effects of acculturation on the arts. This course fulfills the Cultural Diversity requirement.

65 Photography and Society (3)

(Same as Interdisciplinary 65.) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art. This course counts toward the major.

90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences.

105 Issues and Ideas in Art History (3)

Prerequisite: Art 5 or permission of instructor. Intensive studies of a few selected works from various eras and cultures, with special attention to the particular social and cultural factors surrounding their creation.

107 The Arts of China (3)

A survey of the major achievements in the history of Chinese art. Bronzes, sculpture, painting, calligraphy, ceramics, and jades will be considered within their historical, philosophical, and social context. This course fulfills the Cultural Diversity requirement.

108 The Arts of Japan (3)

A survey of the art and architecture of Japan from prehistory to the present. Topics will include sculpture,

architecture, pottery, gardens, Japanese prints and paintings in their various forms, i.e. Chinese style, purely Japanese style, narrative scrolls, Zen, and Rimpa. This course fulfills the Cultural Diversity requirement.

111 Art and Archaeology of the Ancient World (3)

Prerequisite: Art 5. A survey of art in Egypt, the Ancient Near East, Greece, and Rome, beginning in the Neolithic era (8000-4000 BC) and ending with the Barbarian invasions of Italy in the fifth century A.D. The major highlights of architecture and city planning, sculpture, painting, pottery, and the minor arts will be covered.

112 Greek Art and Archaeology (3)

Prerequisite: Art 5. General survey of material culture in the Aegean basin, beginning with the Bronze Age (third millennium BC), and terminating in the late Hellenistic period (second century BC). For the Hellenistic period the course will trace Greek developments and influences outside of the Aegean, for example, in Italy and in Egypt.

113 Roman Art and Archaeology (3)

Prerequisite: Art 5. General survey of material culture in Italy and its dependencies beginning with prehistoric Italy (ninth and eighth centuries B.C.) and terminating in late antiquity (the fifth century A.D.). The course will focus on the regional variants of Roman art in such places as Gaul, Spain, Great Britain, North Africa, and the Greco-Roman East.

114 Early Christian Art and Archaeology (3)

Prerequisite: Art 5. The origins and development of Christian imagery prior to the fourth century, the Constantinian epoch and Late Antique developments to the death of Justinian. Attention will be paid to works of art and to the entire material culture of early Christianity.

116 North American Indian Art (3)

A detailed survey of the arts of North America from prehistoric times to the present. Cultures to be covered include: Moundbuilders, Northeast, Navajo, Pueblo peoples, Northwest Coast, and Eskimo. The relationship of art to religion, dance, philosophy, and social life will be explored. This course fulfills the Cultural Diversity requirement.

117 African Art (3)

A survey of the tribal and traditional arts of Black Africa. The function and context of art among specific peoples such as the Yoruba, Dan, Dogon, Kuba, and Kongo will be discussed. Emphasis will be placed on dance, festival, and religion as the primary contexts of African art. This course fulfills the Cultural Diversity requirement.

119 Pre-Columbian Art of Mexico and Central America (3)

A survey of the arts of native peoples of Middle America before the coming of the Spaniards in 1519. The cultural context and meaning of sculpture, painting, architecture, and ritual among the Olmec, Maya, Aztec, and other tribes. This course fulfills the Cultural Diversity requirement.

125 Medieval Art (3)

Prerequisite: Art 5. A survey of the art and architecture of the Mediterranean World and northern Europe from late antiquity to the Late Gothic period (300-1300 A.D.). Focus

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on new styles and subject matter in painting, sculpture, and architecture.

135 European Art & Architecture 1300-1800 (3)

Prerequisite: Art 5. Between 1300 and 1800, European art changed from primarily a vehicle for the church and the princely court to an art that incorporated a wider spectrum of society. This course examines some of the artistic styles (Renaissance, Baroque, Rococo) and the social, political, and economic forces that contributed to these changes.

137 Early Renaissance Art & Architecture (3)

Prerequisite: Art 5. An exploration of the painting, sculpture, and architecture of the fourteenth and fifteenth centuries in Italy, the Netherlands, and Germany. Special attention given to public and private patronage, the interrelationships among regional schools, workshop procedures and images of women.

138 High Renaissance Art & Mannerism (3)

Prerequisite: Art 5. A survey of Italian art from the time of Leonardo da Vinci through the late phase of Venetian art. Artists to be examined include Leonardo, Michelangelo, Raphael, Sofonisba Anguissola, and Titian.

145 Baroque Art (3)

Prerequisite: Art 5. A survey of art and architecture in both northern and southern Europe from 1600 to 1750. Emphasis on the contributions of individual artists as well as the political, social, and philosophical background of the visual arts.

155 Modern Art (3)

Prerequisite: Art 5. A survey of European art of the nineteenth and twentieth centuries.

158 American Art (3)

Prerequisite: Art 5. A survey of the art of the United States since 1600.

159 American Architecture (3)

Prerequisite: Art 5. A brief history and analysis of American architecture, investigations of technological process, urban planning, and the dominating social attitudes which govern architectural development.

165 History of Photography (3)

Prerequisite: Art 5 or consent of instructor. A study of photography: its historical development, an examination of it as an art medium, and its influence on the development of modern art.

179 Special Topics in Art History (1-3)

Selected topics in art history. This course may be repeated for credit.

191 Art Since 1945 (3)

Prerequisite: Art 5. An overview of the major developments in European and American art since World War II. Topics include abstract expressionism, pop art, conceptual and minimal art, performance and video.

195 Sophomore/Junior Seminar: The Methods of Art History (3)

Prerequisites: Art 5 and at least one additional course in art history. An introduction to the methods of art historical analysis. Emphasis on research techniques and writing. This course must be taken before a student's senior year.

205 Advanced Issues and Ideas in Art History (3)

Prerequisites: Art 5 and three additional courses in art history, or permission of the instructor. Seminar format. Intensive study of a few objects or issues in the history of art, focusing on issues which crosscut periods or geographic regions.

208 Topics in Asian Art (3)

Prerequisite: Art 8 or permission of instructor. A study of selected topics in Asian art. The content will vary, focusing on topics such as Chinese and Japanese landscape in paintings and in gardens, images of women in Asian art, or the Spirit of the Brush in Chinese and Japanese painting. May be repeated for credit with permission of instructor and adviser. This course fulfills the Cultural Diversity requirement.

212 Topics in Ancient Art and Archaeology (3)

Prerequisites: Art 5 or Interdisciplinary 10 and one of the following: Art 111, 112, 113, 114, or permission of instructor. Intensive study of some aspect of Classical or Early Christian art. Content will vary. May be repeated for credit with permission of adviser.

215 Topics in Tribal Arts (3)

(Same as Anthropology 225) Prerequisite: One of the following: Art 15, 116, 117, 119, or consent of instructor. Intensive study of the arts of several tribal groups. Inquiry into relationships between art and culture by means of an examination of myth, literature, festival, and social life. Seminar format. May be repeated for credit with permission of adviser. This course fulfills the Cultural Diversity requirement.

217 Topics in African Art (3)

Prerequisite: Art 15 or 117 or permission of instructor. A study of selected topics in the history of African art. The content of the course will vary, focusing upon a single topic, which might include Islam and the arts of Africa, Christianity and the arts of Nubia and Ethiopia, art and festival in West Africa, or women and art in sub-Saharan Africa. May be repeated for credit with permission of instructor. This course fulfills the Cultural Diversity requirement.

225 Topics in Medieval Art (3)

Prerequisite: Art 125 or consent of instructor. A study of selected topics in Medieval art. The content of the course will vary, focusing on single topics such as manuscript painting, the Gothic cathedral and its sculptural decoration, or the art of pilgrimage churches. May be repeated for credit with permission of instructor.

235 Topics in Renaissance Art (3)

Prerequisite: Art 135 or consent of instructor. Studies of selected topics, which will vary. Subjects to be considered may include the art of Florence, the role of

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patronage in Renaissance Italy, and Papal art. May be repeated for credit.

245 Topics in Seventeenth and Eighteenth-Century European Art (3)

Prerequisite: Art 145 or consent of instructor. A study of selected topics in Baroque and Rococo art. The content of the course will vary, focusing on single areas, such as the Baroque in Rome; or on major artists, such as Bernini, Rubens, and Rembrandt. May be repeated for credit with permission of instructor and adviser.

255 Topics in Nineteenth and Twentieth-Century European Art (3)

Prerequisite: Art 155 or consent of instructor. Intensive study of selected topics in European art. May be repeated for credit with permission of instructor and adviser.

258 Topics in American Art (3)

Prerequisite: Art 158 or 159 or consent of instructor. Intensive study of selected topics in American art from colonial beginnings to the present. Topics may include the image of the family in art, patronage, the relationship between art and literature, and the role of the artist in modern society. May be repeated for credit with permission of instructor and adviser.

263 Photography Since 1945 (3)

Prerequisites: Art 5 and either Art 65 or 165 or permission of the instructor. Seminar on creative photography from the postwar period to the present. Topics will include the relation of this medium to other arts, including sculptural and performance art, as well as current modes of photographic depiction in landscape and studio work.

265 Topics in Photographic Studies (3)

(Same as Interdisciplinary 265.) Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

274 Philosophy of Art (3)

(Same as Philosophy 274.) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

275 The Art of Print (3)

Prerequisite: Art 5. Dealing with the history of print forms: woodcuts, etchings, engravings, lithographs, silkscreens, monotypes, and mixed media. Special emphasis will be given to the importance of prints to the art and artists of our time.

276 Women and the Visual Arts (3)

No prerequisite. Art 5 or enrollment in the Women's Studies Certificate Program recommended. Selected topics concerning women as creators, users, and subject matter of art. Great women artists in the Western world will be studied, as well as women weavers, potters, and sculptors in tribal society.

285 Topics in Architectural History (3)

Prerequisite: Art 5 or consent of instructor. A study of selected topics in architectural history. The content of the

course will vary, and the course may be repeated for credit with permission of the instructor and departmental advisor. Possible topics include the history of the castle, factory architecture, the evolution of the Gothic cathedral, and domestic and vernacular architecture.

287 Professional Internship (1-6)

Prerequisites: Art 5 and 6 hours in Art History or 6 hours in Studio Art. The internship provides experience in museums, historical societies, galleries, design firms, or visual resource collections. Students will assist in the diverse duties associated with the day-to-day functions of the institution, under the joint direction of a faculty advisor and a supervisor at the institution. Course requirements may include readings, research assignments, and/or a paper. This course may be counted for art history or studio art credit with the department's consent.

288 UM-St. Louis/Saint Louis Art Museum Internship (3)

Prerequisites: Art History or Anthropology major and junior/senior standing. Student, who is selected competitively after submitting application to the UM-St. Louis/St. Louis Art Museum Internship Committee, is to complete 20 hours of work per week under the direction of a curator or curators at the Saint Louis Art Museum. The precise schedule and particular projects are to be determined by the curator and the student together. Projects can include research on the Museum collection, research on possible Museum acquisitions, checking label information, research or compilation of bibliography for exhibitions, or other tasks at the discretion of the curator. Each internship runs for the duration of one semester.

289 Visual Resources Management (3)

Prerequisites: Art 5 and 3 credit hours in other art history courses, or permission of instructor. This hands-on course in the art department's slide library will consist of the daily operation and management of, as well as technological and theoretical approaches to visual resource collections. The course content relies upon the Art Department's slide library of over 80,000 slides, videotapes, and other visual materials.

290 Special Study (1-10)

Prerequisites: Junior or senior standing and consent of department and instructor. Independent study through readings, reports, or field research.

291 Topics in Contemporary Art (3)

Prerequisites: Art 5 and Art 191 or permission of instructor. Seminar on particular topics in European or American art since 1945. Topics may include contemporary feminist art, postmodernism, or abstract expressionism. May be repeated for credit with permission of instructor and adviser.

292 Museum Studies (3)

Prerequisites: Art 5 and six credit hours in other art history courses. This course is intended as an introduction to the function and operation of the art museum. Sessions will include the history of art museums and collecting policies; the organization of art museums; the tasks of the curator; the registration practices; art conservation; the museum as an educational institution; the organization and

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planning of permanent galleries; and the planning and installation of temporary exhibitions.

293 Art Gallery Management (3)

Prerequisites: Art 5 and six credit hours in other art history courses. This course will consider the practical application of professional training in art history as it applies to gallery management. Topics covered will include: grant writing in the arts, the development of art exhibits, the role of the art curator, and the operation of a gallery. All students will get hands-on experience in Gallery 210.

294 Art Criticism (3)

Prerequisite: Art 155 or Art 191 or permission of instructor. An overview of the history and function of art criticism, focusing principally on the theory and criticism of twentieth-century art. Students will attempt their own critical writings on contemporary art.

295 The Artist and the City (3)

Prerequisite: Art 5. Examines the role of urban centers as a focus for significant artistic activity, as a recurring theme in art, and as a spatial and physical architectural reality. Aspects of urban planning, urban imagery in art, and the social, political, and personal networks artists develop as a result of living in particular urban centers at particular moments in history will be among the topics discussed.

296 The Nude in Art (3)

Prerequisites: Art 5 and one other course in art history. An exploration of the various meanings of nudity in art. The cultural, social, and psychological contexts of nudity in art will be examined in different historical periods and geographic regions, both Western and non-Western. Representations of both males and females will be analyzed in terms of gender construction, political authority, and personal identity.

297 Landscape Perspectives in Art (3)

Prerequisite: Art 5. This seminar considers the various conventions for representing landscape and nature, and human relationships to landscape, throughout history and across cultures. Issues to be considered may include landscape as metaphor in European painting, contemporary earthworks, landscape photography, and the relationship of artist to landscape in the non-Western world.

298 The Portrait in Historical and Cross-Cultural Contexts (3)

Prerequisite: Art 5 or permission of instructor. This class will examine the development of portraiture in the western tradition as well as its use and development in non-western cultures. Topics to be investigated will include a wide variety of stylistic approaches and media.

390 Special Study (1-10)

Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research.

395 Senior Art History Seminar (3)

Prerequisite: Art 195 and Senior standing in art history

or consent of instructor. Intensive reading, discussion, and writing on topics to be announced.

458 Topics in American Art (3)

Prerequisite: Graduate standing and consent of instructor. This course examines a discrete aspect of the history of American art within the changing social, cultural and historical contexts of Euro-American and/or Native American experiences and traditions.

492 The History of the Visual Arts in American Museums (3)

Prerequisite: Graduate standing and consent of instructor. This course is an introduction to selected topics in the history of museology, focusing on art and anthropology museums as sites for the interpretations of art and culture, and as contested meeting grounds for various views of history and culture.

Studio Art

2 Introduction to Studio Art (3)

An introduction to drawing, painting, and design in a beginning studio environment. This course is designed to provide basic skills and understanding of studio experience for the non-art major. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

30 Ceramics I (3)

An introduction to basic methods and theory of ceramics including work with hand-built construction, wheel techniques, and glazing. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

40 Drawing I (3)

An introduction to drawing through the study of figure, object, and environment. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

42 Figure Drawing I (3)

Basic studies of the human form and anatomy from the model in a variety of drawing media. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

50 Design I (3)

Studio problems in the creative use and integration of the elements of two-dimensional design: line, form, space, texture. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

60 Photography I (3)

An introduction to the techniques and aesthetics of black and white photography, the camera and the darkroom. Students must provide a camera with adjustable speeds and aperture. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

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74 Special Topics in Studio Art (1-3)

Selected topics in studio studies. This course may be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

80 Comics & Cartoon Illustration (3)

A course in creating and appreciating the world of comics and cartoons. This course will investigate the tools and techniques for creating cartoons, cartoon illustrations and the world of comics. Students will create their own cartoons with traditional media and also with computers. While designed for beginners, experienced artists will be encouraged to perfect their personal styles. The class will create and print its own comic book. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

130 Ceramics II (3)

Prerequisite: Art 30. A continuation of Art 30. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

132 Sculpture I (3)

An introduction to traditional and contemporary materials, aesthetics, and theories of three-dimensional art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

134 Art Activities for Elementary Schools (3)

(Same as ELE ED 179.) A study of art principles and laboratory experiences with various media and materials. Stresses curriculum planning and development of the elementary school program in art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

140 Drawing II (3)

Prerequisite: Art 40. The development of drawing skills through continued observation and problems of invention. A further exploration of varied drawing materials and techniques including graphite, charcoal, conte crayon, and inks. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

142 Figure Drawing II (3)

Prerequisite: Art 42. Continuation of Figure Drawing I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

150 Design II (3)

Prerequisite: Art 50. A continuation of Art 50, two-dimensional design, with introduction to color theory. Some application of mixed media problems. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

160 Photography II (3)

Prerequisite: Art 60. Continuation of Photography I at the intermediate level. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

161 Introduction to Digital Photography (3)

Prerequisite: Art 60 or consent of instructor. An introduction to computer usage in photography. The basic computer techniques and software applications for digitizing, retouching, enhancing and altering photographic images will comprise the core of this course. This class will involve both learning exercises and the creation of original computer-aided photographic art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

180 Painting I (3)

Prerequisite: Art 40, Art 50 or consent of instructor. An introduction to the use of oil and/or acrylic painting media. Studio problems to develop technical and expressive skills on various surfaces. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

203 Media and Technique in Art History (3)

Prerequisite: Art 5, and two other courses in art history. Technical demonstration of and research into various materials and media used by artists. In addition to ancient media such as egg tempera and fresco, it will include modern media such as photography and video. Lab fee required. Basic Studio equipment will be provided though students will need to supply some personal equipment and supplies.

210 Graphic Design I (3)

Prerequisite: Art 50 and Art 140 or consent of instructor. Introductory studio problems in layout, lettering, and design with typographic elements. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

211 Graphic Design II (3)

Prerequisite: Art 210 or consent of instructor. Continuation of Graphic Design I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

220 Computer Art I (3)

Prerequisite: Art 50. An introduction to the use of computer graphics software for the creation of artwork applicable to the advertising and graphic design industry. No previous computer experience is necessary. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

221 Computer Art II (3)

Prerequisite: Art 220. Designed to familiarize students with the methods and processes and computer functions used in graphic art and illustrations. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

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232 Sculpture II (3)

Prerequisite: Art 132. Continuation of Sculpture I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

240 Drawing III (3)

Prerequisites: Art 40 and Art 140. This course offers studio problems designed to further the development of drawing skills in various media. Limited color will also be introduced. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

242 Figure Drawing III (3)

Prerequisites: Art 42 and Art 142. Advanced study of the human form and anatomy from the model in a variety of drawing media. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

250 Composition (3)

Prerequisites: Art 50 and Art 150. An investigation of the use of formal design elements as used in historic and contemporary art. Weekly studio problems and discussions will concentrate on skills, application, and unifying effects of compositional elements on a variety of visual art forms. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

260 Digital Photography II (3)

Prerequisite: Art 161. Intermediate exploration of the aesthetics and techniques of digital photography. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

261 Color Photography I (3)

Prerequisite: Art 60 or equivalent. An introduction to the techniques and aesthetics of color photography. Mastering the printing and finishing processes and producing a color print portfolio will be the requirements of this class. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

262 Non-Silver Photography (3)

Prerequisites: Art 60 and Art 160. An introduction to the aesthetics and techniques of non-traditional photographic processes. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

264 Video Art I (3)

Prerequisite: Art 160 or permission of instructor. An introduction to video as an art form. Knowledge of contemporary uses and video techniques will be stressed. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

270 Printmaking I (3)

Prerequisite: Art 50 and Art 140 or consent of instructor. An introduction to printmaking techniques, materials, and theories. The course will include work in a variety of print materials. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

271 Printmaking II (3)

Prerequisite: Art 270 or consent of instructor. A continuation of Printmaking I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

272 Printmaking: Lithography I (3)

Prerequisite: Art 50 and Art 140 or consent of instructor. An introduction to printmaking skills and theory in stone and plate lithography. Studio problems in the use of materials and equipment. Attention will be given to individual development. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

273 Printmaking: Screenprinting I (3)

Prerequisite: Art 270. An introduction into the techniques, methods, and aesthetics of screenprinting. Studio problems involving uses and approaches will be emphasized. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

277 Printmaking: Photolithography I (3)

Prerequisite: Art 60 or departmental consent. An introduction to printmaking skills and theory in stone and plate lithography with particular emphasis on the photographic applications of the process. Some attention will also be given to commercial printmaking applications while studio problems in the use of materials and equipment will be stressed. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

280 Painting II (3)

Prerequisite: Art 180 or consent of instructor. Continuation of basic studio problems in painting media. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

283 Watercolor Painting (3)

Prerequisites: Art 50 and Art 140. Beginning problems in watercolor painting. Includes the study of traditional and contemporary approaches to color, color techniques, and treatment of papers. May be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

290 Special Study (1-10)

Prerequisites: Junior/Senior standing and consent of department and instructor. Independent study through readings, reports or field research. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

Art & Art History

310 Graphic Design III (3)

Prerequisites: Art 211. Advanced studio problems to further the understanding of design and its relationship to typographic elements, illustration, and communication. The course will encourage both conceptual and technical development of the designer. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

311 Graphic Design IV (3)

Prerequisite: Art 310. Further studio problems in the graphic arts. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

334 Contemporary Art Education: Craft and Theory (1-2)

Prerequisite: Upper-division standing or consent of instructor. Intensive study for advanced students and art teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

340 Drawing IV (3)

Prerequisite: Art 240. Studio problems with emphasis on color and multi-material approach to drawing. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

342 Figure Drawing IV (3)

Prerequisite: Art 242. Continuation of Figure Drawing III. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

350 Design III (3)

Prerequisites: Art 50 and Art 150. Advanced studio problems in design materials. Use of two-dimensional and three-dimensional mixed media. Experimental use of materials and media will be introduced. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

360 Photography III (3)

Prerequisite: Art 160. An exploration into contemporary theories and trends in photography. Advanced projects, portfolios and techniques will be expected from those enrolled. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

361 Color Photography II (3)

Prerequisite: Art 261. An advanced exploration into the aesthetics and techniques of color photography. Students will be expected to refine their vision utilizing color processes. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

364 Video Art II (3)

Prerequisite: Art 264. An advanced exploration of video as

a visual art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

370 Printmaking and Relief (3)

Prerequisites: Art 271. Advanced problems in printmaking. Problems in relief printmaking. Work in wood and mixed materials. Development of skills and aesthetic judgments in the media. May be repeated for credit with consent of instructor. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

372 Advanced Lithography (3)

Prerequisites: Art 273. Continuing problems in lithography with problems in black and white, photolithography, and/or color. May be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

380 Painting III (3)

Prerequisite: Art 280 or consent of instructor. Advanced studio problems in painting media. Attention paid to individual development of theory, expression, and technique. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

381 Painting IV (3)

Prerequisite: Art 380. A continuation of Painting III. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

383 Advanced Problems in Graphic Design I (3)

Prerequisite: Art 311. This course is focused on professional-level art and portfolio production. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

384 Advanced Problems in Graphic Design II (3)

Prerequisite: Art 383. A continuation of Art 383. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

385 Advanced Problems in Painting I (3)

Prerequisite: Art 381. This course is focused on professional-level art and portfolio production. Non-traditional materials might be explored. Attention is focused on individual development of painting theory, self-expression, and advanced techniques. The student is expected to assume a substantial responsibility with regard to direction, motivation, and content. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

386 Advanced Problems in Painting II (3)

Prerequisite: Art 385. A continuation of portfolio production in Art 385. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

Art & Art History

387 Advanced Problems in Drawing I (3)

Prerequisite: Art 340. This course is focused on professional-level art and portfolio production. It offers studio problems designed to further the development of drawing skills. Emphasis will be given to the study of drawing as an independent art form. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

388 Advanced Problems in Drawing II (3)

Prerequisite: Art 387. A continuation of Art 387. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

390 Special Study (1-10)

Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

391 Advanced Problems in Photography I (3)

Prerequisite: Art 360. This course is focused on professional-level art and portfolio production. Students may employ black and white, color, non-silver or other traditional or non-traditional press for projects in this course. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

392 Advanced Problems in Photography II (3)

Prerequisite: Art 391. A continuation of Art 391. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

393 Advanced Problems in Printmaking I (3)

Prerequisite: Art 370. This course is focused upon professional-level art and portfolio production. After completion of this and the preceding course, students should be ready to meet the artistic and intellectual demands of today's visual art world. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

394 Advanced Problems in Printmaking II (3)

Prerequisite: Art 393. A continuation of Art 393. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

396 Senior Studio Seminar (3)

Prerequisite: Senior standing and Art 311, Art 340, Art 342, Art 350, Art 360, Art 370, or Art 381. Weekly critiques and discussions of technical and professional issues. Will instruct students in methods of portfolio display, documentation, gallery representation, grant writing, and professional preparation. May be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

399 Special Study in Studio Art (1-10)

Prerequisites: Junior/Senior standing and consent of both department chairperson and instructor. Independent study through intensive independent studio projects, readings, reports and/or field research and apprenticeships. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

Biology

Faculty

Albert Derby, Associate Professor*, Chairperson
Ph.D., City University of New York

Charles R. Granger, Professor*
Ph.D., University of Iowa

Arnold B. Grobman, Professor Emeritus*
Ph.D., University of Rochester

James H. Hunt, Professor*
Ph.D., University of California-Berkeley

Frank Moss, Professor*
Ph.D., University of Virginia (primary appointment with Physics and Astronomy)

Susanne S. Renner, Professor*
Dr. Habil; Dr. rer. nat, University of Hamburg

Robert E. Ricklefs, Curators Professor
Ph.D., University of Pennsylvania

Martin Sage, Professor*; Interim Dean, Arts and Sciences
Ph.D., Nottingham University

Victoria Sork, Professor*
Ph.D., University of Michigan

Zuleyma Tang-Martinez, Professor*
Ph.D., University of California-Berkeley

Teresa Thiel, Professor*; Director, Biotechnology Program
Ph.D., Case Western Reserve University

Douglas Wartzok, Professor; Dean, Graduate School
Ph.D., Johns Hopkins University

Lon A. Wilkens, Professor*
Ph.D., Florida State University

Harvey P. Friedman, Associate Professor*
Ph.D., University of Kansas

Lawrence D. Friedman, Associate Professor*
Ph.D., University of Wisconsin

Donald E. Grogan, Associate Professor* Emeritus
Ph.D., University of Missouri-Columbia

Bette A. Loiselle, Associate Professor*
Ph.D., University of Wisconsin

Robert J. Marquis, Associate Professor*;
Director, International Center for Tropical Ecology
Ph.D., University of Iowa

Stephen S. Mulkey, Associate Professor*
Ph.D., University of Pennsylvania

Jane A. Starling, Associate Professor*
Ph.D., The William Marsh Rice University

Shirley T. Bissen, Assistant Professor*
Ph.D., University of Michigan

John G. Blake, Assistant Professor*
Ph.D., University of Illinois

Godfrey R. Bourne, Assistant Professor*
Ph.D., University of Michigan

Carol A. Kelly, Assistant Professor*
Ph.D., University of Illinois-Urbana-Champaign

Amy F. MacRae, Assistant Professor*
Ph.D., University of Georgia

William D. Rapp, Assistant Professor*
Ph.D., Purdue University

Mariette P. Baxendale, Lecturer
Ph.D., St. Louis University

Carol Weber, Lecturer
M.S., University of Missouri-St. Louis

Peter H. Raven, Adjunct Professor*; Director, Missouri Botanical Garden
Ph.D., University of California-Los Angeles

Bruce Allen, Adjunct Associate Professor*
Ph.D., University of Cincinnati

Paul E. Berry, Adjunct Associate Professor*
Ph.D., Washington University

Deborah A. Clark, Adjunct Associate Professor*
Ph.D., University of Wisconsin

David B. Clark, Adjunct Associate Professor*
Ph.D., University of Wisconsin

Thomas B. Croat, Adjunct Associate Professor*
Ph.D., University of Kansas

Marshall R. Crosby, Adjunct Associate Professor*
Ph.D., Duke University

William G. D'Arcy, Adjunct Associate Professor*
Ph.D., Washington University

Peter Goldblatt, Adjunct Associate Professor*
Ph.D., University of Cape Town, South Africa

Michael H. Grayum, Adjunct Associate Professor*
Ph.D., University of Massachusetts, Amherst

Peter C. Hoch, Adjunct Associate Professor*
Ph.D., Washington University

Timothy Killeen, Adjunct Associate Professor*
Ph.D., Iowa State University

Robert E. Magill, Adjunct Associate Professor*
Ph.D., Texas A&M

David A. Neill, Adjunct Associate Professor*
Ph.D., Washington University

James L. Zarucchi, Adjunct Associate Professor*
Ph.D., Harvard University

Sandra S. Alters, Adjunct Associate Professor*
Ph.D., University of Connecticut

Ihsan A. Al-Shehbaz, Adjunct Assistant Professor*
Ph.D., Harvard University

Cheryl S. Asa, Adjunct Assistant Professor
Ph.D., University of Wisconsin-Madison

Lois Brako, Adjunct Assistant Professor*
Ph.D., New York Botanical Garden-City University of New York

Larry E. DeBuhr, Adjunct Assistant Professor*
Ph.D., Claremont Graduate School

Barry E. Hammel, Adjunct Assistant Professor*
Ph.D., Duke University

Kaoru Kitajima, Adjunct Assistant Professor*
Ph.D., University of Illinois

James S. Miller, Adjunct Assistant Professor*
Ph.D., St. Louis University

Peter M. Richardson, Adjunct Assistant Professor*
Ph.D., University of London

David F. Russell, Adjunct Assistant Professor
Ph.D., University of California-San Diego

George E. Schatz, Adjunct Assistant Professor*
Ph.D., University of Wisconsin-Madison

Charlotte Taylor, Adjunct Assistant Professor*
Ph.D., Duke University

Hendrik H. vanderWerff, Adjunct Assistant Professor*
Ph.D., State University of Utrecht, The Netherlands

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The Department of Biology provides academic programs leading to the

Biology

B.A. or B.S. in biology. In cooperation with the School of Education, the biology department offers the B.S. in secondary education with a major in biology and the B.A. or B.S. in biology with teacher certification; in cooperation with the Evening College, the department offers courses in clinical laboratory science and cytotechnology. The Department of Biology also offers graduate work leading to the Master of Science and the Doctor of Philosophy degrees in biology. The graduate program includes a cooperative program with the Missouri Botanical Garden for students who concentrate in Evolutionary Biology with emphasis areas of Plant Systematics and Environmental Studies.

Biology faculty members are engaged in teaching and research in areas ranging from molecular biology to population studies. Majors have the chance to take courses which help them develop both theoretical and experimental backgrounds necessary for further work in some of the most rapidly expanding fields of biological science or to pursue in-depth studies in specific areas through advanced courses, seminars, and individualized research programs.

Departmental Honors

Candidates for the B.A. or B.S. degree are eligible for Departmental Honors if they:

- 1) have a minimum of a 3.2 overall GPA and a minimum 3.2 average in biology courses used to complete the major;
- 2) complete a minimum of two credit hours of Biology 390, Research; and
- 3) complete an honors thesis based on Biology 390 research work. The academic record and thesis will be evaluated by the Honors Committee and those students who qualify will be recommended for honors.

Minor in Biology

Students majoring in another discipline may earn a minor in biology by completing a prescribed course of study. Unique programs can be developed to coordinate with special career objectives. Students should consult their adviser and the chairperson of the biology department.

Graduate Studies

The Department of Biology offers graduate work leading to the M.S. and Ph.D. degrees in biology. Graduate students may work toward an M.S. degree in three broad areas of biology: (a) Cellular, Molecular, and Developmental Biology, (b) Physiology and Organismal Biology, and (c) Ecology, Evolution, and Systematics. Graduate students in the Ph.D. program will receive training in several areas of Evolutionary Biology. Students in the M.S. and Ph.D. programs also have the opportunity to do their graduate work in collaboration with scientists at the Missouri Botanical Garden through a cooperative graduate program.

Objectives of the Master's Degree program are to provide the research-oriented training necessary for students to enter doctoral programs in biology; to develop professional biologists qualified to function in responsible technical positions; and to train secondary school and junior college biology teachers.

The objectives of the Ph.D. program are to train biologists for academic and professional positions in research and teaching. Ph.D. students in the areas of Plant Systematics and Environmental Studies have the opportunity for specialized training in tropical biology and conservation biology. This training is intended to prepare students for research careers and for leadership and scientific positions involving the conservation and management of tropical ecosystems.

Graduate Assistantships

Stipends for teaching and research assistantships are awarded on a competitive basis to qualified graduate students in Master's or Ph.D. programs. Out-of-state educational fees are waived for graduate assistants. Applications for assistantships must be sent to the Director of Graduate Studies in the Department of Biology and be received by February 1.

Facilities

Department facilities include research and teaching laboratories, environmental chambers, greenhouses, and a large array of supporting modern research instrumentation. Also available are wildlife facilities at Weldon Springs Experimental Farm and Tyson Tract, both within 30 to 45 minutes of the campus.

Cooperative Programs

The department also participates in a cooperative consortium program in biology with Washington University, St. Louis University, Southern Illinois University-Edwardsville, and the Missouri Botanical Garden.

Undergraduate Studies

General Education Requirements

Students must satisfy the University and College general education requirements. Biology courses may be used to meet the science and mathematics requirement of the University.

The foreign language requirement of the College of Arts and Sciences fulfills the departmental requirements for the B.A. degree. There is no foreign language requirement for the B.S. degree.

Satisfactory/Unsatisfactory Option

Up to 18 credit hours may be taken on a satisfactory/unsatisfactory basis. Excluded from this option are required courses in chemistry, physics, mathematics, or psychology, and biology courses other than Biology 389, Senior Seminar, and Biology 390, Research.

Degree Requirements

Bachelor of Arts in Biology

The B.A. degree provides maximum flexibility for biology majors to pursue an undergraduate liberal arts course of study that can lead to professional careers in medicine, allied health, public and environmental health, law, and graduate studies in the life sciences. Candidates must have

Biology

a cumulative grade point average of 2.0 or better in biology courses. All B.A. degree majors must take at least 39 credit hours but not more than 50 hours in appropriate biology course work. The following **biology foundation** courses must be included in the 39 credit hours.

Foundation Courses

11, Introductory Biology I
12, Introductory Biology II
210, Cell Structure and Function
224, Genetics
246, Introduction to Evolution
371, Biological Chemistry
389, Senior Seminar, or **285** and **286** for those seeking teacher certification.

Lecture Course Requirements

An additional three lecture courses are required and can consist of any of the other lecture courses offered at the 200-level or above. At least one of the courses must be at the 300-level. Biology 371, 389 and 390 cannot be used to fulfill this requirement.

Laboratory Course Requirements

In addition to the lecture course requirements, three laboratory courses, independent or integrated into a lecture course, will be required. They may be taken from any of the lecture-laboratory or laboratory courses offered. Introductory, General Biology, and Biology 390 laboratories cannot be used to fulfill this requirement.

Off-campus transfer students must satisfactorily complete at least 12 credit hours of UM-St. Louis biology course work (including two laboratories) at the 200 level or above before receiving a B.A. degree from the College of Arts and Sciences with a major in biology.

Related Area Requirements

The following courses in chemistry are required:
11, Introductory Chemistry I (or **1**, General Chemistry I, plus **9**, General Chemistry II)
12, Introductory Chemistry II
261, Structural Organic Chemistry

and one of the following **chemistry** courses:

122, Quantitative Analysis
262, Organic Reactions
263, Techniques of Organic Chemistry

Also required:

Math 30, College Algebra, and
Math 35, Trigonometry
Math 31, Elementary Statistical Methods or **Math 132**, Applied Statistics I, or **Education 330**, Educational Statistics, or **Psych 201**, Psychological Statistics, or **Biology 388**, Biometry
Math 100, Basic Calculus, or **Math 80**, Analytical Geometry and Calculus
Physics 11, Basic Physics
Physics 12, Basic Physics

Bachelor of Science in Biology

The B.S. degree in biology is designed to prepare students for basic technical positions and graduate studies in the life sciences. Candidates for the degree have the same foundation courses and general education requirements as those seeking the Bachelor of Arts degree. In addition, certain minimal requirements in depth of study, laboratory experience, research, data processing, communication skills, and background in associated science areas are required.

There is no foreign language requirement for the B.S. degree. However, students should realize that the literature for biological studies is in many different languages and the ability to extract information from this literature is an important skill.

In order to fulfill the requirements for the B.S. degree a minimum of 46 hours but not more than 50 hours must be completed in appropriate biology course work. A minimum of 17 hours in biology (including three laboratory courses) must be completed at UM-St. Louis. Candidates must have a cumulative grade point average of 2.0 or better in biology courses.

Foundation Courses

All candidates for the B.S. degree must successfully complete the same basic courses as those for the B.A. degree.

Lecture Course Requirements

An additional four lecture courses are required and can consist of any of the other lecture courses offered at the 200-level or above. At least two of the courses must be at the 300-level. Selection of the 300-level courses should reflect the career interest of the student and at least one of the courses should be in a topic area that could lead to an independent research project (Biology 390). Biology 371, 389 and Biology 390 cannot be used to fulfill this 300-level course requirement.

Laboratory Experience

A minimum of five laboratory courses must be taken to satisfy the Bachelor of Science requirements. They may be taken from any of the laboratory courses, independent or integrated with lecture, that are offered. Introductory, General Biology, and Biology 390 laboratories cannot be used to fulfill this requirement.

Basic Skills Requirement

There are certain skills outside the biology subject matter that are needed to function adequately in a research environment. The Basic Skills Requirement is designed to provide the student with a background in data processing and communication and knowledge in associated science areas.

- 1) Data Processing Students must show a basic understanding of mechanisms for handling data by successfully completing one course in each of the following sets:

Set A. Statistics

Math 31, Elementary Statistical Methods, or **Math 132**, Applied Statistics I, or **Education 330**, Educational Statistics,

Biology

or **Psych 201**, Psychological Statistics, or **Biology 388**, Biometry

Set B. Computer Science

Math 22, Introduction to Computing, or **Math 122**, Computers and Programming, or **BA 103**, Computers and Information Systems

- 2) Communication Skills Courses in formal speaking and technical writing are required to develop the minimal communication skills needed to transmit scientific information. The following courses satisfy this requirement:

Communication

Comm 40, Introduction to Public Speaking

Writing

English 213, Technical Writing

English 216, Writing in the Sciences *

* Preferred

- 3) Associated Science Area The following courses or their equivalents must be successfully completed in science areas related to biology:

Physics 11, Basic Physics

Physics 12, Basic Physics

Chem 11, Introductory Chemistry I, or **Chem 1**, General Chemistry I, plus **Chem 9**, General Chemistry II

Chem 12, Introductory Chemistry II

Chem 261, Structural Organic Chemistry

Chem 262, Organic Reactions

Chem 263, Techniques of Organic Chemistry, or

Chem 122, Quantitative Analysis

Philosophy 280, Philosophy of Science

Math 30, College Algebra, and **Math 35**, Trigonometry

Math 100, Basic Calculus, or **Math 80**, Analytical Geometry and Calculus I

Research Requirement

All students acquiring a Bachelor of Science degree are strongly encouraged to complete a minimum of two credit hours of undergraduate research, Biology 390. The privilege of doing undergraduate research provides students with a firsthand opportunity to experience the research process under the supervision of a faculty member or off-campus scientist. The project normally includes a library search of pertinent literature, laboratory or field experience, and a summary paper.

Biology majors may take any of the following 100-level biology courses:

110, Human Biology

113, Human Physiology and Anatomy I

114, Human Physiology and Anatomy II

115, Human Genetics

116, General Microbiology

118, General Microbiology Laboratory

120, Environmental Biology

130, Global Ecology

140, Female Sexuality

150, Plants and Civilization

These courses **do not count** toward the credit hours required for a major, but they may be included in the 120 hours required for graduation as elective credit.

Bachelor of Science in Education with Emphasis in Biology

The B.S. Ed. is a professional degree designed for those individuals who wish to pursue a teaching career in biology in secondary schools. The biology requirements parallel those for the B.A. degree with the exception that **Biology 285**, Curriculum and Methods of Teaching Life Sciences, and **Biology 286**, Laboratory in Teaching Life Sciences, are substituted for **Biology 389**, Senior Seminar. Students must also fulfill the requirements for the B.S. Ed. degree as prescribed by the School of Education.

Bachelor of Arts in Biology with Teacher Certification

Biology majors interested in teaching biology in secondary schools may obtain teacher certification in cooperation with the School of Education by fulfilling the B.A. or B.S. with certain prescribed courses in biology, with the exception of **Biology 389**, Senior Seminar, and in addition, completing the following courses:

Psych 3, General Psychology

Psych 271, Adolescent Psychology

ED FND 111, The School in Contemporary Society

English 216, Writing in the Sciences

History 3, 4, or 6, American Civilization

PolSci 11, Introduction to American Politics

Philosophy 280, Philosophy of Science

Comm 40, Introduction to Public Speaking

Theatre 21, Fundamentals of Acting

Geology 1, General Geology

Atmospheric Science 1, Elementary Meteorology

ED PSY 312, The Psychology of Teaching and Learning

ED TEC 248, Utilization of Computer-Based Materials in Instruction

SEC ED 213, Techniques of Secondary School Teaching and Field Experience

SPC ED 313, The Psychology and Education of Exceptional Individuals

SEC ED 386, Teaching Reading in Secondary School Content Areas

Biology 285, Curriculum and Methods of Teaching Life Sciences

Biology 286, Laboratory in Teaching Life Sciences

SEC ED 290, Secondary School Student Teaching

Biology 399, Science Teaching Intern Seminar

Since specific biology courses are required for teaching endorsement, contact the Department of Biology **AND** the School of Education for special advising regarding teacher certification.

Minor in Biology

Students may minor in biology by fulfilling the requirements, consisting of a minimum of 19 credit hours, of which at least 9 hours of the biology course credits for the minor must be taken in residence at UM-St. Louis.

Biology

Requirements are:

- 1) Biology 11 and 12, Introductory Biology I and II.
- 2) Must take three additional courses which should be at the 200-level or above totaling no less than 9 credit hours. These may include either lecture or laboratory courses.

All students must consult with an adviser to plan an appropriate course of study. This program must be approved by the chairperson of the Department of Biology.

Under certain circumstances, a student may deviate from the prescribed course of study and substitute as his or her program a group of courses that exhibits a coherent area of specialization to coordinate with a unique career objective. Such a candidate must receive prior approval by the biology department in order to pursue this program.

Candidates must have a cumulative grade point average of 2.0 or better in the minor and **none of the courses may be taken on a satisfactory/unsatisfactory basis.**

Biochemistry Certificate

The University offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a **chemistry track** or a **biology track**. All students complete the following **core requirements**:

Biology 11, Introductory Biology I
Biology 12, Introductory Biology II
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Chem 122, Quantitative Analysis
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

and one of the following biology courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Gene Expression in Eukaryotes

Students choosing to complete the certificate through the **biology track** must take these **additional courses**:

Biology 371, Biochemistry
Biology 375, Techniques in Biochemistry
Biology 376, Topics in Biological Chemistry
Biology 378, Topics in Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chem 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the **chemistry track** must take these **additional chemistry courses**:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar

371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

Undergraduate Certificate in Biotechnology

The University offers an undergraduate certificate program for biology majors who are interested in careers in biotechnology, including biochemistry, microbiology, molecular biology, cell biology, developmental biology, and molecular evolution.

Requirements

Undergraduate biology majors must enroll in the Biotechnology Certificate Program after the completion of 60 credit hours. A student will receive the Certificate in Biotechnology by completing the requirements for the bachelor's degree and fulfilling all the science (Biology, Chemistry, Math, and Computer Science) course requirements of the B.S. in biology program. The required biology courses for the certificate are:

Biology 216, Microbiology
Biology 218, Microbiology Laboratory
Biology 226, Genetics Laboratory
Biology 328, Techniques in Molecular Biology
Biology 375, Techniques in Biochemistry

One of the following two courses:

Biology 326, Gene Expression in Eukaryotes
Biology 338, Gene Expression in Prokaryotes

One of the following four courses:

Biology 317, Immunobiology
Biology 335, Molecular Cell Biology
Biology 334, Virology
Biology 376, Topics in Biological Chemistry, or
Chem 372, Advanced Biochemistry

Undergraduate Certificate in Conservation Biology

The Certificate in Conservation is a multidisciplinary program of study integrating theoretical and applied topics associated with conservation biology. The Certificate is intended for undergraduate students with majors in biology, or in any other field who wish to develop a specialization in conservation. The Certificate is offered by the Department of Biology in cooperation with the Departments of Anthropology, Economics, History, Political Science, Social Work, and Sociology. Building on a core curriculum, students can elect courses from these departments to complete their requirements. Regularly enrolled undergraduates at UM-St. Louis or individuals with baccalaureate degrees who wish to receive a Certificate in Conservation Biology are eligible to participate in the Conservation Certificate Program. In order to participate, students must officially apply to the Certificate Program. Application forms are available from the Biology Department. Guidelines for admission to the Certificate Program are available with the application forms. Individuals with a baccalaureate degree who are interested in this certificate must apply to the University as an unclassified undergraduate. The

Biology

Certificate requires completion of 21 credit hours as outlined below. Students should consult the Bulletin with regard to prerequisites for any of the courses listed here.

Core Courses

Biology 220, General Ecology
Biology 240, Conservation Biology
Biology 347, Practicum in Conservation

Electives: the remaining 12 credits must be selected from courses listed below. Six credits must be taken from within Biology and six credits outside of Biology, from at least two departments.

Anthro 120, Indians of North America
Anthro 121, Native Peoples of Eastern North America
Anthro 122, Native Peoples of Western North America
Anthro 131, Archaeology of Missouri
Anthro 132, Archaeology of North America
Biology 342, Population Biology
Biology 350, Functional Ecology
Biology 354, Entomology
Biology 359, Evolutionary Ecology of Animals
Biology 362, Plant Taxonomy
Biology 364, Ornithology
Biology 385, Wildlife Ecology and Conservation
Biology 395, Field Biology
Biology 396, Marine Biology
Econ 360, Natural Resource Economics
History 300, Selected Topics when relevant
PolSci 248, Environmental Politics
PolSci 285, International Organizations and Global Problem Solving
PolSci 351, Comparative Public Policy and Administration
PolSci 359, Studies in Comparative Politics when relevant
Social Work 390, Seminar in Social Work, when relevant
Sociology 342, World Population and Ecology
Sociology 346, Demographic Techniques

Preprofessional Graduation

The Department of Biology sponsors a 3+4 Program for the UM-St. Louis School of Optometry.

In this program students may be admitted to the School of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when students satisfactorily complete the first year of optometry school. One or more of the following conditions must be met in order to qualify for the undergraduate degree.

- 1) All general education requirements and all requirements for the major, except electives, must be completed.
- 2) Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the School of Optometry.
- 3) Up to six hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.

Bachelor of General Studies with Personal Emphasis in Clinical Laboratory Science or Cytotechnology

Courses in Clinical Laboratory Science and Cytotechnology are offered through the biology department for students who are pursuing a career in one of these fields. Students develop a program of studies through the Bachelor of General Studies degree. Refer to the Evening College section of this Bulletin concerning the degree.

The following courses are offered in this area through the biology department. These courses are not acceptable for graduate credit:

Cytotechnology:

302a, Introduction to Cytotechnology
302b, Female Genital Tract I
302c, Female Genital Tract II
302d, The Processing Laboratory
302e, Respiratory and Oral Cytology
302f, Body Fluid Cytology
302g, Gastrointestinal and Genitourinary Cytology
302h, Fine Needle Aspiration Cytology
302i, Advanced Practices in Cytology
302j, Leadership and Management CT

Clinical Laboratory Science:

303a, Fundamentals in Clinical Laboratory Science
303b, Clinical Bacteriology
303c, Bacteriology Practicum
303d, Mycology
303e, Clinical Immunology
303f, Immunology Practicum
303g, Immunohematology
303h, Immunohematology Practicum
303i, Hematology
303j, Hematology Practicum
303k, Clinical Chemistry
303l, Chemistry Practicum
303m, Parasitology CLS
303n, Leadership and Management CLS
393, Research Methods in the Health Sciences

Graduate Studies

Master of Science in Biology

The Department of Biology offers two ways of achieving the Master of Science degree. The first is a non-thesis option suitable for those who may already have extensive research experience, for educators who seek to upgrade their academic skills but do not require research experience, or for those who need to broaden their biological background. The second is a traditional apprenticeship in research leading to a written thesis. All students admitted to the graduate program are considered to be in the non-thesis program unless they have been accepted into an individual faculty lab. Starting with a common core, either option may be developed into a final degree program in one of the following areas: animal behavior, biochemistry, biotechnology, conservation biology, developmental biology, ecology, evolution, genetics, molecular and cellular biology,

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microbiology, plant and animal physiology, plant systematics, population biology, and tropical biology.

M.S. Admission Requirements

Applicants to the M.S. program must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, and transcripts of all previous work. Submission of GRE scores, although not required, is highly recommended and will be helpful for positive consideration of admittance. Admission as a regular graduate student requires graduation from an accredited college with an overall minimum grade point average of 2.75 and minimum grade average of 3.0 in the applicant's undergraduate major.

All foreign applicants, except those from countries where English is the primary language, must take the TOEFL (Test of English as a Foreign Language). Ordinarily, a score of 550 or better is required.

In addition to the Graduate School admission requirements, applicants should have completed advanced undergraduate biology courses including genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are also expected, and a course in statistics is highly recommended. Students admitted to the degree program who have not met some of the prerequisites may be asked to pass appropriate courses before graduating. These courses will be agreed upon by the student's advisor, the student, and the Director of Graduate Studies during the first semester of enrollment. In particular, undergraduate deficiencies in genetics and either biochemistry or evolution shall be made up by taking the appropriate course(s).

Three credits of B392 Topics in Biology can be given to graduate students for B224, B246, and B371, if they receive a B or better grade for all undergraduate course work plus completing a graduate level paper assigned by the instructor. Instructor consent is required.

M.S. Degree Requirements

General Requirements

All students are required to take at least four but not more than eight hours of Biology 489, Graduate Seminar.

Advisors

All incoming thesis and non-thesis students will be assigned an academic advisor by the Director of Graduate Studies upon admission to the graduate program.

In the event that a student's interest changes or the faculty advisor feels the student's direction no longer falls within his/her area of expertise, the student and advisor should discuss whether a change of advisor is warranted. The graduate director must be notified in writing of any change in advisors. If a student or advisor are uncomfortable discussing the issue directly with each other, he/she are encouraged to meet with the director or associate director of the graduate program.

Non-thesis Option

Including the general requirements, students must take at

least 36 credit hours of which at least half must be at the 400 level. Students are encouraged to take a laboratory course (300 or 400 level) or two credit hours of Biology 490, Graduate Research. A maximum of 5 credit hours of Biology 490 will be counted toward the 36-credit-hour total. This research may be conducted in the laboratory, field, or library.

Thesis Option

Including the general requirement, students must take at least 30 graduate credit hours of which at least half must be at the 400 level. No more than 13 hours of Biology 490, Graduate Research, may be counted toward the degree.

The student and advisor work together to develop a research plan. The thesis proposal must be approved by the student's advisor and advisory committee before the student enrolls in more than 4 credit hours of Biology 490, Graduate Research, and before the student has completed 15 credit hours in the master's program. A thesis embodying results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. This approval requires both a written thesis and oral presentation and defense.

Ph.D. in Biology

The doctoral program emphasizes empirical and theoretical approaches to biological research. Students are required to integrate basic skills in biology with focal studies in an emphasis area. The program is designed to provide research experience and training appropriate for advanced positions in academic research and teaching, government and public agencies, and in industry.

Ph.D. Admission Requirements

Applicants to the Ph.D. program must submit a formal application to the Graduate Admissions Office. In addition, the applicant should arrange to have sent: three letters of recommendation from faculty members at previously attended colleges or universities, Graduate Record Examination (GRE) scores (Verbal, Quantitative, and Analytical), and transcripts of all post-secondary academic work. Admission to the Ph.D. program normally requires a minimum grade point average overall and in biology courses of 3.0 (where A=4.0). Applicants from countries where English is not a primary language are required to take the TOEFL examination (Test of English as a Foreign Language). Scores must be submitted before admission can be decided. Ordinarily, a score of 550 or better is required. Applicants should have a bachelor's or M.S. degree from an accredited United States college or university or evidence of equivalent training at an accredited institution outside the United States.

Applicants should have the appropriate background for graduate work in biology, including courses in genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are expected. A course in statistics is recommended. Students admitted to the Ph.D. program who have not met all the prerequisites may be required to make up deficiencies before admission to candidacy. The deficiencies will be decided during orientation.

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meetings prior to the start of the second semester. Three credits of B392 Topics in Biology can be given to graduate students for B224, B246, and B371 if they receive a B or better grade for all undergraduate coursework plus completing a graduate level paper assigned by the instructor. Instructor consent is required.

Ph.D. Degree Requirements

In addition to the general requirements of the Graduate School, the basic requirements for the Ph.D. degree in Biology include sixty (60) credit hours of course work which must be taken beyond the bachelor's degree. At least 30 of the 60 hours must be taken at the 400 level. With the explicit consent of the advisory committee, students may take for graduate credit up to three credit hours of 200-level courses in allied departments. Courses in Biology at the 200 level and below in biology are not available for graduate credit. At least 31 of the 60 hours must be taken while in residence at the University of Missouri-St. Louis. Graduate credit for course work transferred from another program is subject to approval by the graduate committee and by the Graduate School. Graduate courses taken elsewhere will be considered for transfer credit during orientation meetings conducted prior to the start of the second semester of enrollment.

Specific courses shall be completed as follows:

- a) **Biology 388** (3 hours), Biometry, or equivalent course in statistics.
- b) **Biology 489** (2 hours), Graduate Seminar. Three semesters required (6 credits total).
- c) 12 hours of formal course work required by the student's emphasis area at the time a student is admitted to the Ph.D. program.

The maximum number of credit hours that may be applied toward the 60-hour requirement is limited as stated below:

- A combination of 6 total credit hours of the following:
- a) **Biology 405**, Topics in Ecology, Evolution and Systematics
Biology 406, Topics in Molecular, Cellular & Developmental Biology
Biology 407: Topics in Floristic Taxonomy
 - b) **Biology 489**, Graduate Seminar: 10 hours
 - c) **Biology 490**, Graduate Research: 30 hours

First Year Experience

Graduate students are expected to become involved in a research experience during their first year program, usually winter semester or summer session.

Qualifying Examination and Dissertation

Students must pass a qualifying examination (which consists of a written and oral component), based on fundamental principles presented in formal courses and in papers of special importance in the field. The exam will be given in January of each year, at the beginning of the winter semester. Students beginning studies in the fall semester would normally take the qualifying examination prior to their fourth semester of full-time study. Doctoral students who have earned a M.S. degree previously are encouraged

to take the examination in their first year.

Admission to Candidacy

In order to be admitted to candidacy students must satisfy the requirements of the graduate school, which includes passing all qualifying examinations and completing all required course work (which is a minimum of 24 credit hours as specified above).

Dissertation Proposal

All students must defend orally a written dissertation proposal to their dissertation committee. The approved proposal must be submitted to the Director of Graduate Students in Biology. Doctoral students may not enroll in more than four credits of graduate research (Biology 490) before they have received approval for their dissertation proposal.

Dissertation

A dissertation embodying the results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. The general regulations of the Graduate School concerning the preparation of the dissertation must be met. These rules include a public oral defense of the written dissertation. Dissertations are to be presented in a style appropriate for one or more publications in scientific journals.

Teaching

At least one semester of supervised teaching is required of all doctoral students.

Graduate Certificate in Biotechnology

The Graduate Certificate in Biotechnology is offered for students with a Bachelor's degree who wish to obtain advanced level training in those fields of biology that pertain to biotechnology without necessarily earning a Master's degree. Students who enter this program may have a variety of interests including biochemistry, microbiology, molecular biology, cell biology, developmental biology, or molecular evolution.

Admission

Students who wish to earn a Graduate Certificate in Biotechnology must apply to the Biotechnology Certificate Program for admission to the program. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as non-degree students or as Master's students. Students who wish to obtain a Master's degree with a Biotechnology Certificate must be accepted into the Master's degree program in Biology as well as into the Biotechnology Certificate Program. Students who apply to the certificate program as non-degree students will earn only the certificate. Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

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Requirements

Students must maintain a minimum GPA of 3.0 to remain in the certificate program. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program may simultaneously earn a graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

The Biotechnology Certificate requires **18 credit hours** of course work.

Core Requirements

- I. **Biology 428**, Advanced Techniques in Molecular Biology
- II. **Biology 426**, Advanced Gene Expression in Eukaryotes or **Biology 438**, Advanced Gene Expression in Prokaryotes (if both above courses are taken, one may be used as elective credit)
- III. The remaining 11 credit hours must be taken from the following **electives**:

Biology 317, Immunobiology
Biology 319, Immunobiology Laboratory
Biology 371, Biochemistry
Biology 376, Topics in Biological Chemistry
Biology 378, Topics in Biological Chemistry Laboratory
Biology 406, Topics in Molecular, Cellular and Developmental Chemistry
Biology 410, Advanced Cell Physiology
Biology 417, Advanced Immunology
Biology 429, Advanced Molecular Evolution
Biology 430, Advanced Topics in Development
Biology 431, Graduate Internship in Biotechnology
Biology 434, Advanced Virology
Biology 435, Advanced Molecular Cell Biology
Biology 444, Advanced Gene Activity During Development
Biology 461, Advanced Plant Molecular Biology and Genetic Engineering
Biology 489, Graduate Seminar, when relevant
Chem 372, Advanced Biochemistry
Chem 373, Biochemical Techniques

Graduate Certificate in Tropical Biology and Conservation

The Certificate is awarded after completion of 18 credit hours of core courses and electives with a minimum of 12 credits at the 400 level. Up to three credits may be taken at the 200 level upon permission of the Graduate Committee. Electives must include a minimum of 3 credits outside of biology with a maximum of 7 outside of biology. A maximum of 3 credits may be taken elsewhere than UM-St. Louis. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the Certificate when appropriate.

Required Core Courses:

Biology 445, Public Policy of Conservation and Sustainable Development
Biology 447 (1-4), Internship in Conservation Biology (may be replaced with a biology elective for individuals with applied conservation or environmental agency experience upon consent of the Graduate Committee)

Choice of:

Biology 446, Theory and Application of Conservation Biology
Biology 487, Advanced Tropical Ecology and Conservation

Electives:

Biology 342, Population Biology
Biology 354, Entomology
Biology 362, Plant Taxonomy
Biology 364, Ornithology
Biology 368, Quantitative Methods in Plant Ecology
Biology 385, Wildlife Ecology and Conservation
Biology 396, Marine Biology
Biology 442, Population and Community Ecology
Biology 450, Advanced Functional Ecology
Biology 458, Advanced Evolutionary Ecology of Plants
Biology 459, Advanced Evolutionary Ecology of Animals
Biology 465, Methods in Plant Systematics
Biology 480, Advanced Behavioral Ecology
Biology 481, Advanced Theoretical Systematics and Evolution
Biology 487, Advanced Tropical Ecology and Conservation
Biology 489, Graduate Seminar, when relevant
Chem 417, Environmental Chemistry
Chem 419, Advanced Readings in Chemistry
Econ 360, Natural Resource Economics
History 300, Selected Topics in History, when relevant
History 371, History of Latin America: To 1808
History 372, History of Latin America: Since 1808
History 381, West Africa Since 1800
History 460, Readings in Latin American History, when relevant
History 470, Readings in African History, when relevant
PolSci 248, Environmental Politics
PolSci 253, Political Systems of South America
PolSci 254, Political Systems of Mexico, Central America, and the Caribbean
PolSci 258, African Politics
PolSci 285, International Organizations and Global Problem Solving
PolSci 359, Studies in Comparative Politics, when relevant
PolSci 388, Studies in International Relations
PolSci 414, Topics in Public Policy Analysis, when relevant
PolSci 448, Political Economy and Public Policy
PolSci 459, Seminar in Latin American Politics, when relevant
PolSci 462, Political Theory and Public Policy
PolSci 481, Seminar in International Relations
Social Work 390, Seminar in Social Work, when relevant
Sociology 342, World Population and Ecology
Sociology 346, Demographic Techniques

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Career Outlook

The biology degree programs, at the baccalaureate and Master's degree levels, are designed to prepare the student for further training. The undergraduate degree is designed to prepare the student for professional training in areas such as medicine, teaching, dentistry, veterinary medicine, optometry, and related areas, or for further graduate training in research. The Master of Science program is an extension of the undergraduate program and has as its goals three main objectives:

- 1) provide research-oriented training and education;
- 2) provide qualified graduates for doctoral programs; and
- 3) provide secondary school and junior college biology teachers with training necessary to maintain and improve their teaching effectiveness.

The Ph.D. program prepares students as research professionals in fields such as biological conservation, ecology, and biomedical science. Employment opportunities are available in college or university research and teaching, in government and public institutions such as museums and botanical gardens, and in industry.

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Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult your adviser for further information.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements: 1, 3, 11, 12, 110, 111, 113, 114, 115, 116, 118, 120, 130, 140, 150, 210, 212, 213, 215, 216, 218, 220, 222, 224, 226, 228, 235, 237, 240, 246, 250, 254, 256, 260, 262, 264, 266, 280, 282, 310, 311, 313, 314, 315, 316, 317, 319, 320, 322, 323, 324, 325, 326, 328, 329, 330, 332, 334, 335, 336, 338, 342, 344, 348, 350, 352, 354, 356, 358, 359, 360, 361, 362, 364, 366, 368, 370, 371, 372, 375, 376, 378, 380, 381, 382, 385, 386, 387, 388, 389, 390, 392, 395, 396, 398, 399.

1 General Biology (3)

Emphasis on fundamental principles of biology. Biology 1 can be applied toward fulfillment of the general education requirement in science. Biology 1 does not satisfy the prerequisite requirements of other courses in biology at the 200 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions should enroll in Biology 11 rather than Biology 1. Three hours of lecture per week.

3 General Biology Laboratory (2)

Prerequisite: Biology 1 (may be taken concurrently). Laboratory course to accompany Biology 1. Biology 3 can be used to fulfill the general education requirements in a laboratory science. Biology 3 does not meet the prerequisite requirements for other courses in biology. Three and one-half hours of laboratory per week.

11 Introductory Biology I (5)

Prerequisites: Satisfactory score on math placement test and English 09 or equivalent. Required for students intending to major in biology or take specified biology courses at the 200 level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the molecular/cellular through organ system levels of organization. Topics include: cell structure, metabolism, reproduction, heredity and major physiological processes regulated by organ systems. Three hours of lecture, three and one-half hours of laboratory, and one hour of discussion per week.

12 Introductory Biology II (5)

Prerequisites: Biology 11. Required for students intending to major in biology or take specified biology courses at the 200 level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the organismal and supraorganismal levels of biology. Topics to be covered include: ecology, evolution, diversity, and population biology. Three hours of lecture, three and one-half hours of laboratory, and one hour of discussion per week.

110 Human Biology (3)

Lectures and readings concerned with the reproduction,

development, genetics, functional anatomy, behavior, ecology, and evolution of the human species. Three hours of lecture per week.

111 Issues in Geriatric Health Care (2)

(Same as Biology 111 and Nursing 111.) A course designed to acquaint the student with aspects of chronic disease frequent in later life, as well as a synopsis of biological aging processes. Disease symptomology, aspects of health maintenance, and medical intervention with an older adult population will be discussed. In addition, issues in health-care delivery will also be explored.

113 Human Physiology and Anatomy I (4)

Prerequisite: Biology 1 or its equivalent. The basic aspects of the structure of the healthy human body and how it functions. Special emphasis is on how the human body adapts itself to its environment and how changes affect physiological activities. Three hours of lecture and two hours of laboratory per week.

114 Human Physiology and Anatomy II (4)

Prerequisite: Biology 113. A continuation of Biology 113. A study of the basic aspects of human physiology and anatomy. Three hours of lecture and two hours of laboratory per week.

115 Human Genetics (3)

The structure and transmission of genetic characteristics in humans, including modern advances and their impact on society. Three hours of lecture per week.

116 General Microbiology (3)

Prerequisite: Biology 1 or its equivalent. A survey of microbial structure, genetics, and physiology. Special emphasis will be placed on the transmission and control of such organisms as they relate to the maintenance of human health. Three hours of lecture per week.

118 General Microbiology Laboratory (2)

Prerequisite: Biology 116 (may be taken concurrently). Standard techniques for identification, growth, and control of microorganisms. Three and one-half hours of laboratory per week.

120 Environmental Biology (3)

An examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution, and conservation. Three hours of lecture per week.

130 Global Ecology (3)

Prerequisite: Biology 1. Must be taken concurrently with Political Science 85 for 3 hours of Biology and 3 hours of Political Science credit. A course team-taught by the Biology and Political Science departments, aimed particularly at elementary education majors. Combines natural science and social science perspectives in taking a global view of a variety of environmental concerns, such as air and water pollution, climate change, conservation of nonrenewable resources, and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national, and

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international levels. Features labs and field trips in addition to lecture and discussion. Three hours of lecture, one hour and fifteen minutes discussion and three and one-half hours laboratory per week.

140 Female Sexuality (3)

(Same as Psych 140.) Prerequisites: Psych 3, or Biology 1, or its equivalent. This course will present a biological-psychological orientation toward the study of female sexuality. Topics include: sexual anatomy, hormonal influences on sexual behavior, psychosexual development, sexual attraction and relationships, sexual response and dysfunction, menstruation, pregnancy, menopause, reproductive health issues, and social issues in sexuality.

150 Plants and Civilization (3)

Prerequisite: Biology 1 or its equivalent. A study of use and dependency on plants. Primary topics of discussion will center on the origin of agriculture and its influence on the development of nations, the origin and evolution of food crops, drug and medicinal plants, and problems in feeding the world's population. Three hours of lecture per week.

201 Fundamental Biological Laboratory Skills (1)

Prerequisite: Chem 11 and 12 and Math 30, Biology majors must complete Biology 11 and 12 before taking this course. This laboratory course will provide background information and practical experience in introductory laboratory techniques. This course is appropriate for biology majors or students in other disciplines who wish to improve their laboratory skills for technical positions or for teaching. This course meets for two hours each week. The course will not fulfill laboratory requirements for the major.

210 Cell Structure and Function (3)

Prerequisites: Biology 11 (majors must also take Biology 12), Chem 11 and 12 or equivalent. Chem 261 recommended. General cell biology, stressing cell structure and ultrastructure, as related to cell function. Three hours of lecture per week.

212 Histology and Microtechniques (5)

Prerequisites: Biology 11, (majors must also take Biology 12), Biology 210 recommended. The basic principles of histology. A survey of basic tissues and organ systems. Techniques associated with preparation of animal tissues for light microscopic studies. Three hours of lecture and 3 1/2 hours of laboratory per week. (Additional lab hours arranged.) Fulfills both a lecture and a laboratory requirement.

213 Vertebrate Physiology (3)

Prerequisites: Biology 11 and 12 and Chem 11 (or Chem 1 plus Chem 9). Basic functional aspects of organ systems in relation to the physiochemical properties of protoplasm. Three hours of lecture per week.

215 Vertebrate Physiology Lab (2)

Prerequisite: Biology 213 (may be taken concurrently). Instrumental and experimental studies in physiology. Three and one-half hours of laboratory per week.

216 Microbiology (3)

Prerequisites: Biology 11 (majors must also take Biology

12) and Chem 11 (or Chem 1 plus Chem 9). Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

218 Microbiology Laboratory (2)

Prerequisite: Biology 216 (may be taken concurrently). Experimental studies and procedures of microbiological techniques. Three and one-half hours of laboratory per week.

220 General Ecology (3)

Prerequisites: Biology 11 and 12. An examination of the relationships between living organisms and their environment. Three hours of lecture per week.

222 General Ecology Laboratory (2)

Prerequisites: Biology 220 required (may be taken concurrently); a general statistics course strongly recommended. An analysis of factors influencing the abundance and distribution of living organisms. Three and one-half hours of laboratory per week.

224 Genetics (3)

Prerequisites: Biology 11 (majors must also take Biology 12) and Chem 11 (or Chem 1 plus Chem 9). Fundamental principles of inheritance, including classical genetic theory as well as recent advances in the molecular basis of heredity. Three hours of lecture per week.

226 Genetics Laboratory (2)

Prerequisite: Concurrent registration in Biology 224, or by permission of instructor. Laboratory to accompany Biology 224. Three and one-half hours of laboratory per week.

228 Introduction to Biotechnology (4)

Prerequisite: Biology 11, 12 and Chem 11 or equivalent, or consent of instructor. An introduction to the fundamental concepts that underlie the rapidly growing field of biotechnology. The structure and function of DNA, RNA and protein will be presented through lectures, discussions and a series of laboratory exercises. Both the basic biological concepts and essential laboratory skills necessary for students interested in the field of biotechnology will be covered in this course. Two hours of lecture and four hours of laboratory per week. Fulfills a laboratory requirement only.

231 Undergraduate Internship in Biotechnology

Prerequisites: Biology 11 and 12, Chem 11 and 12 and consent of instructor. Concurrent enrollment in Chem 261 or higher is strongly encouraged. A 2.5 GPA and enrollment in the undergraduate Biotechnology Certificate Program is required. Internship will consist of a period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours a student works each week and in consultation between the intern's supervisor and instructor. Internship assignments will commensurate with the education and experience of the student. Two credits may be used to fulfill the lab requirement.

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235 Development (3)

Prerequisites: Biology 11 and 12. Basic principles of development from the point of view of growth, morphogenesis, and differentiation. Three hours of lecture per week.

237 Development Laboratory (2)

Prerequisite: Biology 235 (may be taken concurrently). Laboratory to accompany Biology 235. Three and one-half hours of laboratory per week.

240 Conservation Biology (4)

Prerequisites: Biology 11 and 12. Introduction to the principles and theories of conservation biology. Subjects to be covered include biodiversity, extinctions, habitat fragmentation, captive breeding programs, restoration ecology, among others. Particular emphasis will be placed on subjects pertinent to Missouri and temperate regions, although some examples will come from tropical areas. Three hours of lecture and one hour of discussion per week. Two-three Friday or Saturday field trips to local natural areas with active conservation activities, e.g., Wolf Sanctuary, private Nature Conservancy reserves.

246 Introduction to Evolution (3)

Prerequisites: Biology 11 and 12. Introduction to the theory, events, and processes of organic evolution.

250 Biology of Plants (5)

Prerequisites: Biology 11 and 12. A general discussion of the plant groups from algae through angiosperms. Plant morphology, physiology, reproduction, and ecology will be discussed in lecture (three hours per week). The laboratory (3 and 1/2 hours per week) involves examination of representatives of the plant kingdom and experimentation in plant physiology and genetics. Fulfills both a lecture and a laboratory requirement.

254 General Plant Physiology and Development (3)

Prerequisites: Biology 11 and 12 and Chem 11 (or Chem 1 plus Chem 9). An examination of photosynthesis, water relations, development, and response to environmental stress in plants. Three hours of lecture per week.

256 Plant Physiology and Development Laboratory (2)

Prerequisite: Biology 254 (may be taken concurrently). Laboratory to accompany Biology 254. Exercises will demonstrate basic plant biochemical and biophysical mechanisms and responses to environmental stress. Three and one-half hours of lab per week.

260 Vertebrate Biology (3)

Prerequisites: Biology 11 and 12. Development, structure, function, interrelationships, and zoogeography of vertebrate animals with particular attention to phylogenetic aspects. Three hours of lecture per week.

262 Vertebrate Biology Laboratory (2)

Prerequisite: Biology 260 (may be taken concurrently). Laboratory to accompany Biology 260. Morphological analysis and systematic survey of major vertebrate groups. Overview of the vertebrate life forms and their adaptations to habitats and resources. Three and one-half hours of laboratory per week.

264 Invertebrate Biology (3)

Prerequisites: Biology 11 and 12. Structure and function of invertebrate animals with co-emphasis on evolution and phylogenetic interrelationships. A field trip to the Florida Gulf Coast will be offered but not required. Three hours of lecture per week.

266 Invertebrate Biology Laboratory (2)

Prerequisite: Biology 264 (may be taken concurrently). Laboratory to accompany Biology 264. Dissection and analysis of invertebrates with an emphasis on structure and function; includes field trips to area stations. A field trip to the Florida Gulf Coast will be offered but not required. Three and one-half hours of laboratory per week.

280 Animal Behavior (3)

Prerequisites: Biology 11 and 12. The study of invertebrate and vertebrate behavior, including developmental, genetic, and ecological aspects of behavior; behavior interactions within and between populations. Three hours of lecture per week.

282 Animal Behavior Laboratory (2)

Prerequisite: Biology 280 (may be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of laboratory per week.

285 Curriculum and Methods of Teaching Life Sciences (4)

(Same as SEC ED 285.) Prerequisites: SEC ED 213 and a near-major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. The analysis of teaching/learning and field experience observations in secondary school classrooms will be integrated into classroom activities and discussions. This course must be completed in residence.

286 Laboratory in Teaching Life Sciences (2)

(Same as SEC ED 286.) Prerequisite: SEC ED 213. Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285/ SEC ED 285.

300 Radiation Safety in Biological Research (2)

Prerequisite: Consent of instructor. A description of the basic principles of radiation safety and the more important numerical data upon which the practice of radiation safety is based. Topics include interaction of radiation with matter, biological effects of radiation, operation of field and laboratory instruments, and control of exposure. Both ionizing and nonionizing radiation will be discussed. Two hours of lecture/demonstration per week.

302A Introduction to Cytotechnology (3)

Prerequisite: Admission to the Cytotechnology program at Jewish Hospital College of Nursing and Allied Health. Introduction to the profession of cytotechnology including basic cell biology, ethics, the microscope and history of the profession. Basic concepts of pathology, anatomy, normal histology, and benign cellular processes are taught.

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302B Female Genital Tract I (4)

Prerequisite: Biology 302A or consent of instructor. Examines the morphogenesis of malignancy with emphasis on cellular changes of squamous and endocervical epithelium of the uterine cervix. The student is expected to identify morphologic cellular manifestations and begin to differentiate diagnosis of presented diseases on kodachromes and glass slides. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302C Female Genital Tract II (3)

Prerequisite: Biology 302B or consent of instructor. Emphasis on the study of lesions of the uterine corpus, metastatic lesions, and lesions of the vulva and vagina. The student is expected to differentiate between malignant and premalignant diseases of the uterine corpus and to begin differential diagnosis of endometrial adenocarcinoma and endocervical adenocarcinoma from glass slides and kodachromes. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302D The Processing Laboratory (2)

Prerequisite: Biology 302C or consent of instructor. Includes routine procedures for processing, receipt, staining, cover-slipping and filing of specimens. Cytology laboratory experience includes performing laboratory techniques under the supervision of a cytotechnologist. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302E Respiratory and Oral Cytology (3)

Prerequisite: Biology 302D or consent of instructor. Designed to acquaint the student with the anatomy and histology of the upper and lower respiratory areas. Epithelial appearances and changes associated with normal, benign, and malignant processes are emphasized. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302F Body Fluid Cytology (3)

Prerequisite: Biology 302E or consent of instructor. Examines the cytopathology of effusions, cerebral spinal fluid and other body fluids, and the cytologic changes associated with benign and malignant processes. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302G Gastrointestinal Genitourinary Cytology (3)

Prerequisite: Biology 302F or consent of instructor. The study of the cytology of the gastrointestinal and genitourinary systems. The anatomy of each body site is discussed along with the normal, benign and malignant cellular changes of each system. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302H Fine Needle Aspiration Cytology (4)

Prerequisite: Biology 302G or consent of instructor. Examines the anatomy and histology of the breast, thyroid, and lymph nodes with emphasis on the cytologic patterns associated with normal, benign, and malignant processes. In addition, the student will have the opportunity to observe and assist the cytopathologist and/or cytotechnologist with fine needle aspiration procedures from various body sites to observe techniques for processing and rapid cytologic assessment. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302I Advanced Practices in Cytology (12)

Prerequisite: Biology 302H or consent of instructor. This clinical course requires the student to examine a variety of specimens for cytologic evaluations from all body sites. Student must have achieved minimum screening accuracy in prerequisite courses to begin practicum. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

302J Leadership and Management CT(4)

Prerequisite: Economics 51 or Business 210, or equivalents. Examines theories of leadership, management and organization as applied to cytotechnology. Healthcare economics, political issues, healthcare systems are investigated within a systems theory framework. Computer programs are used for development of financial spreadsheets and delivery patterns. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303 Biotechnology Colloquium (1)

Prerequisite: Must be enrolled in biotechnology certificate program. Weekly seminars by outside speakers who will focus on biotechnology. Speakers will discuss current research in biotechnology, new applications of biotechnology in medicine and agriculture, safety issues, federal compliance standards, and patenting of biotechnology products. May be repeated for a maximum of two credit hours.

303A Fundamentals in Clinical Laboratory Science (4)

Prerequisite: Admission to the Clinical Laboratory Science program at Jewish Hospital College of Nursing and Allied Health. Introduction to the basic concepts in the major areas of laboratory diagnostic procedures. Basic laboratory mathematics, methodology, terminology, concepts of quality control, biological and chemical safety are presented. Successful completion of this course is required before enrollment in subsequent CLS courses.

303B Clinical Bacteriology (3)

Prerequisite: Biology 303A or consent of instructor. Study of the morphology, cultural and growth characteristics of bacteria which cause infectious disease. Specimen and media selection, collection, transport, storage and processing are also studied. Students learn to differentiate normal from pathogenic microorganisms. Offered

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exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303C Bacteriology Practicum (4)

Prerequisite: Biology 303B or consent of instructor. Students learn to select proper media for isolation and differentiation of organisms. Basic and special testing are practiced to identify specific microorganisms. Sensitivity of organisms to antimicrobial drugs is determined. Safety procedures are taught and practiced. Offered exclusively for student meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303D Mycology (2)

Prerequisite: Biology 303C or consent of instructor. Presentation of the major clinically-important fungi and common contaminants. Microscopic and other methods of identification and classification are discussed and practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303E Clinical Immunology (2)

Prerequisite: Biology 303D or consent of instructor. Introduces the principles of both normal and abnormal responses of the immune system through the molecules, cells, organs and systems responsible for the recognition and disposal of foreign materials. Immunological manifestations of diseases are discussed. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303F Immunology Practicum (1)

Prerequisite: Biology 303E or consent of instructor. The focus of the clinical practice is on serologic and immunologic testing. Data interpretation, troubleshooting in test systems and disease correlation with laboratory data are stressed. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303G Immunohematology (3)

Prerequisite: Biology 303F or consent of instructor. Presents the theory and principle of immunology and genetics that determine blood types and transfusions. Aspects of red cells, platelets and components are discussed regarding selection, collection, transport, storage, processing and their use for transfusion. Donor requirements and laboratory operations are included. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303H Immunohematology Practicum (3)

Prerequisite: Biology 303G or consent of instructor. The focus of clinical practice is the basic and special testing to assure safe blood supply and transfusion. Adverse reactions are investigated to identify cause. Offered

exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303I Hematology (3)

Prerequisite: Biology 303H or consent of instructor. The study of anatomy and physiology of red cells, white cells and platelets using the quantitation and morphology of these cells to identify normal and abnormal processes. Hematopoietic diseases are presented. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303J Hematology Practicum (3)

Prerequisite: Biology 303I or consent of instructor. The clinical practice focuses on the basic and special testing in hematology. Identification of normal and abnormal cell morphology is studied and disease is correlated with abnormal cells. Hemostasis testing is practiced; these tests monitor anticoagulant drugs. Other tests practiced identify coagulation deficiency and other hemostatic diseases. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303K Clinical Chemistry (4)

Prerequisite: Biology 303J or consent of instructor. Biochemical theory and physiology of carbohydrates, lipids, and lypoproteins, heme derivatives, proteins and enzymes. The biochemistry and physiology of electrolytes and acid base balance are discussed. Endocrinology, therapeutic drug monitoring and instrumentation specific to the chemistry laboratory testing are also discussed. Normal and abnormal manifestations of diseases and correlation with other laboratory tests are presented. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303L Chemistry Practicum (4)

Prerequisite: Biology 303K or consent of instructor. The clinical practice focus is on basic and special test methods and instrumentation used in the quantifying metabolites discussed in Biology 303K. Quality control, correlation of test data and diseases are presented. Biological and chemical safety is practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303M Parasitology CLS (2)

Prerequisite: Biology 303L or consent of instructor. Presentation of the major parasites. Classification, diagnostic stages, life cycles and vectors are studied and microscopic identification is practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

303N Leadership and Management CLS (4)

Prerequisite: Economics 51 or Business 210 or equivalents.

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Examines theories of leadership, management, and organization as applied to Clinical Laboratory Science. Healthcare economics, political issues, healthcare systems are investigated within a systems theory framework. Computer programs are used for development of financial spreadsheets and delivery patterns. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

310 Cell Physiology (3)

Prerequisite: Biology 276 (Biology 210 recommended). A study of cellular functions and their relationship to the structural and chemical properties of cellular components. Areas discussed: the cell and its environment, energy flow, exchange of materials across membranes, information transfer within and between cells, and cellular aspects of movement. Three hours of lecture per week. Students may not receive credit for both Biology 310 and 410.

311 Physiology of Aging (3)

Prerequisites: Biology 11, 12, and 213 or equivalent, or consent of instructor. (Same as Gerontology 311). An overview of the aging process in animal populations with special emphasis on physiological changes that occur with human aging. Current theories as to the mechanism of aging are considered and critically evaluated in view of recent research findings. Premature aging diseases and age-related diseases are discussed. Three hours of lecture per week.

313 Comparative Animal Physiology (3)

Prerequisite: Biology 213. The unity and diversity of physiological mechanisms found throughout the animal kingdom. Three hours of lecture per week. Students may not receive credit for both Biology 313 and 413.

314 Environmental Physiology (3)

Prerequisite: Biology 213. Physiological responses of animals to environmental changes. Adaptation of organisms to various environments. Three hours of lecture per week. Students may not receive credit for both Biology 314 and 414.

315 Comparative and Environmental Physiology Laboratory (2)

Prerequisite: Biology 313 or 314. An open-ended laboratory course to accompany either Biology 313 or Biology 314.

316 Parasitology (3)

Prerequisites: Biology 11 and 12, 10 additional hours of biology and upper-division standing. Biology 210 strongly recommended. A broadly based course emphasizing the phylogeny, life history, ecology, and physiology of parasites of medical and veterinary importance. Modern aspects of experimental parasitology, immunoparasitology, and parasite molecular biology will be addressed.

317 Immunobiology (3)

Prerequisites: Biology 276 and Chem 261. The fundamental principles and concepts of immunology and immunochemistry. Emphasis on the relation of immunological phenomena to biological phenomena and biological problems. Three hours of lecture per week.

319 Immunobiology Laboratory (2)

Prerequisite: Biology 317 (may be taken concurrently). Basic experimental procedures in immunology. Introduction to experimental evidence underlying concepts of immunology. Three and one-half hours of laboratory per week.

320 Introduction to Neuroscience (3)

Prerequisite: Biology 213 or consent of instructor. The study of nervous systems, featuring the cellular bases of initiation and conduction of the impulse, synaptic transmission, and the network integrative function of invertebrate and vertebrate nervous systems. This course emphasizes the multidisciplinary nature of the neurosciences, including anatomical, physiological and molecular approaches to understanding neural function. Three hours of lecture per week.

322 Laboratory Techniques in Neuroscience (2)

Prerequisites: Biology 320 (must be taken concurrently). Experiments are designed to accompany Biology 320, and will include the use of live animals and computer simulation of the physiological and biophysical properties of excitable membranes.

323 Tropical Resource Ecology (3)

Prerequisites: Biology 220 and either Biology 246 or Biology 280 or their equivalent, or permission of instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323 and Biology 423. Three hours of lecture per week. Offered in odd years.

324 Tropical Resource Ecology Field Studies (2)

Prerequisites: Biology 323 (may be taken concurrently). The field component to the lecture and seminar course that applies the behavioral ecology paradigm to examine the patterns of use and exploitation of resources in the tropics by humans. Two weeks of intensive field research and lectures in Guyana, South America the week prior to and during spring break (trip costs to be born by student). Students may not receive credit for both Biology 324 and Biology 424. Offered in odd years.

325 Tropical Vertebrate Ecology (3)

Prerequisites: Biology 220, and either Biology 246 or Biology 280 or their equivalent, or permission of instructor. This course explores the role of Neotropical vertebrate individuals in the expression of patterns and processes in populations and communities that elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Three weeks of intensive lecture, discussion and individual field studies in Guyana, South America during July-August (trip costs to be born by student). Class size 12 students. Students may not receive credit for both Biology 325 and Biology 425. Offered in even years.

326 Gene Expression in Eukaryotes (3)

Prerequisites: Biology 224 and 276. A discussion of the current concepts of molecular biology as they apply to understanding genetic regulation of DNA, RNA, and protein synthesis and function in the cell. Three hours of lecture per week. Students may not receive credit for both Biology 326 and 426.

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328 Techniques in Molecular Biology (4)

Prerequisites: Biology 228 and either Biology 326 or Biology 338. An in-depth look at theory and practice of current technologies in molecular biology. The focus will be on techniques used to study gene structure and expression. Laboratory will present hands-on experience with these techniques. One hour of lecture and 6 hours of laboratory per week. Fulfills a laboratory requirement only for majors. Students may not receive credit for both Biology 328 and 428.

329 Molecular Evolution (3)

Prerequisite: Biology 246 or 342, and Biology 326 or 338, or consent of instructor. This course provides lectures and class discussions concerning the evolutionary processes that have changed the genetic material over time. This course will include the dynamics of genes in populations and several aspects of evolutionary change at the molecular level. Students may not receive credit for both Biology 329 and 429.

330 Topics in Development (3)

Prerequisite: Biology 235. Discussion of selected model systems that are not generally covered in an introductory level course in Development, as well as current views of concepts that are basic to the analysis of the mechanisms of development. Three hours of lecture per week. Students may not receive credit for both Biology 330 and 430.

332 Advanced Development Laboratory (2)

Prerequisite: Biology 330 (may be taken concurrently). Instruction and practice in the application of experimental techniques to the study of development. Three and one-half hours of laboratory per week to be arranged.

334 Virology (3)

Prerequisites: Biology 216 and 224. A comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture per week. Students may not receive credit for both Biology 334 and 434.

335 Molecular Cell Biology (3)

Prerequisites: Biology 326 or 338 and 276. This course is designed to explore the structural organization and processes in living cells. Topics of discussion will include gene product processing and transport, organelle biogenesis and assembly, cell-cell communication, control of gene expression, cytoskeletal structure and function, and normal and abnormal cell differentiation. Particular attention will be given to discussion of the current literature. This course is also designed to help unify genetics, biochemistry, and physiology. Three hours of lecture per week. Students may not receive credit for both Biology 335 and 435.

336 Virology Laboratory (2)

Prerequisite: Biology 334 (may be taken concurrently). Laboratory to accompany Biology 334. Three and one-half hours of laboratory per week.

338 Gene Expression in Prokaryotes (3)

Prerequisites: Biology 216 and 224. The principles and mechanisms of inheritance and transfer of genetic material in microorganisms. Includes the study of mutation, gene

transfer, and genetic manipulation of microorganisms. Three hours of lecture per week. Students may not receive credit for both Biology 338 and 438.

342 Population Biology (3)

Prerequisite: Biology 224 (Biology 220 recommended). The structure, operation, and evolution of populations. Three hours of lecture per week.

344 Gene Activity During Development (3)

Prerequisites: Biology 235 and 326 or consent of instructor. Discussion of selected experimental systems in which molecular genetic and cell biological approaches have provided insights about the genes and/or gene products that regulate animal development. Three hours of lecture per week. Students may not receive credit for both Biology 344 and 444.

347 Practicum in Conservation (3)

Prerequisites: Biology 240 and consent of instructor. This course is generally restricted to students officially enrolled in the Certificate Program in Conservation Biology. The course provides practical experience with conservation or environmental agencies. Specific placement will be selected according to student's interests and career goals as well as availability of agency openings. Course requirements include practical experience and final report on practicum experience.

348 Evolution of Animal Sociality (3)

Prerequisite: Biology 280, 220 or 342 recommended. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches to social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture, one hour of discussion per week. Students may not receive credit for both Biology 348 and 448.

350 Functional Ecology (3)

Prerequisites: Biology 220 or consent of instructor. An examination of plant and animal responses to environmental variation. Content will focus on Darwinian adaptation, homeostasis, acclimation, and development at the whole-organism level. Three hours of lecture per week. Students may not receive credit for both Biology 350 and 450.

352 Functional Ecology Laboratory (2)

Prerequisite: Biology 350 (may be taken concurrently). Laboratory to accompany Biology 350. Exercises will include measurement and analysis of energy budgets, gas exchange, and acclimation to drought. Two field trips will be taken late in the spring to study physiological parameters in the field. Three and one-half hours of laboratory per week. Students may not receive credit for both Biology 352 and 452.

354 Entomology (3)

Prerequisites: Biology 11 and 12, 9 additional hours of biology, and upper-division standing. Development, structure, function, behavior and ecology of insects, including a systematic survey of the orders of Insecta. Three hours of lecture per week.

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356 Entomology Laboratory (2)

Prerequisite: Biology 354 (may be taken concurrently). Laboratory to accompany Biology 354. Studies of the morphology, physiology, and behavior of insects to give a sampling of biological studies of the class Insecta. Formation of a collection of insects, comprising a systematic survey of orders and principal families, will be an integral part of the course and will require additional time beyond the official lab hours. Three and one-half hours of lab per week.

358 Evolutionary Ecology of Plants (3)

Prerequisites: Biology 224 and 220, or 342, or 246. This course will explore topics concerning evolution in natural plant populations emphasizing current empirical research on the genetics and ecology of plant populations. Specific topics will include natural selections and local adaptations, gene flow through pollination and seed dispersal, role of genetic drift, coevolution between plants and animals, molecular evolution, speciation, conservation of natural populations, and artificial selection. Students may not receive credit for both Biology 358 and 458. Three hours of lecture per week.

359 Evolutionary Ecology of Animals (3)

Prerequisites: Biology 220, 280, and one of 224, 246; or their equivalents; or permission of instructor. This course examines the interactions of the evolutionary forces that determine the distribution and abundance of animals. It explores the patterns and processes in populations and communities that should elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Analysis of the theoretical constructs of evolutionary ecology and an examination of the empirical evidence from primary sources that claim to support or refute these theories will also be covered. Students may not receive credit for both Biology 359 and 459. Three hours of lecture per week.

360 Techniques in Electron Microscopy (5)

Prerequisites: Biology 210 and consent of instructor. Discussion of electron microscopy and associated techniques. Students will learn techniques associated with the preparation of materials for electron microscopy and learn to operate and perform minor servicing of the electron microscope. This course fulfills a laboratory requirement. Two hours of lecture per week and seven hours of laboratory per week to be arranged.

361 Plant Molecular Biology and Genetic Engineering (3)

Prerequisites: Biology 326 or 338. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant-microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture per week. Students may not receive credit for both Biology 361 and 461.

362 Plant Taxonomy (4)

Prerequisites: Biology 250 or consent of instructor. The history, literature and methodology of plant taxonomy,

emphasizing the flowering plants or angiosperms. Modern methods, e.g., phenetics, cladistics, and vicariance biogeography will also be covered. The labs will feature most angiosperm groups, using living and herbarium material. Two hours of lecture and three and one-half hours of laboratory per week.

364 Ornithology (3)

Prerequisites: Biology 220 and junior standing. Introduction to avian biology and ecology. Material to be covered will include basic adaptations of anatomy, physiology, and behavior of birds. There will be a strong emphasis on avian ecology and conservation. Specific topics will include flight, reproductive behavior, migration, foraging behavior, community structure, and current conservation concerns. The diversity of birds will be emphasized through comparisons between temperate and tropical regions. Three hours of lecture per week.

366 Ornithology Laboratory (2)

Prerequisite: Biology 364 (may be taken concurrently) or consent of instructor. This course will introduce students to methods of identifying and studying birds. Labs will almost entirely be comprised of field trips to local areas and will emphasize diversity of birds, adaptations shown by different groups, and means of identification, particularly of birds found in Missouri. Field projects will focus on techniques for censusing birds, sampling foraging behavior, and studying habitat selection. Indoor periods will cover internal and external anatomy of birds. Slides and field trips to the St. Louis Zoo will be used to survey the diversity of birds worldwide. Three and one-half hours of laboratory per week. Longer (e.g., Saturday) field trips will be made when appropriate.

368 Quantitative Methods in Plant Ecology (4)

Prerequisite: Biology 220 or consent of instructor. Lectures and assigned readings will cover sampling and analytic techniques for soils and plant material. Laboratories will include practice in the technique of plant demography, selection analysis, habitat description, and analysis of communities. Attention will be given to experimental design and statistical treatment and interpretation of ecological data. Students will design and execute an independent laboratory or field study. One-hour lecture and four and one-half hours of laboratory per week. This course fulfills a laboratory requirement. Students may not receive credit for both Biology 368 and 468.

370 General and Comparative Endocrinology (3)

Prerequisite: Biology 213 (Biology 276 recommended). A survey of chemical coordinating mechanisms with special emphasis on the evolution of hormonal control systems. Three hours of lecture per week. Students may not receive credit for both Biology 370 and 470.

371 Biochemistry (3)

(Same as Chemistry 371). Prerequisites: Chemistry 261 and either Biology 11 or Chem 262. The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biology 371 and Chemistry 371. Biology 371 may not be

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used to fulfill the 300-level lecture course requirement for the B.S. in Biology.

372 General and Comparative Endocrinology Laboratory (2)

Prerequisite: Biology 370 (may be taken concurrently). An introduction to techniques and procedures used in endocrine research. Three and one-half hours of laboratory per week.

375 Techniques in Biochemistry (2)

Prerequisite: Biology 371 or Chemistry 371 (may be taken concurrently). Laboratory activities introducing fundamental qualitative and quantitative biochemical techniques.

376 Topics in Biological Chemistry (3)

Prerequisite: Biology 276. Topics include control of cellular metabolism, membrane transport mechanisms of action of enzymes and hormones, and enzyme kinetics. Three hours of lecture per week.

378 Topics in Biological Chemistry Laboratory (2)

Prerequisite: Biology 278 or consent of instructor. Independent projects related to analytical and metabolic control, using advanced analytical and synthetic procedures. Three and one-half hours of laboratory per week.

380 Behavioral Ecology (3)

Prerequisite: Biology 280 (Biology 220 recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions, sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture per week. Students may not receive credit for both Biology 380 and 480.

381 Theoretical Systematics and Evolution (3)

Prerequisite: Biology 342 or equivalent. Mechanisms of speciation, the role of such phenomena as isolation, hybridization, polyploidy, gene flow, and breeding systems in the evolution and maintenance of species and modern theoretical systematics in phylogenetic reconstructions. Three hours of lecture per week. Students may not receive credit for both Biology 381 and 481.

382 Ecological and Evolutionary Behavior Laboratory (2)

Prerequisite: Biology 380 (may be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of laboratory per week.

383 Introduction to Geographic Information Systems (3)

Prerequisite: Biology 220, Biology 388 or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of geographically referenced data. This course provides a foundation in using GIS for spatial analysis. Examples from a wide range of disciplines are used to emphasize the use of GIS as a tool to support analysis and decision-making. Students will have hands-on use of GIS software using UNIX-based computer workstations. Three hours

of combined lecture and computer operations per week. Students may not receive credit for both Biology 383 and Biology 483.

385 Wildlife Ecology and Conservation (3)

Prerequisites: Biology 220 and junior standing. This course will provide a basic survey of the ecological issues involved in conservation and management of wild animals. Topics will include population dynamics and regulation, habitat management, endangered species, wildlife legislation, predator-prey interactions, human-wildlife conflicts, sustainable use of wildlife. There will be a strong emphasis on temperate ecosystems, but many examples will be drawn from tropical ecosystems. Use of computer simulation models in wildlife conservation and management will be included. Three hours of lecture per week.

386 Wildlife Ecology and Conservation Laboratory (2)

Prerequisite: Biology 385 (may be taken concurrently) or consent of instructor. This course will provide field and laboratory experiences to accompany Biology 385. Field trips will emphasize field research techniques, including methods for sampling animal populations and their habitat. Considerable emphasis will be placed on learning to identify common vertebrates of Missouri streams and forests. Laboratory periods will be used to discuss methods of data analysis, computer simulations, as well as further emphasis on identification. Three and one-half hours of lab per week. Several one- to two-day field trips will be required as well.

387 Tropical Ecology and Conservation (3)

Prerequisite: Biology 220, 342, 442, or equivalent. This course will cover research areas in tropical population, community and ecosystem ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and development of strategies leading to sustained use of nonrenewable resources. Students may not receive credit for both Biology 387 and 487. Three hours of lecture per week.

388 Biometry (3)

Prerequisites: Math 30 and a minimum of 15 hours in biology. This course reviews descriptive, analytical, and experimental methods useful for the statistical study of biological phenomena. Students will develop the skills needed to better appreciate and evaluate the published literature, as well as the ability to design their own research programs. Topics include: the collection and summarization of biological observations; development, design, and testing of hypotheses; analysis and presentation of data. Three-hour lecture. This course fulfills the statistics requirement for the B.A. or B.S. degree in biology. Students may not receive credit for both Biology 388 and 488.

389 Senior Seminar (2)

Prerequisite: Senior standing. Required of biology majors. Presentation of selected papers by students. May not be taken for graduate credit.

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390 Research (1-3)

Prerequisite: Consent of the Biology 390 course coordinator. Generally restricted to junior or senior standing. Research (laboratory and/or library) in an area selected by the student in consultation with and under the supervision of a faculty research adviser. Credit arranged. Course may be repeated for a total of up to five credit hours. No more than two credit hours may be applied toward the minimum number of biology course credits for the major in biology.

392 Selected Topics (1-10)

Prerequisites: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics available in the departmental office. Credit arranged. May be taken more than once for credit.

393 Research Methods in the Health Sciences (3)

Prerequisites: Psychology 201 or equivalent. Develops an understanding of the research process as applied to allied health. The value and purpose of research within an ethical/legal context is explored. Qualitative and quantitative research methods and approaches to solve problems are examined. Students are actively involved in evaluating, critically analyzing and interpreting data to determine implications for practice. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

395 Field Biology (3)

Prerequisites: Three biology courses and consent of instructor. Intensive study of the flora and fauna of selected natural areas of North America, including an extended field trip. Details of the field trip and course schedule will be posted in the Biology Department preceding registration for the term in which the course will be offered. Students will be required to pay costs of travel and of the field trip. This is a laboratory course appropriate for advanced undergraduates and non-thesis Master of Science students. Students may not receive credit for both Biology 395 and 440.

396 Marine Biology (3)

Prerequisite: Biology 264 (Biology 266 recommended). A survey of the major groups of marine plants and animals and their interactions in the various North American marine communities. Three hours of lecture per week.

398 Marine Biology Laboratory (2)

Prerequisites: Biology 396 (may be taken concurrently) and consent of instructor. Intensive laboratory and field study of selected North American marine communities. Consult the instructor for area to be visited. Students must pay their own travel and living expenses.

399 Science Teaching Intern Seminar (3)

Prerequisites: Biology 285 and 286. Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, SEC ED 290.

405 Topics in Ecology, Evolution, and Systematics (1)

Prerequisite: Graduate standing. Presentation and

discussion of current faculty and student research projects in behavior, ecology, evolution, and systematics. May be repeated for a maximum of three credit hours. One hour per week.

406 Topics in Molecular, Cellular and Developmental Biology (1)

Prerequisite: Graduate standing. Presentation and discussion of student and faculty research projects and/or current research articles in molecular, cellular and developmental biology. May be repeated for a maximum of three credit hours. One hour per week.

407 Topics in Floristic Taxonomy (1)

Prerequisite: Biology 250 or equivalent, and graduate standing. Seminar course in systematics of higher plants, arranged in the Cronquist sequence of families, covering morphology, anatomy, palynology, biogeography, chemosystematics, cytology, and other aspects of plant classification and phylogenetics. Given at the Missouri Botanical Garden. One hour per week.

408 Museum Methods in Biological Research (1)

Prerequisites: Graduate standing and consent of instructor. Hands-on training will teach methods in the preparation and preservation of research specimens and the recording and cataloging of associated data. Students will learn basic techniques for higher and lower vertebrates, invertebrates, insects, and plants. Each student will prepare representative specimens of all groups studied. The relationship between museum preservation and research programs in systematics, ecology, and behavior will be emphasized. Two hours of lecture-demonstration a week.

410 Advanced Cell Physiology (3)

Prerequisite: Biology 276, (Biology 210 recommended). An advanced study of cellular functions and their relationships to the structural and chemical properties of cellular components. Areas discussed: the cell and its environment, energy flow, exchange of materials across membranes, information transfer within and between cells, and cellular aspects of movement. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 310 and Biology 410.

413 Advanced Comparative Animal Physiology (3)

Prerequisite: Biology 213. Advanced aspects of the unity and diversity of physiological mechanisms found through the animal kingdom. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 313 and 413.

414 Advanced Environmental Physiology (3)

Prerequisite: Biology 213. Advanced aspects of physiological responses of animals to environmental changes. Adaptation of organisms to various environments. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 314 and 414.

417 Advanced Immunology (3)

Prerequisite: Biology 317. Advanced consideration of techniques of measuring antigen-antibody interaction;

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immunogenetics as applied to cellular immunity and transplantation; evolution of the immune response. Three hours of lecture per week.

423 Advanced Tropical Resource Ecology (3)

Prerequisite: Biology 220, and either Biology 246 or Biology 280 or their equivalent, or permission of instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323 and Biology 423. Three hours of lecture, and 1 hour of discussion or seminar per week. Offered in odd years.

424 Advanced Tropical Resource Ecology Field (2)

Prerequisite: Biology 423 (may be taken concurrently). The field component to the lecture and seminar course that applies the behavioral ecology paradigm to examine the patterns of use and exploitation of resources in the tropics by humans. Two weeks of intensive field research and lectures in Guyana, South America the week prior to and during spring break (trip costs to be born by student). Graduate students will be required to write an extra paper on tropical resource use problems. Students may not receive credit for both Biology 324 and Biology 424. Offered in odd years.

425 Advanced Tropical Vertebrate Field (3)

Prerequisite: Biology 220, and either Biology 246 or Biology 280 or their equivalent, or permission of instructor. This course explores the role of Neotropical vertebrate individuals in the expression of patterns and processes in populations and communities that elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Three weeks of intensive lecture, discussion and individual field studies in Guyana, South America during July-August (trip costs to be born by student). Graduate students will be required to write a paper on a topic relevant to the course. Class size 12 students. Students may not receive credit for both Biology 325 and Biology 425. Offered in even years.

426 Advanced Gene Expression in Eukaryotes (3)

Prerequisites: Biology 224 and 276. An advanced discussion of the current concepts of molecular biology as they apply to understanding genetic regulation of DNA, RNA, and protein synthesis and function in the cell. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 326 and 426.

428 Advanced Techniques in Molecular Biology (4)

Prerequisites: Biology 228 and either Biology 326 or Biology 338. An in-depth look at the theory and practice of current technologies in molecular biology. The focus will be on techniques used to study gene structure and expression. Laboratory will present hands-on experience with these techniques. One hour of lecture, six hours of laboratory, and one hour of seminar per week. Students may not receive credit for both Biology 328 and 428.

429 Advanced Molecular Evolution (3)

Prerequisite: Biology 246 or 342, and Biology 326 or 338,

or consent of instructor. Advanced lectures and class discussions concerning the evolutionary processes that have changed the genetic material over time. This course will include the dynamics of genes in populations and several aspects of evolutionary change at the molecular level. Students may not receive credit for both Biology 329 and 429.

430 Advanced Topics in Development (3)

Prerequisite: Biology 235. Discussion of selected model systems that are not generally covered in an introductory level course in Development, as well as current views of concepts that are basic to the analysis of the mechanisms of development. Three hours of lecture and one hour of discussion or seminar per week. Students may not receive credit for both Biology 330 and 430.

431 Graduate Internship in Biotechnology (1-4)

Prerequisite: Graduate standing and enrollment in graduate Biotechnology Certificate Program. 6 Credit hours maximum (maximum of 8 combined credit hours of 490 and internship). Internship will consist of period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number or hours the student works each week and in consultation between the intern's supervisor and the instructor. Internship assignments will be commensurate with the education and experience of the student.

434 Advanced Virology (3)

Prerequisites: Biology 216 and 224. An advanced comparative study of the structure, reproduction, and genetics of viruses. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 334 and 434.

435 Advanced Molecular Cell Biology (3)

Prerequisite: Biology 326 or 338 and Biology 276, or equivalent. This course is designed to explore the structural organization and processes in living cells. Topics of discussion will include gene product processing and transport, organelle biogenesis and assembly, cell-cell communication, control of gene expression, cytoskeletal structure and function, and normal and abnormal cell differentiation. Particular attention will be given to discussion of the current literature. This course is also designed to help unify genetics, biochemistry, and physiology. Three hours of lecture, one hour of discussion per week. Students may not receive credit for both Biology 335 and 435.

438 Advanced Gene Expression in Prokaryotes (3)

Prerequisites: Biology 216 and 224. Advanced aspects of the principles and mechanisms of inheritance and transfer of genetic material in microorganisms. Includes the study of mutation, gene transfer, and genetic manipulation of microorganisms. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biology 338 and Biology 438.

440 Ecological Research in Temperate Zones (3)

Prerequisites: Graduate standing and consent of instructor. This course will visit several temperate ecosystems with the objectives of learning about the natural history of

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these areas together with learning how to design projects and conduct field research addressing current ecological theories in a temperate setting. Several faculty members will participate in this course. Temperate sites to be visited will likely include Missouri Ozarks, Great Smoky Mountains, Indiana dunes, and southern Illinois bottomland and cypress swamp forest. Students will be required to pay costs of travel and of field trips. Students may not receive credit for both Biology 395 and 440. Two hours of discussion (during weekday), four-six weekend field trips (leave Friday, return Sunday), and several (2-4) Saturday field trips during first eight weeks of semester.

442 Population and Community Ecology (3)

Prerequisite: Biology 220 or 342 or their equivalents. Studies of structure and organization of natural communities stressing the abundance and distribution of species, the regulation of species diversity, and the evolution of demographic parameters in populations. Three hours of lecture per week.

444 Advanced Gene Activity During Development (3)

Prerequisites: Biology 235 and 326/426 or consent of instructor. Advanced discussion of selected experimental systems in which molecular genetic and cell biological approaches have provided insights about the genes and/or gene products that regulate animal development. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 344 and Biology 444.

445 Public Policy of Conservation and Sustainable Development (3)

(Same as PolSci 452.) Prerequisites: Graduate standing in Biology or Political Science and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of environmental policy-making in developing and developed economies.

446 Theory and Application of Conservation Biology (3)

Prerequisite: Biology 342, 442, or equivalent; or consent of instructor. Prerequisites may be taken concurrently. Advanced analysis of conservation theory with emphasis on conservation of populations, their genetic diversity, and the biodiversity of habitats. Applied aspects of conservation and sustainable development will be illustrated through case studies presented by conservation professionals.

447 Internship in Conservation Biology (1-4)

Prerequisites: Biology 445 or 446 and consent of the director of graduate studies in Biology. Internships will consist of a period of study, observation, and on-the-job training at a conservation or environmental agency. Specific placements will be selected according to student's interests and career goals. Internships may vary from 2 weeks to 4 months in duration.

448 Advanced Evolution of Animal Sociality (3)

Prerequisite: Biology 280, 220, or 342 recommended or consent of instructor. The evolution of sociality, including a critical examination of sociobiological theories and alternative approaches of social evolution. Survey of social organization and behavior in arthropods, with an emphasis on social insects, and vertebrates. Two hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 348 and Biology 448.

450 Advanced Functional Ecology (3)

Prerequisites: Biology 220 or consent of instructor. An examination of plant and animal responses to environmental variation. Content will focus on Darwinian adaptation, homeostasis, acclimation, and development at the whole organism level. A formal research paper or field study on a topic concerning environmental physiology of plants or animals will be required. Three hours of lecture per week. Students may not receive credit for both Biology 350 and Biology 450.

452 Advanced Functional Ecology Lab (2)

Prerequisite: Biology 450 (may be taken concurrently). Laboratory to accompany Biology 450. Exercises will include detailed measurement and analysis of energy budgets, gas exchange, and acclimation to drought. Two field trips will be taken late in the spring to study physiological parameters in the field. A research project involving the greenhouse, laboratory or computer facilities will be required. Meets three and one-half hours per week. Students may not receive credit for both Biology 352 and Biology 452.

458 Advanced Evolutionary Ecology of Plants (3)

Prerequisites: Biology 224, 220 or 342, or 246 or their equivalent. This course will explore topics concerning evolution in natural plant populations, emphasizing current empirical research on the genetics and ecology of plant populations. Specific topics will include natural selection and pollination and seed dispersal, role of genetic drift, coevolution between plants and animals, molecular evolution, speciation, conservation of natural populations, and artificial selection. A formal research paper on a topic concerning the evolutionary ecology of plants will be required. Students may not receive credit for both Biology 358 and 458. Three hours of lecture per week.

459 Advanced Evolutionary Ecology of Animals (3)

Prerequisites: Biology 220, 280 and one of 224, 246; or their equivalents; or permission of instructor. This course examines the interactions of the evolutionary forces that determine the distribution and abundance of animals. It explores the patterns and processes in populations and communities that should elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Analysis of the theoretical constructs of evolutionary ecology and an examination of the empirical evidence from primary sources that claim to support or refute these theories will also be covered. A formal paper in the form of an NSF research proposal on a topic concerning the evolutionary ecology of animals will be required. Students may not receive credit for both Biology 359 and 459. Three hours of lecture per week.

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461 Advanced Plant Molecular Biology and Genetic Engineering (3)

Prerequisites: Biology 326 or 338. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant-microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture and one hour of seminar per week. Students may not receive credit for both Biology 361 and Biology 461.

465 Methods in Plant Systematics (4)

Prerequisites: Biology 362 or consent of instructor. A techniques course covering the use of anatomical, cytological, chemical, palynological and numerical methods in taxonomic research. Herbarium management, databases, scientific publication and library techniques will also be covered. Two hours of lecture and discussion and three and one-half hours of laboratory per week.

468 Advanced Quantitative Methods in Plant Ecology (4)

Prerequisites: Biology 220 or consent of instructor. Lectures and assigned readings will cover sampling and analytic techniques for soils and plant material. Laboratories will include practice in the technique of plant demography, selection analysis, habitat description and analysis of communities. Attention will be given to experimental design and statistical treatment and interpretation of ecological data. Students will design and execute an independent laboratory or field study. One-hour lecture, four and one-half hours of laboratory, and one-hour discussion per week. This course fulfills a laboratory requirement. Students may not receive credit for both Biology 368 and 468.

470 Advanced General and Comparative Endocrinology (3)

Prerequisite: Biology 213 (Biology 276 recommended). An advanced survey of chemical coordinating mechanisms with special emphasis on the evolution of hormonal control systems. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biology 370 and 470.

474 Hormones, Pheromones, and Behavior (3)

Prerequisites: Biology 213 and 280 required, Biology 370 recommended. This course will survey the hormonal and phenomonal control of behavior in both invertebrates (annelids, arthropods, and molluscs) and vertebrates (from fish to primates). Particular attention will be given to organizational and activational effects of hormones on sexual, parental, and aggressive behaviors. Interactions between hormonal, pheromonal, and neural control of behavior will be discussed. Three hours of lecture per week.

480 Advanced Behavioral Ecology (3)

Prerequisite: Biology 280 (Biology 220 recommended). Topics in animal behavior with an emphasis on ecological and evolutionary aspects of behavior. Topics may include the role of behavior in population regulation, habitat selection and spacing, feeding and predator-prey interactions,

sexual selection, evolution of mating systems, and new approaches to animal communication. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biology 380 and 480.

481 Advanced Theoretical Systematics and Evolution (3)

Prerequisite: Biology 342 or equivalent. Advanced aspects of mechanisms of speciation, the role of such phenomena as isolation, hybridization, polyploidy, gene flow and breeding systems in the evolution and maintenance of species, and modern theoretical systematics in phylogenetic reconstruction. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 381 and 481.

483 Applications of Geographic Information Systems (3)

Prerequisite: Biology 220, Biology 388 or equivalent, and consent of instructor; short course in UNIX operating systems recommended. Geographic Information Systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation, and maintenance of geographically referenced data. This course provides a foundation in using GIS for spatial analysis. Examples from a wide range of disciplines are used to emphasize the use of GIS as a tool to support analysis and decision-making. Students will have hands-on use of GIS software using UNIX-based computer workstations. A formal research paper on GIS applications in biological research will be required. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383 and Biology 483.

485 Problems in Teaching College Biology (3)

(Same as ADU ED 435.) Prerequisites: Teaching experience, 30 semester hours in biology, and consent of instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

486 Techniques in Teaching Biology for Graduate Students (2)

(Same as SEC ED 486.) Prerequisites: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student-teacher interaction. Recommended for all graduate students with teaching assistantships.

487 Advanced Tropical Ecology and Conservation (3)

Prerequisite: Biology 220, or 342, or 442, or their equivalent. This course will cover research areas in tropical population, community and ecosystem ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing

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attempts to manage those habitats, and development of strategies leading to sustained use of nonrenewable resources. A research proposal designed to investigate a current topic in tropical ecology will be required. Students may not receive credit for both Biology 387 and 487. Three hours of lecture per week.

488 Advanced Biometry (3)

Prerequisites: Math 30 and a minimum of 15 hours in biology. This course reviews descriptive, analytic, and experimental methods useful for the statistical study of biological phenomena. Students will develop the skills needed to better appreciate and evaluate the published literature, as well as the ability to design their own research programs. Topics include the collection and summarization of biological observations; development, design, and testing of hypotheses; analysis and presentation of data. In addition to the take-home assignments and exams, students will be required to analyze a problem of their choice. This can be an analysis of published material or unpublished, original research. Three-hour lecture, one-hour discussion per week. Students may not receive credit for both Biology 388 and 488.

489 Graduate Seminar (2)

Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

490 Graduate Research in Biology (1-10)

Research in area selected by student in consultation with faculty members. May be taken for a maximum of ten hours.

491 Graduate Research Practicum (1-2)

Prerequisite: Consent of Instructor. This course is designed for graduate students wishing to pursue research experience in an area outside their dissertation topic. The project can be techniques-oriented or focused on a specific research question. The credit hours will depend on the time commitment to the project as decided by the supervisory faculty member.

492 Topics in Biology (2-5)

In-depth studies of selected topics in contemporary biology. May be repeated. Three hours of lecture per week.

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Faculty

Lawrence Barton, Professor*; Chairperson
Ph.D., University of Liverpool

Gordon K. Anderson, Professor*
Ph.D., University of Glasgow

James S. Chickos, Professor*
Ph.D., Cornell University

Joyce Y. Corey, Professor*
Ph.D., University of Wisconsin

Wesley R. Harris, Professor*
Ph.D., Texas A. and M. University

David W. Larsen, Professor*
Ph.D., Northwestern University

Robert W. Murray, Curators' Professor*
Ph.D., Yale University

Robert I. Stearns, Adjunct Professor
Ph.D., Tulane University

William J. Welsh, Professor*
Ph.D., University of Pennsylvania

Charles W. Armbruster, Adjunct Associate Professor
Ph.D., Washington University

Lee Brammer, Associate Professor*
Ph.D., University of Bristol

Lawrence Brannigan, Adjunct Associate Professor
Ph.D., Vanderbilt University

Daniel T. Connolly, Adjunct Associate Professor
Ph.D., The Johns Hopkins University

Joseph B. Dence, Adjunct Associate Professor
Ph.D., California Institute of Technology

Valerian T. D'Souza, Associate Professor*
Ph.D., University of Detroit

David L. Garin, Associate Professor*; Interim Director,
Center for Science and Technology
Ph.D., Iowa State University

Harold H. Harris, Associate Professor*
Ph.D., Michigan State University

Jane A. Miller, Associate Professor Emeritus*
Ph.D., Tulane University

William L. Neumann, Adjunct Associate Professor
Ph.D., University of Missouri-St. Louis

James J. O'Brien, Associate Professor*
Ph.D., Australian National University

Robert G. Orth, Adjunct Associate Professor
Ph.D., Case Western Reserve University

Nigam P. Rath, Research Associate Professor
Ph.D., Oklahoma State University

William P. Ridley, Adjunct Associate Professor
Ph.D., University of Minnesota

Christopher D. Spilling, Associate Professor*
Ph.D., The University of Technology, Loughborough

Keith J. Stine, Associate Professor*
Ph.D., Massachusetts Institute of Technology

Rudolph E.K. Winter, Associate Professor*; Director of
Graduate Studies
Ph.D., The Johns Hopkins University

Dennis Moore, Adjunct Assistant Professor
Ph.D., Washington University

F. Christopher Pigge, Assistant Professor*
Ph.D., University of North Carolina

Raghavan Rajagopalan, Adjunct Assistant Professor*
Ph.D., Columbia University

Janet B. Wilking, Research Assistant Professor*
Ph.D., Washington University

Zhi Xu, Assistant Professor*
Ph.D., University of Pittsburgh

John Gutweiler, Lecturer
Ph.D., St. Louis University

Mark Schuermann, Lecturer
M.S., University of Notre Dame

William H. Stegmann, Lecturer
M.S., Southern Illinois University

Yuri Abramov, Research Associate
Ph.D., Mendeleev University of Chemistry

Harish Barshilia, Research Associate
Ph.D., Indian Institute of Chemistry, New Delhi

Elizabeth Collantes, Research Associate
Ph.D., University of Illinois–Chicago

Sudha Cowsik, Research Associate
Ph.D., All India Institute of Medical Sciences

Hong Gu, Research Associate
Ph.D., University of Missouri-St. Louis

Kaliappan Iyanar, Research Associate
Ph.D., Annamalsi University

Abdul R. Khan, Research Associate
Ph.D., University of Missouri-Saint Louis

Jianwei Li, Research Associate
Ph.D., University of Berne

Yuejin Li, Research Associate
Ph.D., Nankai University

Ramon Macias, Research Associate
Ph.D., Leeds University

Joong-Youn Shim, Research Associate
Ph.D., University of Georgia

Megh Singh, Research Associate
Ph.D., University of Jodhpur

Rhodri L. Thomas, Research Associate
Ph.D., Heriot-Wah University

Weida Tong, Research Associate
Ph.D., Fudan University

Jack Uang, Research Investigator
Ph.D., University of Missouri-Rolla

Peter Wolohan, Research Associate
Ph.D., University of Reading

Li Xing, Research Associate
Ph.D., University of Akron

Kenneth Owens, Glassblower

Joseph Kramer, Electronics Technician II

Gordon Kerschmann, Electronics Technician

Donna Kramer, Supervisor of Chemistry Stores

Frank L. May, Research Investigator

Norman Windsor, Senior Electronics Technician

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The chemistry department offers courses leading to the B.A. in chemistry; the B.S. in chemistry; in cooperation with the School of Education, the B.S. in education with emphasis in chemistry and the B.A. in chemistry with teacher certification; and, in cooperation with the School of Business Administration, the B.A. in chemistry with a business option.

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The chemistry department is accredited by the American Chemical Society. Students completing the B.S. degree in chemistry are certified to the American Chemical Society and are well-prepared for graduate study in chemistry or a career in the chemical industry.

The chemistry department also offers work leading to the M.S. degree in chemistry, with or without a thesis. The Ph.D. degree in chemistry is offered in the emphasis areas: inorganic, organic, and physical chemistry. In addition to a balanced program of basic graduate courses, the department offers special topics courses and seminars in current research areas. Research is being carried on in inorganic, organic, and physical chemistry areas by postdoctoral associates, faculty members, and graduate and undergraduate students.

The department provides students with opportunities for strong interaction with faculty representing the various areas. Students and faculty working in one area consult freely with members in other areas. In addition, there are joint research projects involving faculty and students from two or more areas. The department currently includes 20 full-time and nine part-time faculty members.

Fellowships and Scholarships

The Brunngraber Undergraduate Research Fellowship and the **Lamberg Fellowship** are given annually to a chemistry major and are based on GPA, statement of research interests, and performance in completed course work.

The William and Erma Cooke Chemistry Fellowship is given annually to an outstanding full-time chemistry major who is at least a sophomore and has financial need.

Aid to Education Scholarships are given to approximately 10 junior or senior chemistry majors annually. The awardees are selected by the faculty on the basis of merit, and the scholarships consist of a stipend for books, educational materials, and Student Affiliate membership dues to the American Chemical Society.

The Mallinckrodt Fellowship is given annually to an outstanding chemistry graduate student who has completed the teaching and course work component of the program. It consists of a full stipend for the academic year.

Alumni Graduate Research Fellowships are available for summer study for selected chemistry graduate students. The selections are based on merit and the stipend is 20 percent of the academic year GTA stipend.

A series of undergraduate awards are given each year to the outstanding students. **The Chemical Rubber Company Freshman Chemistry Award** is given to the outstanding student in freshman chemistry, the **American Chemical Society Division of Analytical Chemistry Award** is given to the outstanding student in analytical chemistry, the **American Chemical Society-St. Louis Section, Outstanding Junior Chemistry Major Award** is given to the outstanding junior chemistry major, and the outstanding senior receives the **Alan F. Berndt Award** and the **American Institute of Chemists Award**.

Departmental Honors The chemistry department will award Departmental Honors to those B.A. and B.S. degree candidates in chemistry with an overall grade point average of 3.2. They must also successfully complete Chemistry 290, Chemical Research, and have presented an acceptable thesis.

Minor in Chemistry A minor in chemistry is available to students majoring in related areas. See General Information section for residency requirements.

Undergraduate Studies

General Education Requirements

Students must satisfy the University and College General Education requirements. Courses in chemistry may be used to meet the University's science and mathematics area requirement. The College's foreign language requirement fulfills the departmental requirements for B.A. candidates. It is recommended that candidates for the B.S. degree fulfill the language requirement in German or French, but any language which meets the College requirement for the B.A. degree is acceptable. Chemistry majors normally include Language 100 in their foreign language sequence.

Satisfactory/Unsatisfactory Restrictions Chemistry majors may not take required chemistry, mathematics, or physics courses on a satisfactory/unsatisfactory basis, nor may B.S. degree candidates take the six elective hours in science on this option.

Degree Requirements

Bachelor of Arts in Chemistry This degree is intended primarily for preprofessional students in the health science and related areas, as well as prelaw students interested in patent law. Candidates must complete the following chemistry courses:

- 11, Introductory Chemistry I
- 12, Introductory Chemistry II
- 122, Quantitative Analysis
- 202, Introduction to Chemical Literature
- 231, Physical Chemistry I
- 232, Physical Chemistry II
- 233, Laboratory in Physical Chemistry I
- 241, Basic Inorganic Chemistry
- 261, Structural Organic Chemistry
- 262, Organic Reactions
- 263, Techniques of Organic Chemistry
- 289, Seminar (2 credit hours)

In addition, candidates must complete one laboratory course chosen from Chemistry 234, 323, and 364.

No more than 45 hours in chemistry may be applied toward the degree. Each chemistry major must present a seminar and pass a comprehensive examination during the senior year.

After fulfilling the general education and specific major degree requirements, students are to take the remaining

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hours required to complete the B.A. degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. The chemistry department may require students to pass a tracking test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Bachelor of Science in Chemistry This is the first professional degree in chemistry. It may be taken as a terminal degree by students intending to become professional chemists or for preparation for graduate work in chemistry or biochemistry. Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry courses are required:

- 234, Laboratory in Physical Chemistry II
- 321, Instrumental Analysis
- 323, Laboratory in Instrumental Analysis
- 341, Inorganic Chemistry I
- 343, Inorganic Reactions
- 364, Synthetic and Analytical Methods of Organic Chemistry

Students must also take three elective hours of advanced work in chemistry at the 200 level or above.

Students are encouraged to take Chemistry 290, Chemical Research, to fulfill the advanced elective requirement.

At least 48, but no more than 50 hours of chemistry courses may be applied toward the degree. Each candidate must present a seminar and pass a comprehensive examination during the senior year.

Related Area Requirements

Bachelor of Arts and Bachelor of Science in Chemistry

Candidates for both degrees must also complete:

- Math 80, Analytic Geometry and Calculus I
- Math 175, Analytic Geometry and Calculus II
- Math 180, Analytic Geometry and Calculus III
- *Physics 111, Physics: Mechanics and Heat
- *Physics 112, Physics: Electricity, Magnetism, and Optics

*If neither of these courses included a laboratory, a separate laboratory course is required.

B.S. degree in Secondary Education with an Emphasis in Chemistry

In addition to the general requirements for the B.S. degree in secondary education, students must complete the following: Science Core Courses:

- Philosophy 280, Philosophy of Science
- Biology 11, Introductory Biology I

- Biology 12, Introductory Biology II
- Chemistry 11, Introductory Chemistry I
- Chemistry 12, Introductory Chemistry II
- Geology 1, General Geology
- Meteorology 1, Elementary Meteorology
- Biology 120, Environmental Biology or another environmental science
- Physics 11, Basic Physics or Physics 111, Physics: Mechanics and Heat
- Physics 12, Basic Physics or Physics 112, Physics: Electricity, Magnetism, and Optics

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- Chemistry 122, Quantitative Analysis
- Chemistry 261, Structural Organic Chemistry
- Chemistry 263, Techniques of Organic Chemistry
- Chemistry 262, Organic Reactions
- Chemistry 371, Biochemistry
- Chemistry 230, Physical Chemistry for the Life Sciences or Chemistry 231, Physical Chemistry I and Chemistry 232, Physical Chemistry II

Bachelor of Arts in Chemistry with Teacher Certification

Students must complete the B.A. in chemistry requirements, as well as the requirements for teacher certification. (See the School of Education section of this *Bulletin*.)

Bachelor of Arts in Chemistry for Students with an Interest in Business

The following courses are suggested for students seeking careers in chemical sales, market research, and so forth. In addition to the B.A. in chemistry requirements, the following core courses are suggested:

- Econ 51, Principles of Microeconomics
- BA 131, Elementary Statistics
- BA 140, Fundamentals of Financial Accounting

Students may then choose to complete one of the following three sets of courses:

1) Marketing Management

- BA 206, Basic Marketing
- BA 275, Marketing Intelligence
- BA 303, Industrial Marketing

2) Financial Management

- BA 204, Financial Management
- BA 334, Investments
- BA 350, Financial Policies

3) Accounting

- BA 145, Managerial Accounting
- BA 340, Intermediate Accounting
- BA 345, Cost Accounting

Requirements for the Minor

Students may complete a minor in chemistry as described below:

The three required courses are:

- Chem 11, Introductory Chemistry I
- Chem 12, Introductory Chemistry II
- Chem 261, Structural Organic Chemistry

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Electives

At least one course is required from each of the following two groupings:

Lecture Courses

Chem 231, Physical Chemistry I
Chem 262, Organic Reactions
Chem 371, Biochemistry

Laboratory Courses

Chem 122, Quantitative Analysis
Chem 263, Techniques of Organic Chemistry

Courses which are prerequisites to subsequent courses in the minor may not be taken on a satisfactory/unsatisfactory basis. A GPA of at least 2.0 is required for the courses presented for the minor.

Biochemistry Certificate

The University offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a chemistry track or a biology track. All students complete the following core requirements:

Biology 11, Introductory Biology I
Biology 12, Introductory Biology II
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Chem 122, Quantitative Analysis
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

and one of the following **biology** courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Molecular Biology

Students choosing to complete the certificate through the biology track must take these additional courses:

Biology 376, Advanced Biological Chemistry
Biology 378, Advanced Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chem 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the chemistry track must take these additional chemistry courses:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar
371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

Graduate Studies

Admission Requirements

Individuals with at least the equivalent of the B.A. degree in chemistry may be admitted to the Graduate School as candidates for the M.S. degree or as applicants for the Ph.D. degree in chemistry. A student in the M.S. program, having completed at least 15 credit hours, may request to transfer to the Ph.D. program by petition to the department.

The department admissions committee, which makes admission recommendations to the chairperson, usually considers applicants' grade point averages and normally requires above-average performance in all areas of chemistry (general, analytical, organic, physical, and inorganic), as well as physics and mathematics, or other evidence of high aptitude for graduate work in chemistry. Applicants' GRE scores, letters of recommendation, and academic programs are also considered. In some cases the committee may require successful completion of undergraduate course work as a condition of enrollment as a regular student.

Students with bachelor's degrees in fields other than chemistry may be admitted to pursue graduate chemistry studies, but they must make up background deficiencies, usually by taking undergraduate course work.

Financial Support

Teaching assistantships are available to qualified applicants for the academic year, and a limited number are also available during the summer. Research assistantships and fellowships are available for advanced students. For further information, contact the Graduate Admission Committee, Department of Chemistry.

Preliminary Advisement

Students who have been admitted for graduate work in Chemistry will be contacted by the Director of Graduate Studies in order to develop a tentative plan of study which takes into consideration the student's background and interests. Entering students are required to demonstrate proficiency at the undergraduate level in four areas of chemistry (organic, inorganic, physical, and analytical).

Proficiency may be demonstrated in one of the following ways:

- 1) Outstanding performance in recent undergraduate course work.
- 2) Satisfactory performance in standardized placement examinations. These examinations are given twice a year, approximately one week before the beginning of the Fall and Winter Semesters.
- 3) Successful completion of assigned course work.

The ultimate choice of whether students may enroll in the M.S. or Ph.D. degree programs resides with the chemistry faculty.

Distribution Requirement Students must take chemistry courses for graduate credit at the 300 and 400 level, including one each in inorganic, organic, and physical

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chemistry. Intermediate level courses (Chem 302, 303, 304, and 306) and Inorganic Chemistry I (Chem 341) may not be used to satisfy this distribution requirement.

Master's Degree Requirements

Master of Science in Chemistry Candidates for the M.S. degree in chemistry must demonstrate proficiency in all four areas of chemistry within two years of initial enrollment.

A minimum of 30 hours is required, including three hours in Chem 489, Chemistry Colloquium. No more than three hours in Chem 489, and no more than 6 hours of Chem 30x (intermediate level courses) may be applied toward the required minimum of 30 credit hours. Students are not required to take the cumulative examinations or satisfy the foreign language requirement.

Master of Science in Chemistry with Thesis Students selecting this option must be enrolled full-time in the day division for at least two consecutive semesters. During this time, students are expected to enroll in Chem 490, Graduate Research in Chemistry, and work on their theses. A maximum of 12 hours of Chemistry 490 may be applied toward the required 30 hours. At least nine hours must be at the 400 level, excluding Chemistry 490. A maximum of nine hours in 200-level or above courses outside the department may be accepted if students receive prior approval of their advisers and the department.

Students are expected to follow all other general requirements of the Graduate School regarding master's degree and thesis requirements.

Master of Science without Thesis Unlike the thesis option, students need not be enrolled full-time. Of the required 30 hours, 15 credits must be at the 400 level. A maximum of six credits of Chemistry 490, Graduate Research in Chemistry, may be included in place of 300-level courses. A maximum of 12 hours taken in 200-level or above courses outside the department may be accepted with prior approval of the graduate studies director.

Doctoral Degree Requirements

Incoming doctoral students must demonstrate proficiency in all four areas of chemistry within one year of initial enrollment.

A minimum of 60 hours is required, including research hours.

Cumulative Examinations In addition to the Ph.D. requirements set forth by the Graduate School, students seeking the Ph.D. in chemistry must take a series of cumulative examinations given nine times a year. Students must pass three of the examinations by the end of the third year and a total of eight examinations before completing the program. At least six of these examinations should be in the student's specialization area. Students are encouraged to begin the examination sequence during the

first year of graduate study, but must start no later than the second year in the Ph.D. program. The examinations are usually given the second Saturday of each month, September through May. The mechanism for designing and deciding on passing and failing grades for each examination resides with faculty members in each specialization area.

Seminar Requirement Students must present a seminar in their third year and during each subsequent year. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 489, Chemistry Colloquium, each semester they are in residence.

Advancement to Candidacy In addition to general Graduate School requirements for advancement to candidacy, students must complete the following:

- 1) 21 hours of nondissertation work. This may not include:
 - Chem 302**, Intermediate Analytical Chemistry
 - Chem 303**, Intermediate Physical Chemistry
 - Chem 304**, Intermediate Inorganic Chemistry
 - Chem 306**, Intermediate Organic Chemistry
 - Chem 321**, Instrumental Analysis
 - Chem 323**, Laboratory in Instrumental Analysis
 - Chem 341**, Inorganic Chemistry I
 - Chem 343**, Inorganic Reactions
 - Chem 419**, Advanced Reading in Chemistry
 - Chem 448**, Inorganic Problem Seminar
 - Chem 468**, Organic Problem Seminar
 - Chem 481**, Introduction to Graduate Study in Chemistry
 - Chem 482**, Introduction to Graduate Study in Chemistry
 - Chem 489**, Chemistry Colloquium
 but should include one from each area of organic, inorganic, and physical chemistry. Courses in areas other than chemistry may be included with prior departmental approval.
- 2) Pass eight cumulative examinations.
- 3) Demonstrate satisfactory proficiency in the library use of French and German scientific literature.
- 4) Present at least one seminar to the department on the dissertation research.
- 5) Participate in the undergraduate academic program as a teaching assistant for at least one semester.
- 6) Be in good standing.

Dissertation

Six copies of the dissertation must be submitted upon completion of the graduate research problem.

Probation and Dismissal

Students are dismissed from the program if they fail to pass at least three cumulative examinations before the end of the third year as applicants for the Ph.D. or otherwise fail to meet the standards set forth by the Graduate School.

Chemistry

Career Outlook

The B.S. degree in chemistry is the usual foundation for graduate study in chemistry, while any bachelor's degree in chemistry provides students with professional competence to enter the chemical industry. The St. Louis metropolitan area is a major center for industrial chemistry, and the demand for graduates consistently exceeds the supply.

A major in chemistry provides students excellent preprofessional training in the health sciences. A double major in chemistry and biology is often chosen by premedical and pre dental students and those interested in graduate work in biochemistry and biology. A minor in chemistry provides the minimum qualifications and training for a position as a laboratory technician in industry, hospital laboratories, etc.

Chemistry

Course Descriptions

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult your adviser for further information.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements: 1, 2, 3, 4, 9, 10, 11, 12, 13, 122, 202, 230, 231, 232, 233, 234, 261, 262, 263, 289, 290, 302, 303, 304, 306, 310, 321, 323, 331, 333, 336, 341, 342, 343, 352, 361, 362, 364, 366, 371, 372, 373, 374, 381.

1 General Chemistry I (3)

Prerequisite: Satisfactory score on math placement test. A broad introductory survey of chemical principles. Chem 1 plus Chem 9 are equivalent to Chem 11. This alternative may be attractive to students who are not mathematically prepared for Chem 11. Chem 1 and 2 will ordinarily satisfy chemistry requirements in nursing, forestry, physical therapy, and related professions. No student may take both Chem 1 and 10 for credit. Chemistry majors may not include both Chem 1 and 11 in the 120 hours required for graduation. Three hours of lecture per week.

2 General Organic Chemistry (3)

Prerequisite: Chem 1. A short course in organic chemistry with biochemical applications. Recommended for students in nursing, forestry, physical therapy, and related professions. This course should not be taken by majors in the physical or biological sciences. Chemistry majors may not include Chem 2 in the 120 hours required for graduation. Three hours of lecture per week.

3 General Chemistry Laboratory (2)

Prerequisite: Chem 1 (may be taken concurrently). Experiments to acquaint students with chemistry in the laboratory. No student may take both Chem 3 and 9 for credit. Three and one-half hours of laboratory per week.

4 Laboratory in General Organic Chemistry (2)

Prerequisite: Chem 2 (may be taken concurrently). Experiments to introduce the student to organic and biochemistry. These will include studies of the properties of organic compounds and introduce students to methods of synthesis and analysis. Three and one-half hours of laboratory per week.

9 General Chemistry II (3)

Prerequisites: Chem 1 (or equivalent and consent of instructor) and Math 30 and 35 (may be taken concurrently). Additional work on the topics of Chem 1, with emphasis on quantitative material. Introduction to the chemical laboratory. Chem 1 plus Chem 9 is equivalent to Chem 11 for science majors. Chemistry majors who receive credit for Chem 1 and Chem 9 may not also include Chem 10 or Chem 11 in the 120 hours required for graduation. No student may take both Chem 3 and Chem 9 for credit. Two hours of lecture per week, three and one-half hours of lab or one hour of discussion on alternate weeks.

10 Chemistry in Society (3)

A survey of chemistry and its relevance to contemporary problems, including an introduction to important chemical principles. Laboratory experiments are designed to complement the lectures. Chem 10 does not satisfy the prerequisite of any course. No student may take both Chem 1 and 10 for credit. Chemistry majors may not include Chem 10 in the 120 hours required for graduation. Two hours of lecture per week; two hours of lab and one hour of discussion on alternate weeks.

11 Introductory Chemistry I (5)

Prerequisites: Mathematics through college algebra and trigonometry (may be taken concurrently). Presents an introduction to the fundamental laws and theories of chemistry. Laboratory experiments are designed to demonstrate some aspects of qualitative and quantitative analysis and to develop skills in laboratory procedures. Chemistry majors may not include both Chem 1 and 11, nor both Chem 10 and 11 in the 120 hours required for graduation. Three hours of lecture and one hour of discussion per week; one hour of laboratory-lecture and three hours of laboratory per week.

12 Introductory Chemistry II (5)

Prerequisite: Chem 11 or advanced placement. Lecture and laboratory are a continuation of Chem 11. Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

13 Special Topics in Introductory Chemistry (1-5)

Prerequisite: Consent of instructor. A lecture or laboratory course to assist transfer students in meeting the requirements of Chem 11 and 12.

122 Quantitative Analysis (3)

Prerequisite: Chem 12. Principles and practice of elementary quantitative chemistry. The lecture treats descriptive statistics with emphasis on small samples; various types of competing equilibria pertaining to acid-base, complexometric and potentiometric titrations; and an introduction to spectrophotometric processes. The laboratory provides exercises in titrimetric, gravimetric, and spectrophotometric techniques. Both portions of the course deal with the analytical chemistry of environmentally-significant problems. Two hours of lecture and four and one-half hours of laboratory weekly.

202 Introduction to Chemical Literature (1)

Prerequisite: Chem 262 (may be taken concurrently). The course will familiarize the student with the literature of chemistry and its use. One hour of lecture per week.

230 Physical Chemistry for the Life Sciences (4)

Prerequisites: Chem 122, Math 80, Math 101, or equivalent, and Physics 11 and 12. Principles and applications of physical chemistry appropriate to students pursuing degree programs in the life sciences. Topics discussed include thermodynamics, equilibria, kinetics, and spectroscopy.

231 Physical Chemistry I (3)

Prerequisites: Chem 122 and Math 180 (may be taken concurrently), and Physics 111 (or equivalent). Principles of

Chemistry

physical chemistry including thermodynamics, theory of gases, phase equilibria, kinetics, crystal structure, spectroscopy, and quantum mechanics. Three hours of lecture per week.

232 Physical Chemistry II (3)

Prerequisite: Chem 231. Continuation of Chem 231. Three hours of lecture per week.

233 Laboratory in Physical Chemistry I (2)

Prerequisite: Chem 231 (may be taken concurrently). Experiments designed to illustrate principles introduced in Chem 231. One hour of lecture and four and one-half hours of laboratory per week.

234 Laboratory in Physical Chemistry II (2)

Prerequisites: Chem 232 (may be taken concurrently) and Chem 233. Experiments designed to illustrate principles introduced in Chem 232. One hour of lecture and four and one-half hours of laboratory per week.

241 Basic Inorganic Chemistry (2)

Prerequisites: Chem 12. Review of principles of atomic structure, covalent and ionic bonding. Properties of the elements and synthesis, reactions and bonding aspects of important compounds of main group and transition metal compounds.

261 Structural Organic Chemistry (3)

Prerequisite: Chem 12. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

262 Organic Reactions (3)

Prerequisite: Chem 261. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

263 Techniques of Organic Chemistry (2)

Prerequisite: Chem 261 or consent of instructor. An introduction to laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds. One hour of lecture and four and one-half hours of laboratory per week.

280 Curriculum and Methods of Teaching Physical Sciences (3)

(Same as SEC ED 240.) Prerequisites: SEC ED 213 and a near-major in the subject matter. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

283 Chemistry/Physics Teaching Intern Seminar (1)

(Same as Physics 283.) Prerequisite: Chem 280 or Physics 280. A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290. One hour discussion per week.

289 Seminar (1)

Prerequisites: Chem 202 and senior standing. Presentation of papers by students, faculty, and invited speakers. All majors must enroll for credit during two semesters of the senior year. Completion of a comprehensive examination during one of the semesters is a course requirement. One hour of lecture and one hour of discussion per week.

290 Chemical Research (1-10)

Prerequisite: Consent of instructor. Independent laboratory and library study, in conjunction with faculty member, of fundamental problems in chemistry. A written report describing the research is required.

302 Intermediate Analytical Chemistry (3)

Prerequisites: Chem 122 and consent of the graduate adviser. A review of the basic concepts of analytical chemistry. Topics to include principles of quantitative analysis, with emphasis on modern instrumental techniques. Course designed for post baccalaureate students; may not be used to fulfill requirements for undergraduate degree programs in chemistry. One to three hours of lecture per week.

303 Intermediate Physical Chemistry (3)

Prerequisites: Chem 231, 232, 233, and permission of graduate adviser. A review of basic principles of physical chemistry. Topics to include thermodynamics, kinetics, and quantum chemistry. Course designed for post baccalaureate students; may not be used to fulfill requirements for undergraduate programs in chemistry. Three hours of lecture per week.

304 Intermediate Inorganic Chemistry (3)

Prerequisite: Permission of the graduate adviser. A review of basic inorganic chemistry. Topics will include atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Course designed for post-baccalaureate students; may not be used to fulfill requirements for undergraduate degree programs in chemistry. Three hours of lecture per week.

306 Intermediate Organic Chemistry (3)

Prerequisites: Chem 261, 262, 263, and permission of the graduate adviser. A review of the basic principles of organic chemistry. Topics to include structure, physical and spectroscopic properties and reactions of major classes of organic compounds, reaction mechanisms, and a survey of synthetic methods. Course designed for post-baccalaureate students; may not be used to fulfill requirements for undergraduate degree programs in chemistry. Three hours of lecture per week.

310 History of Chemistry (3)

Prerequisite: Chem 12 or consent of instructor. The development of chemistry, including early theories of matter, alchemy, iatrochemistry, the period of Lavoisier, and selected topics from the nineteenth and twentieth centuries. Three hours of lecture per week.

321 Instrumental Analysis (2)

Prerequisite: Chem 233. Principles and applications of modern methods of instrumental analysis for analytical chemistry measurements. Topics will be selected from the

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areas of electrochemistry, absorption and emission spectroscopy, chromatography, mass spectrometry, surface analysis, and nuclear magnetic resonance. Two hours of lecture per week.

323 Laboratory in Instrumental Analysis (2)

Prerequisite: Chem 321. Experiments designed to illustrate the principles and practices of instrumental analysis, involving the use of modern instrumentation in analytical chemistry applications. One hour of discussion and four and one-half hours of laboratory per week.

331 Advanced Physical Chemistry (3)

Prerequisite: Chem 232. Study of advanced theoretical and experimental problems in modern physical chemistry. Selected topics such as statistical mechanics, properties of solids, reaction dynamics, molecular orbital theory, and spectroscopic methods may be included. Three hours of lecture per week.

333 Thermodynamics (3)

Prerequisite: Chem 232. Selected advanced topics including solid-state, nonequilibrium, and statistical thermodynamics. Three hours of lecture per week.

336 Introduction to Quantum Chemistry (3)

Prerequisite: Chem 232 or consent of instructor. A brief but quantitative introduction to the application of quantum mechanics to problems in chemistry, covering the uncertainty principle, operators, solution of Schrodinger's equation for simple systems, perturbation theory, variation methods, interaction of radiation with matter, atomic and molecular structure, and theory of collisions. Three hours of lecture per week.

341 Inorganic Chemistry I (3)

Prerequisites: Chem 232 and 262 (may be taken concurrently). An introduction to the chemistry of the elements, including atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Three hours of lecture per week.

342 Inorganic Chemistry II (3)

Prerequisite: Chem 341. Continuation of Chem 341 with emphasis on such topics as metals, nonaqueous solvents, chemical dynamics, organometallic chemistry, chemistry of the less common elements, and certain frontier areas. Three hours of lecture per week.

343 Inorganic Reactions (2)

Prerequisite: Chem 333, 341 and 364 (may be taken concurrently). The more sophisticated techniques of physical and analytical chemistry will be used to study inorganic compounds and their reactions. One hour of lecture and four and one-half hours of laboratory per week.

352 Nuclear Chemistry (3)

Prerequisite: Chem 232. Properties of radioactive nuclei, nature of radioactivity, nuclear reactions, and applications of nucleonics to chemistry. Three hours of lecture per week.

361 Advanced Organic Chemistry (3)

Prerequisite: Chem 262. Contemporary developments in the study of the structure of carbon compounds and the

mechanism of their reactions. Selected topics such as natural products, heterocyclic compounds, stereochemistry, aromaticity, reaction intermediates, and photochemistry will be included. Three hours of lecture per week.

362 Spectroscopic Identification of Organic Compounds (3)

Prerequisite: Chem 364. An applied approach to the use of spectroscopic techniques in organic chemistry. Topics to include integrated applications of infrared and Raman spectroscopy, nuclear magnetic resonance (C and H, cw and pulsed) and mass spectroscopy for the purpose of elucidating the structure of organic compounds. Three hours of lecture per week.

364 Synthetic and Analytical Methods of Organic Chemistry (2)

Prerequisites: Chem 122, 202 (may be taken concurrently), 262, and 263. Identification of organic compounds by classical and spectroscopic methods; advanced techniques in synthesis and separation of organic compounds. One hour of lecture and four and one-half hours laboratory per week.

366 Physical Organic Chemistry (3)

Prerequisites: Chem 262 and 232 (may be taken concurrently). Advanced topics in the theory of organic chemistry, including conformational analysis, reaction kinetics and mechanisms, and transition state theory. Three hours of lecture per week.

371 Biochemistry (3)

(Same as Biology 371) Prerequisite: Chem 261 and either Biology 11 or Chem 262. The isolation, chemical characterization, and function of the structural and catalytic components of living cells and subcellular particles. Three hours of lecture per week.

372 Advanced Biochemistry (3)

Prerequisite: Chem 371. Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

373 Biochemical Techniques (2)

Prerequisite: Chem 371 (may be taken concurrently). Laboratory study of biochemical processes in cellular and subcellular systems with emphasis on the isolation and purification of proteins (enzymes) and the characterization of catalytic properties. One hour of lecture and three and one-half hours of laboratory per week.

374 Advanced Biochemistry Laboratory (2)

Prerequisites: Chem 372 and 373 (latter may be taken concurrently). Continuation of Chem 373. Laboratory to accompany Chem 372. One hour of lecture and three and one-half hours of laboratory per week.

381 Special Topics (1-10)

Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics.

414 Molecular Spectroscopy (3)

Prerequisite: Chem 232. A broad treatment of the interaction of electromagnetic radiation with matter, emphasizing the unity of such interactions. Interpretation

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of molecular structure in terms of molecular, electronic, and geometric structure and dynamics. Description and interpretation of physical techniques applied to chemistry. Three hours of lecture per week.

415 Organometallic Chemistry (3)

Prerequisite: Consent of instructor. A systematic study of the compounds containing a carbon-metal or a carbon-metalloid bond. Emphasis will be placed upon the structural types and chemical reactivity of this class of compounds. Topics will also include the role of organometallic compounds in synthesis and their catalytic behavior. Three hours of lecture per week.

416 Chemical Applications of Group Theory (3)

Prerequisite: Chem 232. A brief introduction to the fundamental relationships of group theory. Application of group theory to molecular orbital theory, molecular vibrations, and molecular spectra. Three hours of lecture per week.

417 Environmental Chemistry (3)

Prerequisite: Consent of instructor. Selected topics in the chemistry of the environment including air and water pollution. Subjects to be discussed include photochemical smog, gaseous and particulate contamination, biodegradability of chemicals, and chemical effects of contaminants on living species. Three hours of lecture per week.

419 Advanced Reading in Chemistry (1)

Prerequisite: Admission to the Ph.D. degree program. Reading and examinations in the subdisciplines of chemistry. Enrollment must begin after completion of any course deficiencies.

431 Advanced Chemical Calculations (3)

Prerequisites: Math 180 and Chem 232. Advanced application of analytical techniques to chemical problems; complex variables, linear algebra, and series techniques. Three hours of lecture per week.

433 Statistical Mechanics (3)

Prerequisites: Chem 333 and 431. Consideration of topics of chemical-physical interest including thermophysical properties of fluids and solids, Fermi-Dirac and Bose-Einstein fluids, theory of fluctuations, and irreversible processes. Three hours of lecture per week.

434 Interaction of Electromagnetic Radiation and Matter (3)

Prerequisite: Chem 436. Treatment of the theoretical description of interaction between atoms and molecules and electromagnetic fields. Includes such topics as electromagnetic field theory, spin systems in electromagnetic fields, time-dependent perturbation theory, emission and absorption of radiation, and selected applications to chemical and physical systems. Three hours of lecture per week.

436 Quantum Chemistry II (3)

Prerequisites: Chem 336 and 431. Advanced theoretical concepts; angular momentum, atomic and molecular structure. Three hours of lecture per week.

439 Special Topics in Physical Chemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in physical chemistry. May be taken more than once for credit.

441 Typical Element Chemistry (3)

Prerequisite: Chem 341 or an equivalent course; prior enrollment in Chem 342 is desirable. Chemistry of the main group elements and their compounds including such topics as electron deficient compounds, acids, bases and nonaqueous solvents, catenation and inorganic polymers, the solid state, organotypical element chemistry and energetics. Three hours of lecture per week.

442 Coordination Chemistry (3)

Prerequisite: Chem 341 or an equivalent course; prior enrollment in Chem 342 is desirable. The chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability and organotransition element chemistry. Three hours of lecture per week.

443 Physical Inorganic Chemistry (3)

Prerequisites: Chem 341 or an equivalent course; prior enrollment in Chem 342 is desirable. Study of physical concepts with emphasis on physical methods applied to inorganic systems, spectral and magnetic properties of coordination compounds, and application of bonding theories to inorganic chemistry. Three hours of lecture per week.

448 Problem Seminar in Inorganic Chemistry (1)

Prerequisite: Consent of the inorganic chemistry staff. Problems from the current literature, presentations, and discussions by faculty and students.

449 Special Topics in Inorganic Chemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in inorganic chemistry. May be taken more than once for credit.

463 Stereochemistry (3)

Prerequisite: Chem 361 or 366. A study of molecular geometry and relationships in space between atoms and groups in a molecule. Topics to be covered include optical isomerism, conformational analysis, asymmetric synthesis, and topology. Three hours of lecture per week.

464 Organic Photochemistry (3)

Prerequisites: Chem 361 and 366. A study of the synthetic and theoretical aspects and applications of light-induced reactions. Topics to be covered include primary photophysical processes, reaction types, and photosensitization. Three hours of lecture per week.

465 Chemistry of Natural Products (3)

Prerequisite: Chem 361. The chemistry and physiological action of natural products; methods of isolation, determination of structures, synthesis, and biosynthesis. Three hours of lecture per week.

468 Problem Seminar in Organic Chemistry (1)

Prerequisite: Consent of the organic chemistry staff. Problems from the current literature, presentations, and

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discussions by faculty, students, and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

469 Special Topics in Organic Chemistry (3)

Prerequisite: Consent of instructor. Advanced topics of special current interest. May be taken more than once for credit.

481 Introduction to Graduate Study in Chemistry (1)

Prerequisite: Consent of Graduate Advisor. Topics to be covered include: techniques of teaching of Chemistry in colleges and universities, methods of instruction and evaluation; and responsibilities of the Graduate teaching Assistant in laboratory instruction; safety in the undergraduate laboratory, safety practices, emergency procedures; selection of research project and thesis advisor.

482 Introduction to Graduate Research in Chemistry (1)

Prerequisite: Consent of Graduate Advisor. Topics include: Safety in the research laboratory, safety practices, emergency procedures, hazardous materials, waste disposal, radiation safety; research ethics; chemistry information retrieval, computer assisted information retrieval, types of databases, searching bibliographic data bases.

489 Chemistry Colloquium (1)

Presentation of papers by students, faculty, and invited speakers. One hour per week.

490 Graduate Research in Chemistry (1-10)

Communication

Faculty

Michael Murray, Professor*; Chairperson
Ph.D., University of Missouri-Columbia

James Fay, Associate Professor*
M.F.A., Tulane University

Elizabeth Kizer, Associate Professor*
Ph.D., Purdue University

Thomas McPhail, Professor*; Interim Associate Vice
Chancellor for Academic Affairs
Ph.D., Purdue University

C. Thomas Preston, Associate Professor*;
Ph.D., University of Nebraska-Lincoln

Donald Shields, Professor*
Ph.D., University of Minnesota

Rita Csapo-Sweet, Assistant Professor
Ed.D., Harvard University

Patricia Holmes, Assistant Professor*
Ph.D., Northwestern University

Donald Jung, Assistant Professor
Ph.D., Purdue University

Ronald Turner, Assistant Professor*; Vice President for
University Outreach and Director of Cooperative Extension
Ph.D., University of Missouri-Columbia

Clark McMillion, Lecturer
M.A., State University College of New York at Brockport

Sidney Savan, Lecturer
B.S., Washington University

*members of Graduate Faculty

Each member of the faculty of the Department of Communication represents a requisite balance between practitioner and scholar/teacher. The department's curricula and activities demand a faculty with practical expertise in such disciplines as communication, radio/television/film, and public policy. Each faculty member has demonstrated repeated excellence as a practitioner through varied endeavors in workshops and lectures, as well as communication, radio/television/film, and video programs and productions. Concomitantly, the faculty acknowledges the need for scholarly research as a contribution to the continued growth of academic study, publishing the results of their scholarly pursuits in a wide spectrum of scholarly journals and presenting papers at regional, national, and international professional conferences. Additionally, faculty members contribute to the University's mission through active public service and a commitment to high standards of academic achievement. Annual student evaluations rate the department's teaching as excellent.

General Information

The Bachelor of Arts in Communication

The B.A. in communication is a flexible degree program that allows the student to emphasize a particular field of study (communication, theory and rhetoric or mass communication) or tailor a specific concentration to meet the student's individual needs and interests. An emphasis in communication theory or mass communication is recommended for students with clear career goals in one of these areas. The communication major is

recommended for students interested in teacher certification, the Bachelor of General Studies degree in the Evening College, or in specific interdisciplinary fields such as public relations/advertising/organizational communication, information science, electronic journalism, television, media administration, and marketing communication. The faculty encourages all students to meet early and often with their adviser to select a meaningful group of courses for a coherent, career-oriented academic program.

Minors and Certificates for Communication

The department actively supports the following minor and certificate programs open to students majoring in communication: Minor in Public Affairs Journalism, Minor in Photographic Studies, Minor in Legal Studies, the Certificate in Writing, and the Certificate in Secondary Education. For more information, see Certificate Programs and Interdisciplinary Studies in this Bulletin.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. The College's foreign language requirement may be taken in any language. Communication courses may not be taken on a satisfactory/unsatisfactory basis.

After fulfilling the general education and specific major degree requirements, students are to take the remaining 62 hours required to complete the B.A. degree in communication from courses, which the respective department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Course Emphasis Categories

Courses offered by the communication department are categorized below. Students will need to refer to this list in choosing courses to meet the requirements of their particular emphasis area.

Communication Theory and Rhetoric Area Courses

30, Interpersonal Communication I
40, Introduction to Public Speaking
41, Basic Public Debate
65, Introduction to Information Technology
108, Advertising Copywriting
130, Interpersonal Communication II
135, Communication Theory
140, Advanced Public Speaking
141, Business and Professional Speaking
143, Parliamentary Procedure
150, Introduction to Public Relations

Communication

- 228, Public Relations Writing
- 230, Small Group Communication
- 231, Communication in the Organization
- 240, Persuasive Communication
- 241, Argumentation and Debate
- 243, Communication in American Politics
- 330, Empirical Research in Communication
- 331, Research Methods in Communication
- 332, Intercultural Communication
- 334, Advertising Media Planning
- 335, Seminar in Applied Communication Research
- 336, Communication in Advertising
- 337, Male/Female Communication
- 340, Rhetorical Criticism
- 341, Classical Rhetoric and Public Address
- 342, Modern Rhetoric and Public Address
- 343, The Rhetoric of Protest
- 344, Advanced Argumentation Theory
- 345, Theory and Practice of Interviewing
- 346, Advanced Interviewing Techniques
- 358, Communication in Public Relations

Mass Communication Area Courses

- 50, Introduction to Mass Media
- 65, Introduction to Information Technology
- 70, Introduction to Cinema
- 108, Advertising Copywriting
- 110, Introduction to Radio and Television Broadcasting
- 114, Radio Production I
- 118, Radio and Television Announcing
- 150, Introduction to Public Relations
- 210, Television Production I
- 212, Broadcast Writing and Reporting
- 214, News Writing
- 215, Radio Production II
- 216, Radio News
- 217, Script Writing for Business and Industry
- 218, Public Policy in Telecommunication
- 219, Promotion, Publicity, and Advertising in Broadcasting
- 228, Public Relations Writing
- 271, History of Film to World War II
- 272, History of Film Since World War II
- 273, Basic Film Production
- 310, Television Production II
- 311, Broadcast Management
- 316, Television News
- 317, Radio and the Recording Industry
- 334, Advertising Media Planning
- 350, Mass Communication History and Criticism
- 352, Mass Media Criticism
- 354, Comparative Telecommunication Systems
- 355, Media Law and Regulation
- 358, Communication in Public Relations
- 370, Documentary Film

Degree Requirements

Bachelor of Arts in Communication

Majors must complete a minimum of 36, but not more than 45, hours in communication courses. At least 18 of these hours must be taken at UM-St. Louis. Each major must take at least six hours of communication courses numbered 200-299 and at least six hours of communication

courses numbered 300-399. Every major must complete the requirements for an emphasis area as described below.

Emphasis Areas

Two emphasis areas are available: Communication Theory and Rhetoric and Mass Communication.

Required Courses for All Majors

- 40, Introduction to Public Speaking
- 135, Communication Theory
- 194, 196, 197, 198, (at least three hours of Practicum courses) or 393, 394, 396, 397, (at least three hours of Internship courses).

Emphasis Area Requirements

In addition to the above required course work, majors must complete the requirements specified below for one of the following emphasis areas:

I Communication Theory and Rhetoric

In addition to the required courses for all majors, students must take the following:

- a. 230, Small Group Communication
- b. Twelve additional hours in Communication theory and Rhetoric
- c. One of the following Mass Communication courses:
 - 50, Introduction to Mass Media
 - 70, Introduction to Cinema
 - 110, Introduction to Radio and Television Broadcasting
- d. Plus 9-18 hours from any area or areas in the communication department.

II Mass Communication

In addition to the required courses for all majors, students must take the following:

- a. 50, Introduction to Mass Media
- 70, Introduction to Cinema
- 110, Introduction to Radio and Television Broadcasting
- b. Nine additional hours in Mass Communication
- c. Plus 9-18 hours from any area or areas in the communication department.

Bachelor of Arts in Communication with Certification in Secondary Education

In addition to the requirements for the B.A. in Communication and general requirements set by the School of Education, students must meet the state requirements for certification.

The B.A. and certification for grades 7-12 can be completed by taking a minimum of 39 hours in communication, selected according to departmental recommendations. The B.A. and certification for grades 7-9 can be obtained by taking 36 hours in communication, selected according to departmental recommendations.

Requirements of the School of Education include courses in professional education and English 262, The Curriculum and Methods of Teaching English (same as SEC ED 232).

Departmental Activities, Laboratories, and Internships

Cocurricular projects and activities relevant to student interests and vocational plans are sponsored and advised by the department (debate and forensic, television club).

Communication

In addition to the traditional classroom experience, students receive practical training in the department's laboratory facility: the Lucas Hall Video Laboratory.

Internships at radio and television stations, community agencies, newspapers, public relations, marketing, and advertising firms, and a variety of business organizations provide unique opportunities for majors to apply their communication studies.

Minors in Communication

Students with majors other than communication may select from two minors to complement their academic and career goals.

The following conditions apply to all minors: Credit hours in Communication 195, and/or Communication 395, may be substituted for credit hours listed below with written permission of the communication department chairperson.

At least nine of the 18 hours required for the minor must be taken at UM-St. Louis.

A minimum GPA of 2.5 is required in the minor.

I Requirements for the minor in Communication Theory and Rhetoric are as follows:

- a. **Communication 40**, Introduction to Public Speaking
135 Communication Theory
- b. One of the following Communication Theory and Rhetoric courses:
30, Interpersonal Communication I
140, Advanced Public Speaking
141, Business and Professional Speaking
- c. Plus nine hours from courses in Communication Theory and Rhetoric at the 200 level or above.

II Requirements for a minor in Mass Communication are as follows:

- a. **50**, Introduction to Mass Media
110, Introduction to Radio and Television Broadcasting
- b. One of the following Mass Communication courses:
70, Introduction to Cinema
350, Mass Communication History and Criticism
- c. Plus nine hours in Mass Communication courses at the 200 level or above.

Career Outlook

The B.A. in communication prepares students for careers in numerous fields. Past graduates are working in the following positions: radio and television news, promotion and public relations, administration, directing, announcing, production, and sports journalism; media management and production; public relations, advertising, marketing, market research, corporate media, sales, training, speech writing, print editing, journalism, teaching, and research. Other students have pursued graduate education in communication programs offering the M.A. and Ph.D. degrees.

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Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements: 70, 160, 260, 271, 272, 337, 340, 341, 342, 343, 344, 350, 352.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 65, 135, 218, 230, 231, 243, 330, 331, 332, 333, 335, 350, 354, 356.

30 Interpersonal Communication I (3)

Development of basic one-to-one communication skills. Includes self-awareness, listening, nonverbal communication, feedback, roleplaying, and receiver awareness.

40 Introduction to Public Speaking (3)

Theories and techniques of organization, evidence, argumentation, persuasion, and delivery in public speaking.

41 Basic Public Debate (3)

History and practice of debate in the public arena, with opportunities to prepare for a variety of public forums for argumentation. Various debate formats, including panel discussions, joint news conferences, and audience-participation debates, in a variety of settings, will be surveyed.

50 Introduction to Mass Media (3)

Introduction to oral, print, and electronic media of communication. Emphasis on history, theory, and criticism of the mass media as cultural institutions.

65 Introduction to Information Technology (3)

The production and consumption of information by individuals, the work place and society. Emphasis on the changing nature of communication processes as a result of the expansion of communication technologies.

70 Introduction to Cinema (3)

An introduction to the history, rhetoric, and aesthetics of film. Film theory and criticism will be studied as well as major genres, authors, and artists.

95 Seminar in Communication (3)

Prerequisite: Consent of instructor. In-depth treatment of topics pertaining to current research in the department or otherwise of timely interest to students or faculty.

108 Advertising Copywriting (3)

(Same as English 108.) To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting.

110 Introduction to Radio and Television Broadcasting (3)

An introduction to broadcasting, including the areas of history, government regulations, station operation, and program development.

114 Radio Production I (3)

Prerequisite: Comm 110. Theory and practice in the creation of radio programs. Laboratory experience included.

118 Radio and Television Announcing (3)

Prerequisite: Comm 110; 114, and 210 recommended. Training in radio and television studio procedures. Production and criticism of lab programs, including news, continuity, interviews, and oral improvisation. Classroom meetings at the radio lab and the television lab, plus lab hours to be arranged.

130 Interpersonal Communication II (3)

Prerequisite: Comm 30. Interpersonal communication in relationships within group contexts, such as family, classroom, and business. Various theories and diagnostic approaches to interpersonal communication. Extensive laboratory sessions utilizing individual and group exercises.

135 Communication Theory (3)

Survey of elements and processes critical to human communication behavior. Comparison of influential communication theories.

140 Advanced Public Speaking (3)

Prerequisite: Comm 40. Application of advanced public speaking skills, with emphasis on special occasion speaking situations.

141 Business and Professional Speaking (3)

Prerequisite: Comm 40. Application of communication skills in the business and professional environment with emphasis on presentational speaking, organizational constructs germane to professional careers, and uses of various media.

143 Parliamentary Procedure (2)

Prerequisite: Comm 40. Study and practice in rules of procedure by which self-governing groups transact business.

150 Introduction to Public Relations (3)

Prerequisite: Comm 40 or 50. Publicity methods and public relations representation of profit and nonprofit institutions to the public; use of communication research and media, as applied to the public relations profession.

160 Fundamentals of Oral Interpretation (3)

Prerequisite: Comm 40 or consent of instructor. An introduction to the analysis of literature and to the principles of its oral presentation by the interpreter.

193 Practicum in Applied Communication (1-3)

Prerequisite: Consent of instructor. Practicum work at any of the UM-St. Louis public relations offices, sports and school newspapers, Office of Research or Photography Services. Work must be done on campus, under supervision of a working professional in the field, in consultation with a faculty member.

194 Practicum in Debate/Forensics (1-3)

Practical work in the University debate and forensics program, supervised by a faculty member. Repeatable, but

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no more than six credit hours may be earned in departmental practicum courses.

195 Seminar in Communication (3)

Prerequisite: Consent of instructor. In-depth study of topics pertaining to current research in the department or otherwise of timely interest to students or faculty.

196 Practicum in Radio (1-3)

Prerequisites: Comm 110 and consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at the campus radio station, supervised by a faculty member. Repeatable, but no more than six credit hours may be earned in departmental practicum courses.

197 Practicum in Television/Film (1-3)

Prerequisites: Comm 110 and consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at one of the campus television studios or for the UM-St. Louis Television/Film Club, supervised by a faculty member. Repeatable, but no more than six credit hours may be earned in departmental practicum courses.

210 Television Production I (3)

Prerequisites: Comm 110 and consent of instructor. A study of the basic theories and practices of television production. The areas of producing and directing will be studied. The class will provide the student with practical experience in camera operation, switching, lighting, and mixing. Lab arranged.

212 Broadcast Writing and Reporting (3)

Prerequisites: Comm 110 and 214, or English 214, or permission of instructor. Elementary principles and practice of writing for radio and television in varied program formats, emphasis on preparation of written materials for news and public affairs presentation. Lecture and lab.

214 News Writing (3)

(Same as English 214.) Prerequisite: English 10 or equivalent. An introduction to news writing and reporting. Course covers basic components of news reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed.

215 Radio Production II (3)

Prerequisite: Comm 114. Study of advanced theories and techniques of audio production, building on principles and skills learned in Radio Production I. Exploration of complex program formats such as radio drama and special problems such as those encountered in recording live music.

216 Radio News (3)

Prerequisite: Comm 114. Theory and laboratory practice in the gathering, writing, and delivery of news through radio. Lab hours to be arranged.

217 Script Writing for Business and Industry (3)

Prerequisites: Comm 210 and 212. Script writing for training, motivation, education, and other applications. Students will identify and discuss communication problems and solutions in live, slide/tape, video, and film script formats.

218 Public Policy in Telecommunication (3)

Prerequisite: Comm 65 or 110 or consent of instructor. An examination of the structure and operation of domestic, international, commercial and public telecommunication. Regulatory agencies, both private and public, will be considered in terms of their effect on programming and ownership.

219 Promotion, Publicity, and Advertising in Broadcasting (3)

Prerequisite: Comm 110. Introduction to theory and practice in the planning, execution, and evaluation of persuasive campaigns involving radio and television. Emphasis on concept developments and production elements. Discussion of broadcast ethics.

228 Public Relations Writing (3)

(Same as English 228.) Prerequisite: English 214 or equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals.

230 Small Group Communication (3)

Prerequisite: Comm 40. Development of communication skills needed in small group decision making. Application of these skills to contemporary problems.

231 Communication in the Organization (3)

Prerequisite: Junior standing or consent of instructor. Course integrates communication theories applicable to the structure and function of organizations. The effect of communication variables on departmental interface, member satisfaction and motivation, leadership and subordinate styles, and perception of the organization by the external environment.

240 Persuasive Communication (3)

Prerequisite: Comm 40. A study of persuasive communication, including theories, techniques, forms, functions, applications, potential, and limitations for the individual and organizations. Insights from both classical rhetoric and contemporary communication theory.

241 Argumentation and Debate (3)

Prerequisite: Comm 40, or 41, or consent of instructor. Principles of argumentation and debate with practice in preparing briefs and in delivering spoken arguments in formal debate. Emphasis on analysis of issues, logical reasoning, and audience analysis.

243 Communication in American Politics (3)

Prerequisite: Comm 40. Analysis of audience response and media preferences in political campaigns, campaign speeches, candidates' uses of television and other mass

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media, and measuring effectiveness of campaign communications.

260 Advanced Oral Interpretation (3)

Prerequisite: Comm 160. Advanced practice in analyzing and performing oral interpretation of literary forms.

271 History of Film to World War II (3)

Prerequisite: Comm 70 or consent of instructor. History of world cinema from the late nineteenth century to the 1940s.

272 History of Film Since World War II (3)

Prerequisite: Comm 70 or consent of instructor. History of world cinema from the 1940s to the present day.

273 Basic Film Production (3)

Prerequisite: Comm 70. Introduction to filmmaking equipment and practices. Production of short films.

310 Television Production II (3)

Prerequisite: Comm 210. Study of advanced theories of television production. Refinement of studio television principles learned in Comm 210. Exploration of complex program formats. Lab arranged.

311 Broadcast Management (3)

Prerequisite: Comm 110. Introduction to theories of management, with application to radio and television station operations. Discussion of economic, legal, and ethical problems and issues.

316 Television News (3)

Prerequisite: Comm 210. Theory and laboratory practice in the gathering, writing, and delivery of news through television. Lab arranged.

317 Radio and the Recording Industry (3)

Prerequisite: Junior standing. Historical development and current status of the recording industry, particularly as it interacts with the broadcast industry. Impact of radio and recording technology on the development of rock and other popular music.

330 Empirical Research in Communication (3)

Prerequisite: Comm 135. Introduction to the fundamental tools of quantitative research in communication, including data analysis, statistical design and methods, basic measurement concepts and designs for empirical research.

331 Research Methods in Communication (3)

Prerequisite: Comm 135. Introductory study of research designs and methodologies employed in communication, including historical, critical, and empirical methods. Review of research reports which exemplify these methods.

332 Intercultural Communication (3)

Prerequisite: Junior standing or consent of the instructor. Study of culture as a variable in both interpersonal and collective communicative situations. Emphasis upon opportunities and problems arising from similarities or differences in communication patterns, processes, and codes among various cultural groups.

333 Communication Audit (3)

Prerequisite: Comm 231. The application of specific empirical research designs to evaluate communication flows, effectiveness, or channels in complex organizations.

334 Advertising Media Planning (3)

Prerequisite: Comm 50. A hands-on study of how to determine an advertising budget, select media and develop a strategic plan.

335 Seminar in Applied Communication Research (3)

Prerequisites: Comm 135 and consent of instructor. This course explores the use of communication concepts, theories, methods, and designs in applied field settings with an emphasis on original research.

336 Communication in Advertising (3)

Prerequisites: Comm 50 and junior standing, or consent of instructor. Overview of components in persuasive messages and how advertising messages and campaigns use various media to reach target audiences.

337 Male/Female Communication (3)

Prerequisite: Junior standing or consent of instructor. This course explores the influence of gender upon contemporary American communication behavior. Topics include semantic and syntactic variations in male and female speech, gender-role development as process and product of communication, analysis of communication patterns and barriers within gender groups. Mass, public, interpersonal, and dyadic communication contexts are considered.

340 Rhetorical Criticism (3)

Prerequisite: Comm 40. The application of rhetorical theories to the analytical and critical explanation of persuasive messages.

341 Classical Rhetoric and Public Address (3)

Prerequisite: Comm 40 or consent of instructor. A survey of the history and theories of persuasion and public address from ancient times to the Renaissance.

342 Modern Rhetoric and Public Address (3)

Prerequisite: Comm 40 or consent of instructor. A survey of the history and theories of persuasion and public address from the post-Renaissance era to the present.

343 The Rhetoric of Protest (3)

Prerequisite: Comm 40. An examination of the persuasive messages and tactics used in social movements and their campaigns.

344 Advanced Argumentation Theory (3)

Prerequisite: Comm 241 or consent of instructor. This course focuses on advanced argumentation theory. It is aimed at providing an advanced understanding of the complex issues faced by argumentation scholars.

345 Theory and Practice of Interviewing (3)

Prerequisite: Comm 40 and junior standing, or consent of instructor. The application of modern communication theory to interview situations. This theory and practicum course is designed to aid the student in mastering specific skills

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appropriate to specialized settings.

346 Advanced Interviewing Techniques (3)

Prerequisite: Comm 345. Examination and application of problem solving and information-gathering methods, with emphasis on specialized situations such as journalistic; health, crisis intervention, and counseling; superior-subordinate relationships and employment. In-class study approach and field interview assignments.

350 Mass Communication History (3)

Prerequisite: Comm 50 or 110. Examination of the social, economic, and political factors contributing to the development of American mass media. Emphasis on significant personalities who helped shape its course; analysis of select critical works.

352 Mass Media Criticism (3)

Prerequisite: Comm 50 or 110. The study of media content and its effect on society. Reading and viewing of selected works. Independent reading and critical analysis required.

354 Comparative Telecommunication Systems (3)

Prerequisite: Comm 65 or consent of instructor. Historical aspects of various systems of telecommunication throughout the world. Examination of American, Canadian, European Economic Community (EC), and other telecommunication systems.

355 Media Law and Regulation (3)

Prerequisite: Comm 50 or 110. Discussion of laws affecting the mass media. Exploration of problems and issues in legal regulation of media content, ownership, access, and accountability. Discussion of industry self-regulation and the influence of citizens' organizations.

356 International Communication (3)

Prerequisite: Comm 50 or 110. Examination of the social, technical, economic, and political factors affecting international broadcasting and transnational media systems.

358 Communication in Public Relations (3)

Prerequisite: Comm 150. An overview of communication within the area of public relations. Emphasis on ethics, law, professional standards, and written communication. Case study approach.

362 Storytelling (1-3)

Prerequisite: Junior standing or consent of instructor. This course gives an overview of the history of storytelling, types of tales, and appropriate uses for storytelling. The primary emphasis of the course is in developing storytelling skills through preparation, performances, and evaluation.

363 Introduction to Cataloging (3)

Prerequisite: Senior or postgraduate status. Cataloging books using Anglo-American Cataloging Rules II and the Dewey classification.

364 Selection and Acquisition of Library Materials (3)

Prerequisite: Senior or postgraduate status. Introduction to types of materials in libraries; their source of supply, evaluation, selection, and acquisition routines and procedures.

365 Introduction to Reference (3)

Prerequisite: Senior or postgraduate status. Introduction to reference materials and procedures, including automated reference sources.

366 Administration of School Libraries/Media Centers (3)

Prerequisite: Senior or postgraduate status. Operational objectives and functions of school learning resource centers, including physical facilities and personnel standards.

370 Documentary Film (3)

Prerequisite: Comm 70. Consideration of the history, theory, and criticism of nonfiction film. Screening of representative documentary films.

390 Directed Readings (3)

Prerequisites: Consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised independent study involving readings, conferences, papers, etc., in one of the department's disciplines: communication theory and rhetoric, or mass communication.

391 Supervised Research (1-5)

Prerequisites: Junior/senior standing and consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised field or laboratory research, data collection, literature searches, qualitative or quantitative data analysis, report writing and other techniques used by communication researchers. Repeatable, but no more than five credit hours may be earned in supervised research courses.

392 Administration of Cocurricular Activities (3)

Prerequisites: Junior standing and consent of instructor. A survey of the skills required to administer the various cocurricular activities associated with teachers in the secondary schools, such as: operation of debate tournaments, public speaking competitions, and mass media centers.

393 Internship in Applied Communication (3-6)

Prerequisites: Senior standing, with a least 12 hours of course work in communication theory and rhetoric; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Advanced practical work in business communication, political campaign communication, advertising, public relations, or other forms of organizational or public communication. Work must be done off campus, under supervision of a working professional in the field, in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

394 Internship in Journalism (3-6)

Prerequisites: Senior standing, with at least 12 hours of course work in journalism, mass communication, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work

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with an off-campus newspaper, magazine, or other news organization, supervised by a journalism professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

395 Senior Seminar in Communication (3)

Prerequisite: Senior standing and consent of instructor.

This course will deal with basic issues, questions, theories and themes central to the discipline of communication. The course project will consist of a critique of selected communication literature and permit the student to integrate and synthesize the knowledge base accumulated in the systematic study of communication.

396 Internship in Radio (3-6)

Prerequisites: Senior standing, with at least 12 hours of course work in radio, broadcasting, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at an off-campus radio station, supervised by a professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

397 Internship in Television/Film (3-6)

Prerequisites: Senior standing, with at least 12 hours of course work in television, film, video, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at an off-campus television, film, or video organization, supervised by a television, film, or video professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

Criminology and Criminal Justice

Faculty

Scott H. Decker, Professor*; Chairperson
Ph.D., Florida State University
Robert Bursik, Professor
Ph.D., University of Chicago
G. David Curry, Associate Professor
Ph.D., University of Chicago
Bruce A. Jacobs, Assistant Professor
Ph.D., University of Southern California
Janet L. Lauritsen, Associate Professor*
Ph.D., University of Illinois-Urbana
Kimberly K. Leonard, Associate Professor*
Ph.D., The Wharton School, University of Pennsylvania
Jody Miller, Assistant Professor
Ph.D., University of Southern California
Richard B. Rosenfeld, Professor*
Ph.D., University of Oregon
Allen E. Wagner, Associate Professor*
Ph.D., Washington University
Norman A. White, Assistant Professor*
A.B.D., SUNY at Albany
Richard Wright, Professor*
Ph.D., Cambridge University

*members of Graduate Faculty

Criminology and criminal justice faculty represent several academic disciplines. By integrating practice with theory, faculty are able to present a comprehensive picture of crime and the justice system. An emphasis on understanding the theoretical foundations which underlie human behavior and the institutions of justice characterizes the departmental orientation. Faculty research and publications also reflect this concern with an understanding of both the underlying theoretical foundations and their application. This nexus of theory and application is found most directly in the department's emphasis on understanding policy in criminology and criminal justice. All components of crime and justice are represented in the curriculum including criminal behavior, delinquency, crime prevention, arrest, prosecution, defense, court processing, probation, prison, and parole. A special feature of the program is the cadre of local professionals who supplement the regular faculty. A federal appeals-court judge, local prosecutor, correctional supervisor, and probation supervisor are among this group. Merging theory with practice is a daily routine for supplemental faculty members. Full-time faculty members provide course work that forms the sound basis of a liberal arts education.

General Information

Degrees and Areas of Concentration

The department offers courses leading to the bachelor of science, the master of arts, and Ph.D., in criminology and criminal justice.

Cooperative Programs

Faculty of the criminology and criminal justice department hold appointments as Fellows in the Center for Metropolitan Studies, and the Institute for Women's and Gender Studies. Workshops, projects, credit courses, and other social services are brought to the criminal justice community.

Internships

Majors are strongly encouraged to participate in CCJ 280, Internship in Criminology and Criminal Justice, during their junior or senior year. The internship affords students the opportunity to gain experience in a criminal justice agency under the joint supervision of agency personnel and criminology and criminal justice faculty.

Minor in Criminology and Criminal Justice

The minor gives formal recognition to those students from other major areas who find that criminology and criminal justice courses fit their academic or professional needs and/or interests.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. Courses used to fulfill the Social Science or state requirement may not be taken from courses in the major. Foreign language proficiency is not required, although students are encouraged to take foreign language courses. Majors may not take the following courses on a satisfactory/unsatisfactory basis: criminology and criminal justice courses; Sociology 220, Quantitative Techniques in Sociology; or Sociology 230, Research Methods. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken on a satisfactory/unsatisfactory basis.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.S. degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and inter-disciplinary. The criminology and criminal justice department may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course. All pre-requisites must be satisfied prior to enrolling in a course. Students may register for 300 level courses only after obtaining a signature from the advisor in Criminal Justice Department.

Degree Requirements

- Courses used to fulfill the social science or state requirements may not be taken from courses in the major.
- Students may register for 300 level courses only after obtaining a signature from the advisor in Criminology and Criminal Justice.
- All pre-requisites must be satisfied prior to enrolling in a course.

Criminology and Criminal Justice

Bachelor of Science in Criminology and Criminal Justice
Candidates must complete the core curriculum listed below:

Core Curriculum

The following courses in criminology and criminal justice are required:

- CCJ 10, Introduction to Criminology and Criminal Justice
- CCJ 110, Theories of Crime
- CCJ 120, Criminal Law
- CCJ 130, Criminal Justice Policy
- CCJ 200, Writing in Criminology and Criminal Justice
- CCJ 210, Research Methods in Criminology and Criminal Justice
- CCJ 220, Statistical Analysis in Criminology and Criminal Justice
- CCJ 390, Seminar in Criminology and Criminal Justice

Two courses from the following four:

- CCJ 230, Crime Prevention
- CCJ 240, Policing
- CCJ 260, Corrections
- CCJ 270, Juvenile Justice

Two courses at the 300 level:

- CCJ 300, Communities and Crime
- CCJ 305, Comparative Criminology and Criminal Justice
- CCJ 310, Computers in Criminal Justice
- CCJ 315, Ethics in Criminology and Criminal Justice
- CCJ 320, Forms of Criminal Behavior
- CCJ 325, Gender, Crime, and Justice
- CCJ 330, History of Crime and Justice
- CCJ 335, Probation and Parole
- CCJ 340, Race, Crime, and Justice
- CCJ 345, Rights of the Offender
- CCJ 350, Victimology
- CCJ 380, Special Topics in Criminology and Criminal Justice

Elective Courses

- CCJ 99, The City
- CCJ 180, Alcohol, Drugs and Society
- CCJ 227, Urban Law: Poverty and the Justice System
- CCJ 280, Internship in Criminology and Criminal Justice
- CCJ 290, Special Readings

Requirements for the Minor

The minor has been designed to ground students in the basics of criminology and criminal justice.

All minor candidates must take:

- CCJ 10, Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:

- CCJ 110, Theories of Crime
- CCJ 120, Criminal Law
- CCJ 130, Criminal Justice Policy

Candidates must then complete 6 hours of criminology and criminal justice course work at the 200 level or above.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. None of the courses may be taken on a satisfactory/unsatisfactory basis.

Graduate Studies

Master of Arts in Criminology and Criminal Justice

The department offers a Master of Arts degree in Criminology and Criminal Justice, which provides students with advanced theoretical and methodological training for research and management careers in criminal justice.

Admission Requirements

The minimum GPA for regular admission to graduate study is 2.75 on a 4-point scale. However, students may be admitted under restricted status with a GPA of 2.5. Students admitted with a 2.5 to 2.75 GPA will be reviewed after completing 6 credit hours of graduate work. Admission is competitive.

Degree Requirements

The M.A. in Criminology and Criminal Justice requires the completion of 33 credit hours, at least 18 of which are in criminology and criminal justice. All students must satisfy a 15-hour core course requirement. Additionally, M.A. candidates must take at least two of four graduate "option" courses offered by the department. Students may choose between a thesis and nonthesis course of study.

Core Curriculum

- CCJ 400, Proseminar: Criminology and Criminal Justice
- CCJ 405, Methods
- CCJ 410, Statistics
- CCJ 415, Foundations of Criminological Theory
- CCJ 420, Contemporary Criminological Theory

Two of the following four courses

- CCJ 451, Juvenile Justice System
- CCJ 452, The Police
- CCJ 453, Adjudication
- CCJ 454, Corrections

Transfer Courses

Transfer courses are evaluated for acceptance on a case-by-case basis subject to the rules and regulations of the Graduate School.

Application to the Ph.D. Program

Eligibility Undergraduate applicants must have a baccalaureate degree or expect one by the end of the academic year in which they apply. Applicants must have a grade point average of 3.0 or greater (on a scale of A=4.0) for the last 60 hours of undergraduate work.

Graduate applicants who have or will have a Master's degree must have a grade point average of 3.0 or greater (on a scale of A=4.0) for their graduate coursework.

Application To consider an applicant for admission, the Department of Criminology and Criminal Justice must have transcripts, three letters of recommendations, Graduate Record Examination scores, and a writing sample. Applications with Master's degrees should include a chapter of their thesis. International students whose native language

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is not English are required to submit scores from the TOEFL examination.

Amount of Course Work Sixty post-baccalaureate hours of graduate work are required for the Ph.D. More than half of these hours must be completed in residence. Twelve credit hours of dissertation research (CCJ 499) are required. Students may enroll for dissertation credits (CCJ 499) only when all other degree requirements have been completed.

Required courses for the Ph.D. are:

- CCJ 400 Proseminar (3)
- CCJ 405 Methods (3)
- CCJ 410 Statistics (3)
- 415 Foundations of Criminological Theory (3)
- 420 Contemporary Criminological Theory (3)
- 430 Law and Social Control (3)
- 440 Nature of Crime (3)
- 450 Criminal Justice Organization (3)
- 480 Multivariate Statistics (3)

In addition to the above 27 hours, students must choose two of the following three courses:

- 465 Qualitative Research Design (3)
- 470 Quantitative Research Design (3)
- 475 Evaluation Research Methods (3)

Students are also required to specialize in one of the following three areas:

- Option 1:** Crime and Criminality
- Option 2:** Criminal Justice
- Option 3:** Law and Social Control

Courses in Option 1 include the following:

- 441 Juvenile Delinquency (3)
- 442 Communities and Crime (3)
- 443 Violent Crime (3)
- 444 Organizational Crime (3)
- 445 Property Crime (3)
- 446 Sex Crime (3)
- 447 Public Order Crime (3)
- 448 Victimization (3)

Courses in Option 2 include the following:

- 451 Juvenile Justice Systems (3)
- 452 The Police (3)
- 453 Adjudication (3)
- 454 Corrections (3)
- 455 Ethical and Legal Issues in Criminal Justice (3)

Courses in Option 3 include the following:

- 431 The Nature of Punishment (3)
- 432 Criminal Law (3)
- 433 Philosophy of Law (3)
- 434 Human Rights (3)
- 435 Law, Courts, and Public Policy (3)
- 436 Comparative Legal Systems (3)
- 437 Private Justice (3)

Additional courses, beyond the above requirements are taken as elective courses. These courses may be at the 300- or 400-level. Students are also encouraged to take courses outside of the Department of Criminology and Criminal Justice.

Qualifying Examination

Graduate students in the Ph.D. program cannot become recognized as "Ph.D. Candidates" until they have passed the qualifying examination. The goals of the comprehensive examination are to assess the student's familiarity with substantive literature, theory and methods of criminology and criminal justice and to evaluate the student's intellectual imagination and ability to apply knowledge to broad criminological questions.

The qualifying examination will consist of two parts—the first focusing on crime and criminality, and the second on either law and social control or criminal justice. The choice of the second part is made by the student. Each will integrate theory and methods into the substantive literature.

Part one of the exam will consist of a six-hour examination without access to notes or external references. Part two will be a 48-hour, non-collaborative, take-home examination. The student will pick which subject area is taken under which testing format.

Other information about the qualifying exam is available from the department.

The Dissertation

The dissertation is required of all Ph.D. candidates and demonstrates the student's scholarly expertise. The dissertation process formally begins when all other requirements of the Ph.D. program have been met. The dissertation committee assists in selecting and developing the research problem, and evaluates the student's work on that problem.

Career Outlook

The orientation of the criminology and criminal justice faculty and of the degree program prepares the graduate to work professionally for local, state, and federal agencies concerned with maintaining public safety by the prevention of crime and apprehension and rehabilitation of offenders. The B.S. in criminology and criminal justice is also advantageous for careers with various social agencies, especially those connected with the juvenile court system, probation and parole, and local police. Many students use the B.S. in criminology and criminal justice as preparation for law school.

The interdisciplinary curricula unify a body of knowledge from criminology, social science, law, public administration and corrections, giving a unique preparation for and providing the student with an understanding of the assumptions, values, and processes of the system of justice. Many prelaw students choose criminology and criminal justice as an undergraduate major because of the excellent preparation offered for law school. An internship program is offered for college credit. The liaison, supervision, and experience with public agencies that form an integral part of this program help the student arrive at a career decision.

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Course Descriptions

Prerequisites may be waived by consent of the department or instructor.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 10, 75, 99, 110, 120, 130, 164, 180, 200, 210, 220, 226, 227, 230, 240, 260, 270, 280, 290, 300, 305, 310, 315, 320, 325, 328, 330, 335, 340, 345, 350, 380, 390, 399.

10 Introduction to Criminology and Criminal Justice (3)
Introduction to the basic concepts and approaches in the study of criminology and criminal justice. The major components of the criminal justice system are examined. Course fulfills the state requirement.

75 Crime and Punishment (3)
(Same as Sociology 75 and Interdisciplinary 75.) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

99 The City (3)
(Same as PolSci 99, Sociology 99, and Interdisciplinary 99.) Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

110 Theories of Crime (3)
Prerequisite: CCJ 10. Introduction to major theoretical approaches to the study of crime and justice.

120 Criminal Law (3)
Prerequisite: CCJ 10. Analysis of substantive criminal law, evidence and judicial procedure.

130 Criminal Justice Policy (3)
Prerequisite: CCJ 10. Introduction to criminal justice policy making, planning, and implementation.

180 Alcohol, Drugs, and Society (3)
(Same as Sociology 180.) Prerequisite: Sociology 10 or Psych 3. This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

200 Writing in Criminology and Criminal Justice (3)
Prerequisite: English 10 or equivalent. This team-taught course exposes students to the types of writing expected of professionals in the field. Examples include report writing, abstract book reviews, essays and editorials, research reports, and formats for citation and referencing.

210 Research Methods in Criminology and Criminal Justice (3)
Prerequisite: CCJ 10. Examination of basic methods of research design, measurement and data collection in criminology and criminal justice.

220 Statistical Analysis in Criminology and Criminal Justice (3)
Prerequisites: CCJ 10, 210 and University math requirement. An introduction to techniques of quantitative data analysis. Both descriptive and inferential statistics are applied to problems in criminology and criminal justice.

226 Law and the Individual (3)
(Same as PolSci 226.) Prerequisite: PolSci 11, or 20, or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policy-making and dispute resolution. Course fulfills the state requirement.

227 Urban Law: Poverty and the Justice System (3)
Prerequisite: CCJ 170 or PolSci 11, or consent of instructor. Examination of administrative regulations and the civil law process as it affects the life of the urban, rural, and the poor.

230 Crime Prevention (3)
Prerequisite: CCJ 10. Examination of situational, social, and legislative approaches to the prevention of crime and delinquency. Emphasis on theories, implementation and consequences of these approaches.

240 Policing (3)
Prerequisite: CCJ 10. Overview of current and historical perspectives on the function of American policing. Emphasis on the management of police organizations and relationships with the community.

260 Corrections (3)
Prerequisite: CCJ 10. Examination of correctional philosophies and practices. Emphasis on the history of correction, the formal and informal organization of correction facilities, inmate rights, and correctional alternatives.

270 The Juvenile Justice System (3)
Prerequisite: CCJ 10. Examination of formal and informal responses to juvenile delinquency. Emphasis on theories of delinquency and the decision-making processes of police, court and probation officials.

280 Internship in Criminology and Criminal Justice (3)
Prerequisite: Junior standing. Internship under faculty supervision in criminal justice setting.

290 Directed Readings (1-6)
Prerequisite: CCJ 10 and consent of instructor.

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Individualized study, under regular faculty supervision, designed to meet particular educational needs of selected students.

300 Communities and Crime (3)

(Same as Sociology 300.) Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Analysis of the sources, consequences, and control of crime within communities. Emphasis on social and ecological theories of crime, and on population instability, family structure, and the concentration of poverty as causes of crime. Community crime prevention efforts are also addressed.

305 Comparative Criminology and Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Analysis of crime and criminal justice systems in selected cultures. Emphasis on the ways in which these cultures define and respond to criminal behavior.

310 Computers in Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Use of computers, data base systems, and software applications in research and professional practice.

315 Ethics in Criminology and Criminal Justice (3)

(Same as Philosophy 315.) Prerequisites: CCJ 110, 120, 130, 210, 220, or Philosophy 153, 154, 156, 230, 235, 238, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

320 Forms of Criminal Behavior (3)

(Same as Sociology 320.) Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of and responses to these crimes.

325 Gender, Crime, and Justice (3)

(Same as Sociology 325.) Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Analysis of the role of gender in crime and in the justice system. Emphasis on gender differences in crime commission, criminal processing, and the employment of women in criminal justice agencies.

328 Institutions and the Control of Crime and Delinquency (3)

(Same as Sociology 328.) Prerequisites: CCJ 110, 120, 130, 210, 220, 260, or Sociology 214 or Sociology 326. Institutional responses to crime and delinquency. Theories and programs of rehabilitation and punishment. Organizational conditions affecting behavior of correctional personnel.

330 History of Crime and Justice (3)

(Same as History 320) Prerequisites: Junior Standing or consent of instructor; CCJ 110, 120, 130, 210, 220. The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison, and the juvenile court.

335 Probation and Parole (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, 260, or consent of instructor. Analysis of alternatives to incarceration and postincarceration supervision. Emphasis on diversion, restitution, and community reintegration.

340 Race, Crime, and Justice (3)

(Same as Sociology 340.) Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

345 Rights of the Offender (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Analysis of the objectives of criminal law regarding the rights of persons suspected or convicted of crime. Emphasis on rights regarding the police, the court, and in correctional settings.

350 Victimology (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Analysis of major perspectives on victimization. Emphasis on patterns of victimization, the role of victims in the generation of crime, and the experience of the victim in the criminal justice system.

380 Special Topics in Criminology and Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220. In-depth study of a selected topic in criminology and criminal justice.

390 Seminar in Criminology and Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, and senior standing. In this capstone course, students demonstrate the ability to work independently, integrating theory and research in criminology and criminal justice in a major paper supervised by the instructor.

399 Senior Thesis (1-6)

Prerequisites: CCJ 110, 120, 130, 200, 210, 220, and consent of instructor. A major research paper prepared under the guidance of a CCJ faculty member. Students may receive 1-6 elective credits over one or two semesters. Thesis credits may not substitute department 300-level course requirements. Enrollment restricted to senior majors.

400 Proseminar (3)

Prerequisite: Graduate standing. (Must be taken in the first semester.) A critical examination of theoretical, methodological and policy issues in criminology and criminal justice. Focus is on the nature of crime, policing, pretrial processes, adjudication, and corrections.

405 Methods (3)

Prerequisites: Graduate standing. Examination of basic methods for research design and data collection. Topics include participant observation and interviewing, survey research, aggregate data analysis, and experimental design.

410 Statistical Applications in Criminology and Criminal Justice (3)

Prerequisites: CCJ 405. Examination of elementary

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principles of quantitative analysis and their application to crime and justice problems. Topics include univariate, bivariate and multivariate procedures for discrete and continuous data, and a comprehensive introduction to ordinary least squares regression.

415 Foundations of Criminological Theory (3)
(Same as Sociology 415.) Prerequisite: Graduate standing. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420 Contemporary Criminological Theory (3)
Prerequisite: CCJ 415. Examination of contemporary explanations of crime and criminal justice. Theories covered include strain, control, cultural, labeling, conflict, as well as more recent attempts at theoretical integration and multidisciplinary integration.

430 Law and Social Control (3)
(Same as Sociology 461.) Prerequisites: Graduate standing and consent of instructor. Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

431 The Nature of Punishment (3)
(Same as Philosophy 431) Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

432 Criminal Law (3)
Prerequisite: Graduate standing. A study of substantive criminal law, the laws that control the behavior of all citizens, and procedural criminal law, the laws that guide the behavior of criminal justice agents.

433 Philosophy of Law (3)
(Same as Philosophy 433.) Prerequisite: Graduate standing. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

434 Human Rights (3)
Prerequisite: Graduate standing. Examination of human rights from historical and cross cultural perspectives. Topics include capital and corporal punishment, political prisoners, rights of the accused, and rights of those imprisoned.

435 Law, Courts, and Public Policy (3)
(Same as PolSci 422.) Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

436 Comparative Legal Systems (3)
Prerequisite: Graduate standing. Examination of diverse types of law and legal systems. The course contrasts Western and non-Western legal systems.

437 Private Justice (3)
Prerequisite: Graduate standing. Examination of the private sector's impact on formal criminal and juvenile justice systems, as well as the development of private security and informal justice systems. Financial incentives, moral and legal issues are explored.

440 Nature of Crime (3)
Prerequisite: Graduate standing. Examination of patterns and correlates of crime at the individual, situational, and aggregate levels. Topics include definitions of crime, offending typologies, and criminal careers.

441 Juvenile Delinquency (3)
Prerequisite: Graduate standing. Examination of youth crime and juvenile offenders. Topics include definitions of juvenile crime, and theories of juvenile crime causation in the United States.

442 Communities and Crime (3)
Prerequisite: Graduate standing. Examination of the trends and sources of crime and social disorder across communities. The course emphasizes relationships among crime, fear of crime, neighborhood change, neighborhood responses to crime, and public policies.

443 Violent Crime (3)
Prerequisite: Graduate standing. Examination of the sources and patterns of violent offending across time and space. Topics include conceptions and typologies of violent crimes and offenders, victim-offender relationships, and efforts to predict and control violent offending.

444 Organizational Crime (3)
Prerequisite: Graduate standing. Examination of crime by and within groups. Focuses on the types of criminal behavior known as organized crime, white collar crime, and political corruption.

445 Property Crime (3)
Prerequisite: Graduate standing. Examination of the sources and patterns of property offending across time and space. Topics include conceptions and typologies of property crimes and offenders, victim-offender relationships, and efforts to predict and control property offending.

446 Sex Crime (3)
Prerequisite: Graduate standing. Examination of consensual and non-consensual sexual offending. Topics include historical development of laws regulating sexual conduct, controversies surrounding the application of these laws, and the nature and distribution of sexual offenses.

447 Public Order Crime (3)
Prerequisite: Graduate standing. Examination of the nature of, prevalence of, and efforts to control public order crimes such as gambling, illicit drug use, prostitution, vagrancy,

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and disorderly conduct. The function of public order crimes as a means to control disruptive or threatening persons and groups is emphasized.

448 Victimization (3)

Prerequisite: Graduate standing. Examination of the risks and consequences of crime for its victims. Issues considered include victim-offender relationships, characteristics of victims, the nature of the injuries they experience and criminal justice procedures that involve them.

450 Criminal Justice Process and Policy (3)

Prerequisite: Graduate standing. An analysis of criminal justice as a network of decisions and complex organizations. Topics include sources of criminal justice policy, policy agendas, implementation and evaluation.

451 Juvenile Justice Systems (3)

Prerequisite: Graduate standing. An examination of the historical evolution of juvenile justice and the processes by which specific behaviors are identified as delinquent. Informal responses to delinquency also are explored.

452 The Police (3)

Prerequisite: Graduate standing. Historical, social and political analysis of policing in America. Examination of federal, state, county, and municipal agencies.

453 Adjudication (3)

Prerequisite: Graduate standing. Examination of the objectives, institutions and processes involved in the adjudication of offenders. Topics address the structure and function of the judicial system and principal court actors.

454 Corrections (3)

Prerequisite: Graduate standing. Examination of the history, forms, and functions of correctional philosophies, institutions, programs, and policies. Topics include the structure and functions of prisons and jails, community corrections, intermediate sanctions, and the growth of correctional control in modern society.

455 Ethical and Legal Issues in Criminal Justice (3)

(Same as Philosophy 455.) Prerequisite: Graduate standing. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology, and research and professional ethics.

465 Qualitative Research Design (3)

Prerequisite: Graduate standing. Examination of participant observation and informant and respondent interviewing. Topics include gaining access, sampling, data collection and analysis, and legal and ethical concerns.

470 Quantitative Research Design (3)

Prerequisite: CCJ 405 and CCJ 410. Examination of experimental, longitudinal, and cross-sectional designs. Sources of data, sampling procedures, operational definitions, and issues of reliability are also discussed.

475 Evaluation Research Methods (3)

(Same as Psych 475, Sociology 475, and Public Policy Administration 475.) Prerequisites: At least one course in Research Design and Statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

480 Multivariate Statistics (3)

Prerequisite: CCJ 410. Introduction to the general linear model with applications to multivariate problems in criminology and criminal justice. Topics include advanced ordinary least squares, causal modeling, time series analysis, simultaneous equations, and analysis of limited dependent variables.

485 Directed Readings (1-6)

Prerequisite: Directed Readings/Research in Criminology and Criminal Justice. Directed reading and research, under faculty supervision, designed to meet particular educational needs of selected students.

495 Internship in Criminology and Criminal Justice (3)

Prerequisite: Graduate standing. Supervised placements with criminal justice agencies. Designed primarily for students with limited field experience.

498 M.A. Thesis Research (1-6)

Prerequisites: Graduate standing.

499 Independent Study and Research (3)

Prerequisite: Graduate standing. Directed study or research in criminology and criminal justice.

Economics

Faculty

Sharon G. Levin, Professor*; Chairperson
Ph.D., University of Michigan

Elizabeth M. Clayton, Professor Emeritus
Ph.D., University of Washington

Susan K. Feigenbaum, Professor*
Ph.D., University of Wisconsin

Joseph P. McKenna, Professor Emeritus*
Ph.D., Harvard University

William E. Mitchell, Professor*
Ph.D., Duke University

Donald Phares, Professor*
Ph.D., Syracuse University

Robert L. Sorensen, Professor*;
Director of Graduate Studies
Ph.D., Virginia Polytechnic Institute

Thomas R. Ireland, Professor*
Ph.D., University of Virginia

Timothy McBride, Associate Professor,* Economics,
Public Policy Administration, Gerontology
Ph.D., University of Wisconsin-Madison

David C. Rose, Associate Professor*;
Ph.D., University of Virginia

Herbert D. Werner, Associate Professor Emeritus*
Ph.D., University of California-Berkeley

Anne Winkler, Associate Professor*, Economics and
Public Policy Administration
Ph.D., University of Illinois at Urbana-Champaign

J. Ray Bowen II, Assistant Professor
Ph.D., University of Michigan

Clinton A. Greene, Assistant Professor
Ph.D., University of California-Davis

Donald J. Kridel, Assistant Professor
Ph.D., University of Arizona

Sarapage McCorkle, Assistant Professor*; Director, Center
for Entrepreneurship & Economic Education
Ed.D., University of Missouri-St. Louis

Michael T. Allison, Senior Lecturer
A.B.D., University of Virginia

Kathleen Phares, Senior Lecturer
M.A., University of Missouri-St. Louis

Mary Suiter, Associate Director; Lecturer, Center for
Entrepreneurship & Economic Education
MIEE, University of Delaware

*members of Graduate Faculty

The economics department is actively engaged in teaching, research, publishing, and community service. Members have received numerous grants for basic and applied research projects. In addition to published research, members regularly present papers and serve as moderators and discussants at professional meetings. They have been honored with teaching and research fellowships and as visiting scholars at leading universities throughout the United States. Faculty members actively participate in community service; they address local citizen and business groups on topics of current interest, and frequently act as consultants for public service groups and local governmental units.

General Information

Degrees and Areas of Concentration Several degree programs are offered by the economics department. The B.A. in economics provides a flexible liberal arts orientation for students. The B.S. in economics places more emphasis upon developing the analytical and quantitative skills used in analysis. Both degrees can be tailored to meet the career interests of the student.

The economics faculty considers research an integral part of good teaching. Research projects in recent years have dealt with housing, productivity, employment, taxation, zoning, technology diffusion, the former Soviet Union, international trade flows, agriculture, energy, monetary economics, conglomerates, and public choice.

The economics department also offers courses at the undergraduate level in geography.

A graduate program offers work leading to the M.A. degree in economics in preparation for careers in teaching, research, government, and industry. The program includes course work in macroeconomic theory; urban, international, industrial, and quantitative economics; and research methodology. The program can accommodate prospective full-time students, as well as those who wish to study part-time solely in the evening. Classes are small, and student-faculty interaction is encouraged.

The economics department cooperates with the School of Business Administration and the Department of Political Science in offering a master's degree program in public policy administration.

Departmental Honors The economics department has established the following requirements for departmental honors:

- 1) A minimum GPA of 3.5 overall and in the major.
- 2) Satisfactory completion of Econ 403, Seminar in Economic Research. This course will automatically serve as an honors thesis or project.

Minor in Economics A minor in economics is also available. See the following section for requirements.

Undergraduate Studies

General Education Requirements

All undergraduate economics majors must meet the University and College of Arts and Sciences general education requirements. Candidates for the B.S. degree, however, do not need to fulfill the College's foreign language requirement. Candidates for the B.A. degree may take any foreign language to meet this requirement. Courses in economics may be used to meet the University social sciences requirement.

Education majors specializing in economics must fulfill the requirements for the bachelor of arts degree. These majors are responsible for obtaining an adviser in the Department of Economics.

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All prerequisites for economics courses must be completed with a C- or better.

Satisfactory/Unsatisfactory (S/U) Option

Courses outside the major field and Economics 51, Principles of Microeconomics, and Economics 52, Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory (S/U) basis.

Degree Requirements

Bachelor of Arts in Economics Candidates for the B.A. degree must take at least 33, but no more than 45, hours in economics. At least 27 hours must be above the 100 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:
Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics
Econ 220, Money, Banking, and Monetary Theory
Econ 251, Intermediate Economic Theory: Microeconomics
Econ 252, Intermediate Economic Theory: Macroeconomics
Econ 265, Economic Statistics
Econ 380, History of Economic Thought

Since many theories in economics make use of calculus, it is also recommended that students take: **Math 80**, Analytic Geometry and Calculus I, or **Math 100**, Basic Calculus

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Requirements outside the economics department should be completed by the end of the sophomore year.

Bachelor of Science in Economics

Candidates for the B.S. degree must complete at least 36, but no more than 45, hours in economics. At least 30 hours must be above the 100 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:
Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics
Econ 220, Money, Banking, and Monetary Theory
Econ 251, Intermediate Economic Theory: Microeconomics
Econ 252, Intermediate Economic Theory: Macroeconomics
Econ 265, Economic Statistics
Econ 365, Introduction to Econometrics
Math 80, Analytic Geometry and Calculus I, or **Math 100**, Basic Calculus
Math 122, Computers and Programming, or **BA 103**, Computers and Information Systems

Also required are two of the following:

Econ 350, Mathematical Economics
Econ 352, Analysis of Business Cycles
Econ 366, Applied Econometrics
Econ 367, Econometric and Time Series Forecasting or **any mathematics course numbered 175 or above** (with consent of adviser)

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.S. degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Requirements outside the economics department should be completed by the end of the sophomore year.

Complementary Areas of Study

The department encourages all majors to develop breadth in related disciplines. Course work and minors are available in a number of areas such as business administration, computer science, statistics, and political science. Students should check with their advisers for recommendations concerning courses in these areas. The department suggests the following supplemental course work for students interested in pursuing doctoral-level graduate work in economics or careers in general business.

Graduate School Preparation:

It is recommended that students considering doctoral-level graduate work in economics also take:
Math 175, Analytical Geometry and Calculus II
Math 180, Analytical Geometry and Calculus III,
Math 245, Linear Algebra
Math 250, Introduction to Modern Mathematics
Math 320, Mathematical Statistics

General Business Preparation:

It is recommended that students interested in pursuing careers in business also take:
BA 140, Fundamentals of Financial Accounting
BA 145, Managerial Accounting
BA 156, Legal Environment of Business
BA 204, Financial Management
BA 206, Basic Marketing

Requirements for the Minor Candidates for a minor in economics must take a minimum of 18 hours in economics. At least 12 hours must be above the 100 level. Econ 265, Economic Statistics, cannot be counted towards the economics minor if the student has also taken Math 31, Math 132, BA 131, or the equivalent. The following courses are required:

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Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics
Econ 251, Intermediate Economic Theory: Microeconomics

It is also recommended that students take: Econ 252, Intermediate Economic Theory: Macroeconomics

Also required is a GPA of 2.0 or better for courses presented for the minor. The satisfactory/unsatisfactory option may be applied to Econ 51 and 52 only.

Graduate Studies

Master of Arts in Economics

The Department of Economics offers a Master of Arts in Economics with two options: general economics and business economics.

Admission Requirements

An undergraduate major in economics is not required for acceptance into the program. Application for admission may be submitted at any time, although class work formally begins in late August, mid-January, and mid-June. Candidates must meet the general admission requirements of the Graduate School, submit GRE scores (Advanced Economics optional), and submit two letters of recommendation from persons qualified to judge the candidates' potential for success in the program.

The admissions decision is based on the applicant's academic transcript, GRE scores, letters of recommendation, and a personal narrative on the application form.

Degree Requirements

Candidates for the M.A. in Economics must complete a core curriculum that provides training in the fundamental areas of economic theory, quantitative methods, and communication skills. Students then select either the general economics or business economics option.

Required Core Courses

The following courses or their equivalents are required for both the general economics and business economics option. Students with previous education in economics or business may waive some of these courses.

Econ 350, Mathematical Economics
BA 410, Managerial Economic Analysis
BA 411, Analysis of National Economic Environment
MS/IS 481, Statistical Analysis for Management Decisions
Econ 403, Seminar in Economic Research
Econ 451, Microeconomic Analysis
Econ 452, Macroeconomic Analysis
Econ 465, Econometric Theory and Methods

General Economics

The general economics option is designed for students interested in a broad-based background in the traditional fields of economics. It is intended for those who wish to teach basic economics or pursue further graduate study in economics. A recommended study program is available for students who plan to pursue a Ph.D. at another university after completing the M.A. in economics at UM-St. Louis.

The general economics option requires 42 credit hours. Students with previous education in economics or business may waive up to 12 hours of the 42 hours required. Regardless of the number of required courses waived, at least 30 hours of graduate work must be completed within a six-year period to earn the degree. And a minimum of 21 hours must be completed while enrolled in the M.A. in Economics program at UM-St. Louis.

Required Courses

Candidates must complete the required core courses.

Electives

Candidates must complete at least 18 hours of electives. A maximum of six hours of economics electives may be taken at the 300 level. With the approval of the graduate coordinator, students may take up to nine hours of graduate courses outside the Department of Economics.

Business Economics

The business economics option prepares students for careers in business, government, and other organizations. This option combines the applied economic analysis and quantitative skills necessary for decision making in business and government with an appreciation for the function areas of these institutions.

The business economics option requires 60 credit hours. Students with previous education in economics or business may waive up to 24 hours of the 60 hours required. Regardless of the number of required courses waived, at least 36 hours of graduate work must be completed within a six-year period to earn the degree. A minimum of 24 hours must be completed while enrolled in the M.A. in Economics program at UM-St. Louis. More than 50 percent of the credit hours completed in the business economics option must be taken in the Department of Economics.

Required Courses

In addition to the required core courses, students must complete the following courses:

BA 412, Public Policies Toward Business
BA 440, Financial Accounting: Theory and Practice
BA 450, Financial Management
BA 460, Organizational Behavior and Administrative Processes
BA 470, Contemporary Marketing Concepts
MS/IS 480, Management Information Systems
Econ 366, Applied Econometrics
Econ 453, Economics of Contracts and Organization
Econ 467, Business and Economic Forecasting

Electives

Candidates must complete at least nine hours of electives in 400-level economics courses. With the approval of the graduate coordinator, students may take additional graduate courses outside the Department of Economics.

Graduate Certificate in Management Economics

A Graduate Certificate in Managerial Economics is a program of study designed for individuals who wish to supplement previous graduate studies with advanced training in economic analysis. The entrance requirement is

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a master's degree in such areas as business administration, finance, or public policy administration. Individuals admitted to this certificate program will be nonmatriculating graduate students.

Requirements

The Certificate requires a minimum of 18 hours of course work in economics. Students must complete:

Econ 451, Microeconomic Analysis

Econ 452, Macroeconomic Analysis

Econ 465, Econometric Theory and Methods

and two of the following:

Econ 366, Applied Econometrics

Econ 453, Economics of Contracts and Organization

Econ 467, Business and Economic Forecasting

Career Outlook

Economics is a language that provides the individual with a concise and logical way to study a wide range of problems and issues. It provides the flexibility for adapting to our ever-changing society, and it is also useful in everyday life. Thus, the economics major is excellent preparation for launching many careers. Economics graduates with a B.A. or B.S. degree pursue careers in banking, industry, and government. They use their training in economics as a foundation for a variety of jobs in management, personnel, sales, and marketing. Others continue their study of economics in graduate schools, earning M.A. and Ph.D. degrees. An undergraduate major in economics also provides a strong background for work on an M.B.A. or law degree. Economics is also important for careers in politics, journalism, and public and private service in foreign countries. Career planning materials are available in the Economics Resource Center, 455 SSB. For additional information, call the director of graduate studies at 516-5562.

Economics

Course Descriptions

Courses in this section are grouped as follows: Economics; Geography; and Home Economics.

Prerequisites may be waived by consent of the department.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 40, 51, 52, 210, 216, 217, 219, 220, 230, 231, 238, 240, 251, 252, 253, 256, 260, 261, 262, 265, 266, 270, 272, 302, 304, 305, 306, 317, 320, 331, 350, 352, 355, 357, 360, 364, 365, 366, 367, 380, 395. GEOGRAPHY: 101, 102, 211.

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40 Introduction to the American Economy (3)

Introduction to economic analysis and problems through an examination of the development and operations of the American economy; study of its evolution, institutions, and principal problems. Econ 40 does not substitute for Econ 51 or 52. Students who have already completed Econ 51 or 52 may not take Econ 40 for credit.

51 Principles of Microeconomics (3)

Prerequisite: Math 30. Introduction to the determinants of household demand, production and cost, and market prices. Applies the principles of individual decision-making behavior to understanding goods, services, and resource markets.

52 Principles of Macroeconomics (3)

Prerequisite: Econ 51. Introduction to the determination of levels of and changes in aggregate income, output, employment, and prices. Applies economic principles of choice to the formulation and achievement of public policies that affect national employment, income distribution, and economic growth.

210 Selected Topics in Economics (3)

Prerequisites: Econ 51 and 52. Analysis of a selected economic topic. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

216 Public Finance: Expenditures (3)

Prerequisite: Econ 51. Analysis of public goods and externalities, models of collective choice, elements of benefit-cost analysis, the theory of bureaucracy, governments as agents in markets.

217 Political Finance: Revenues (3)

Prerequisite: Econ 51. Analysis of the economic role of governments, subsidies and taxes in the federal system, criteria for tax evaluation, the nature of tax legislation, private decision making under differing tax institutions, and government borrowing.

219 Law and Economics (3)

Prerequisite: Econ 51. Analysis of the economic role of property rights and contracts in the private for-profit and

not-for-profit sectors of the economy. Considers economic incentives to form organizations as one alternative and to form contracts as another. Considers the economic efficiency of the common law and judicial systems in use in the United States.

220 Money, Banking, and Monetary Theory (3)

Prerequisites: Econ 51 and 52. Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory; integration of monetary phenomena with national income theory. Analysis of current policy issues.

230 International Economic Analysis (3)

Prerequisite: Econ 40, or 51, or 52. Introduction to the theories of international trade and factor movements including determinants of trade, the effects of trade on sectors and on overall economic performance, trade restrictions, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

231 International Finance (3)

Prerequisite: Econ 40, or 51, or 52. Introduction to international monetary systems; foreign exchange markets; financing of international transactions; the international position of the dollar.

238 Comparative Economic Systems (3)

Prerequisite: Econ 40, or 51, or 52. Introduction to the comparative study of economic organization, growth, and welfare in different types of national economies such as the United States, the United Kingdom, France, Germany, Sweden, Japan, the republics of the former Soviet bloc, and China.

240 Economic Development (3)

Prerequisites: Econ 51 and 52. Survey of economic growth as applied to developed and underdeveloped countries. Analysis of development policies with emphasis on case studies. Case studies may include the United States, Western Europe, or Latin America.

251 Intermediate Economic Theory: Microeconomics (3)

Prerequisites: Econ 51 and 52. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

252 Intermediate Economic Theory: Macroeconomics (3)

Prerequisites: Econ 51, 52; 220 is recommended. Study of national income, expenditure, and the forces determining the level of economic activity. Special emphasis on the theory of income determination and its application to public policy.

253 Managerial Economics (3)

Prerequisite: Econ 51; Math 80 or 100 recommended. Application of microeconomic theory to the decision-making process in the business firm. Discussion of cost behavior, price and output determination under various competitive conditions, as well as factors affecting wages, interest, and profits.

Economics

256 The Consumer and the Economy (3)

Prerequisite: Econ 40 or 51. Examination of issues in consumer choice and personal financial management in today's economy. Analysis of methods of increasing consumer efficiency and the role of government in consumer protection.

260 Labor Economics (3)

Prerequisite: Econ 40, or 51, or 52. Forms of labor organization, state and federal labor legislation, and policies of labor unions. Emphasis on an application of economic theory to the relations of labor and business.

261 The Economics of Poverty and Income Maintenance (3)

Prerequisite: Econ 51 or permission of instructor. Considers the problems of defining and measuring poverty, as well as competing views of its causes. Examines the incentive effects of government transfer programs for the family's economic decisions, with emphasis on labor market behavior. Topics will include unemployment insurance, AFDC, food stamps, and negative income tax schemes.

262 Economics of Women, Men, and Work (3)

Prerequisite: Econ 40 or 51. This course compares the economic behavior of women and men in both the labor market and the household. Topics include: the family as an economic (production) unit, gender differences in labor force participation, occupations and earnings; the effectiveness of human capital theory and labor market discrimination in explaining the male-female wage gap; remedies for reducing the wage gap; family structure and economic well-being; and alternative policies to alleviate poverty.

265 Economic Statistics (3)

Prerequisites: Math 30, Econ 51, and Econ 52. Introduction to economic data sources, data interpretation and statistical inference as used in economic analysis. Emphasizes the testing of economic hypotheses and the development and estimation of economic models. Introduces the use of statistical software used in economics.

266 Industrial Organization (3)

Prerequisite: Econ 51. A theoretical and empirical analysis of the actions of firms under alternative forms of market organization. The role of economics of scale, product differentiation, mergers, and advertising in affecting industry structure, and the impact of the resulting industry structure on pricing, output, promotion, and technology decisions of firms.

270 Urban and Regional Economics (3)

Prerequisites: Econ 51 and 52. A survey of factors affecting the location of economic activity, industrial diversity, determinants of urban growth, the role of urban public economy, and the management of the urban environment.

272 The Political Economy of Health Care (3)

Prerequisite: Econ 40 or Econ 51. The course provides an economic perspective on the working of the health care market, focusing on the effects of government regulation, tax policy, and entitlement programs. There will be a detailed review of existing U.S. health care financing programs (e.g., Medicare, Medicaid), as well as financing

systems of other developed countries. Health care policy will be evaluated according to its impact on quality, cost, and access to medical care and, ultimately, the overall health status of our population.

301 Quantitative Methods and Modeling in Economics, Business and the Social Sciences (3)

Prerequisites: Math 30; Econ 51 or junior standing. This course focuses on the application of mathematical techniques to model building. The course reviews various mathematical techniques and shows students how they can be used for describing various social and business phenomena. Specific examples from the business, economics, criminology and other social sciences will be employed to reinforce the mathematical tools and concepts discussed. Students who have previously completed Econ 350 or Math 80 or Math 100 may not take this course for credit.

302 Planning Processes in the Urban Economy (3)

Prerequisites: Econ 51 and junior standing. Economic techniques and criteria used in planning and evaluating programs and projects for the urban economy, including costing, cost-benefit and cost-effectiveness, and information control systems. Special attention will be given to St. Louis area studies for schools, transportation, public facilities, economic development, and social services delivery.

304 Survey Research Practicum (3)

(Same as PolSci 304 and Sociology 304.) Prerequisites: Junior standing and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results.

305 Macroeconomics for the School Curriculum (1-3)

Prerequisite: Junior standing. Analysis of forces affecting the national economy, with emphasis on income determination, employment, money and banking, and international trade and finance. Special reference to topics included in elementary and secondary school social science curricula. Econ 305 may not be used by economics majors to meet degree requirements.

306 Microeconomics for the School Curriculum (1-3)

Prerequisite: Junior standing. Analysis of market forces, with emphasis on business firms, households, and productive-factor markets, price determination, and resource allocation. Special reference to topics included in elementary and secondary school social science curricula. Econ 306 may not be used by economics majors to meet degree requirements.

310 Economic Issues for the School Curriculum (1-3)

Prerequisites: Junior standing and consent of instructor. Analysis of selected economic issues appropriate to instruction in secondary and elementary schools. May be taken more than once for credit, provided the topic of the course is different each time. May not normally be used by economics majors to meet degree requirements.

317 Public Finance: State and Local (3)

Prerequisites: Econ 51 and 52 and junior standing. A study

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of expenditure, taxation, and financial administration of state and local governments, with emphasis on problems of current interest. Special attention given to research methods, as well as financial relations between various levels of government.

320 Financial Markets and Institutions (3)

Prerequisite: Econ 220. Demand, supply, and flow of funds in the macrofinancial system, including money, capital, futures, and foreign exchange markets. Examines types and historical development of domestic and international financial intermediaries operating within these markets, decision-making within individual intermediaries, their regulatory environment, and how their portfolio decisions affect flows in the financial system.

331 International Economic Analysis: Finance (3)

Prerequisite: Econ 231 or 252. Provides advanced study of the foreign sector in the theory and methods of international macroeconomics; income determination and trade balance; devaluation; international linkages; global monetary theory.

350 Mathematical Economics (3)

Prerequisites: Math 80 or 100, Econ 251, or Business 408 or 410. This course uses calculus and other mathematical tools to analyze economic phenomena. In addition to exploring techniques used to solve unconstrained and constrained optimization problems, the course also examines how matrix algebra is used in economic modeling. This course allows students to mathematically analyze economic models which receive graphical treatment in lower level courses.

352 Analysis of Business Cycles (3)

Prerequisites: Econ 220; 252; 265 or equivalent. This course focuses on the empirical regularities in macroeconomics commonly referred to as the business cycle. It examines the variability and co-movements of aggregate economic variables and explores alternative theoretical explanations of these phenomena.

355 Business and Government (3)

Prerequisite: Econ 51. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered.

357 Government Regulation and Antitrust Policy (3)

Prerequisite: Econ 51. Evaluation of the use of antitrust policy and government regulatory agencies to improve the performance of industrial markets. Course will include discussion of antitrust cases and analysis of the economic impact of deregulatory initiatives in the airline, trucking, railroad, and telecommunications industries.

360 Natural Resource Economics (3)

Prerequisite: Econ 51, or consent of instructor. The relationship between human activity and the world's natural resources requires choices. This course uses an economics perspective to study these choices. This perspective uses the view of the environment as an asset for its starting point. Issues concerning the optimal and sustainable use of natural resources are examined in this context. Special emphasis is given to potential policy responses to environmental problems.

364 Manpower Policies (3)

Prerequisite: Econ 251, or Econ 260, or BA 410. Analysis of the allocation of human resources with emphasis on the economic theory of labor markets in both the short and the long run. Discussion of the operation of the labor market in specific occupations.

365 Introduction to Econometrics (3)

(Same as Public Policy Administration 365.) Prerequisites: Econ 52; Econ 251 or BA 410; Econ 265 or MS/IS 481 or Public Policy Administration 401; Math 80 or Math 101. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

366 Applied Econometrics (3)

Prerequisite: Econ 365 or equivalent. Concepts, techniques, and advanced applications of econometrics. Emphasis on developing a critical understanding of the appropriateness and limitations of a variety of state-of-the-art techniques used to model economic or political processes. Topics will include joint tests of hypotheses, estimation of lagged effects, models of qualitative choice, simultaneous systems, and outlier diagnostics.

367 Econometric and Time Series Forecasting (3)

Prerequisite: Econ 365 or equivalent. Alternative forecasting methodologies for economic time series will be analyzed and discussed. The focus of the course will be: (1) the development of time-series (ARIMA) models and their application to forecasting; (2) the use of standard econometric models for forecasting; and (3) evaluation and comparison of these methods and the conditions under which each is the appropriate methodology.

380 History of Economic Thought (3)

Prerequisites: Econ 51 and 52. The evolution of economic thought from the ancients through post-Keynesian theory.

395 Special Readings (1-6)

Prerequisites: Consent of instructor; grade point of 3.0 or higher in economics. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor. Maximum credit limited to six hours.

403 Seminar in Economic Research (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411. Research methods applied to economics. Develops efficiency and skill in conducting research and communicating the results with written reports and oral presentations. This course must be taken within the first year of study after completion of the prerequisites.

420 Monetary Theory and Policy (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411; Econ 350. An examination of how monetary policy has affected the economy in the past and how it can improve economic performance in the future. Topics include: the origins of money, money supply, money

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demand, the determinants of real and nominal interest rates, the term structure of interest rates, the impact of discretionary monetary policy on the domestic economy and foreign exchange markets, and the domestic economy and foreign exchange markets, and the relationship between monetary policy and federal government deficits.

421 Public Sector Microeconomics (3)

(Same as Public Policy Administration 421.) Prerequisite: Econ 251 or BA 410. Application of tools of intermediate microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g., externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

422 Financial Markets (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411. Demand, supply, and flow of funds in allocating credit and distributing risk in the macrofinancial system. The saving investment process, the rationale for financial markets, and the role of financial intermediaries are studied within the framework of the flow of funds accounts. Special attention is given to the operation of money, capital, futures, and foreign financial markets and the impact of public policy on the structure and performance of financial markets.

430 International Trade (3)

Prerequisite: Econ 251 or BA 410. Survey of the modern theories of international trade and their applications including factor endowments and other determinants of trade, trade restrictions, foreign investment, trade and economic development, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

431 International Monetary Analysis (3)

Prerequisite: Econ 220; Econ 252 or BA 411. Application of macroeconomic theory to the international monetary system. Topics include the balance of payments, exchange rates, international linkages, world inflation, capital flows, and the gold standard.

451 Microeconomic Analysis (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350. Survey of microeconomic comparative statics. Detailed examination of demand and supply, product, and factor markets. Partial equilibrium in competitive, imperfectly competitive, and monopolistic markets.

452 Macroeconomic Analysis (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411; Econ 350. Aggregate economic theory, including analysis of the determinants of income, output, employment, and prices. Employment and price-level effects of consumer and investment demand, the money supply and interest rates, and government policies.

453 Economics of Contracts and Organization (3)

Prerequisites: Econ 251 or BA 410 (or 408). Considers issues in the coordination of human resources in the production of goods and services, either through individual contracting or through various forms of organizations. Organization is explained as a *nexus* of contractual relationships within a cooperative production unit, whether that unit is governmental, in private commerce, or has a non-profit orientation-or some mix of the three basic modes. Emphasizes the roles of transactions costs, bounded rationality, monitoring individual performance in team production, opportunism, basic principles of insurance, and other incentive compatibility issues.

460 Structure and Performance of United States Industry (3)

Prerequisites: Econ 251 or BA 410; Econ 350. An analysis of the functioning of business firms under alternative market arrangements. Topics include: the theory and measurement of monopoly power and the role of economies of scale, product differentiation, and entry conditions in affecting this power; the impact of market power on the price-setting behavior, advertising and promotional strategies, and technological innovation of firms; the role of government policy in promoting or preventing competition among firms.

463 Economics of Telecommunications (3)

Prerequisites: Econ 251, BA 408 or BA410 and Econ 350. Application of economic theory and techniques to the telecommunications industry. Topics include demand theory for telephone access and use, consumer surplus models for subscription choice, nonlinear pricing strategies including pure and mixed bundling and multi-part tariffs, the incentives of the firm under various regulatory regimes, a comparison of rate-of-return regulation and incentive (price cap) regulation, and the impact of carrier-of-last-resort responsibilities.

465 Econometric Theory and Methods (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350; Econ 365 or MS/IS 481; Math 245 or equivalent. A rigorous review of statistical models and methods relevant to the estimation and testing of economic relationships. Emphasis on the theoretical underpinnings of techniques commonly used for single and multiple equation estimation and hypothesis testing. Topics include ordinary and generalized least squares, robust regression, and simultaneous equations estimation.

467 Business and Economic Forecasting (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350; Econ 365 or MS/IS 481. This course develops the alternative techniques which are used to forecast economic time series. Each forecasting technique will be evaluated in terms of its theoretical soundness and predictive track record. Students will also learn to use these techniques to differentiate among competing economic models.

470 The Political Economy of Metropolitan Areas (3)

Prerequisites: Regular graduate student status and consent of graduate student coordinator. This course deals with

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both the public and private sector issues that affect our nation's metropolitan areas. It focuses on policy implications for economic development, government finance (especially at the state and local level) and intergovernmental relations. It also covers the economics of specific topical areas such as local education, transportation, financing adequate urban services, governmental structure and financial organization, infrastructure needs.

472 Health Economics (3)

Prerequisites: Econ 251 or BA 410; Econ 265 or equivalent; Econ 365 or equivalent recommended. This course applies microeconomic theory and statistical techniques to understand decision making in health care markets. The effects of government policies on the health care choices of consumers and providers are identified and quantified; attention is given to federal and state entitlement programs, regulations, tax policies and antitrust enforcement. The role of insurance as a risk-sharing device is explored, along with its implications for pricing and health care utilization.

480 Labor Economics: Theory and Public Policy (3)

Prerequisite: Econ 251 or BA 410. This course examines labor supply, labor demand, and market determination of wages. Topics covered include the effect of technological change on employment, trends in labor force participation, the impact of government taxes and transfers on labor supply, poverty, and its economic consequences, the human capital model and its implications for investment in education and on-the-job training, and theories of economic discrimination and empirical measurement issues. Throughout the course, current public policy debates are examined using the theoretical models developed.

490 Advanced Topics in Economic Analysis (3)

Prerequisite: Consent of the instructor. Study of a specific economics topic, which may vary from semester to semester. May be taken more than once if the topic is different.

495 Directed Readings (1-6)

Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences.

Geography

101 Introduction to Geography (3)

Prerequisite: Math 02 or equivalent. An introduction to geography as a social science. The identification and explanation of order in the human landscape. A survey of the social, political, economic, and psychological factors which influence geographic patterns.

102 World Regions (3)

Prerequisite: Geography 101 recommended. Survey of the major regions of the world. Designed to give the student an awareness of the character of each of these major regions through the interrelationships of the various attributes of place.

210 Urban Geography (3)

Prerequisite: Sophomore standing. An in-depth examination of urban growth, the location and basis of cities, and the internal spatial structure of cities provide the main topics of consideration. In addition, contemporary urban problems including zoning, urban renewal, blight, the journey to work and shop, pollution, etc., are discussed with a spatial emphasis.

211 Location Theory (3)

Prerequisites: Math 80 or 101 and Econ 51. A survey of industrial location theory, agriculture location theory, and central place theory; programming formulations of location models; spatial competition; location-allocation problems; and noneconomic approaches to locational analysis.

220 Social Geography (3)

Prerequisite: Sophomore standing. Topics presented in a spatial (geographic) framework include the diffusion of innovations, population (distribution, problems, and solutions), settlement patterns, migration, poverty, and urban-social problems (e.g., race and residential choice).

Home Economics

83 Clothing Selection (3)

Study of line, form, space, color, and texture in selection of clothing as related to the individual. There will be wardrobe planning of men's, women's, and children's wear, as well as appropriate projects, field trips, and guest speakers.

130 Nutrition in Health (3)

A study of dietary nutrients essential for health, proper selection of foods to provide them, and current issues affecting them.

177 Community Nutrition (3)

Current issues and resources in nutrition. National nutrition policy, economic aspects of the food supply, nutrition-related roles of public agencies, selected nutrition programs, and community resources are emphasized.

181 History of Fashion and Costume (3)

An illustrated lecture presentation to gain insight into fashion as a kaleidoscopic portrayal of society and idiomatic style changes from ancient Egypt to the present. The course will cover the history of fashion as a definitive subject and will describe how costume reflects social, cultural, and political events of each period.

186 Fashion Merchandising (3)

A survey course of fashion merchandising with emphasis on retail principles, operations, and practices in the many sectors of fashion marketing. Specific application through case studies, problems, and field projects may be included.

330 Child Nutrition (3)

Prerequisite: Home Economics 130 or instructor's permission. A study of nutrition related to the major periods of development: fetal, infant, childhood, and adolescent.

English

Faculty

Jane Williamson, Associate Professor*, Chairperson
Ph.D., Bryn Mawr College
David Carkeet, Professor*
Ph.D., Indiana University
Joseph Carroll, Professor*
Ph.D., University of California-Berkeley
B. Bernard Cohen, Professor Emeritus
Ph.D., Indiana University
Sylvia J. Cook, Professor*
Ph.D., University of Michigan
Charles Dougherty, Professor Emeritus
Ph.D., University of Toronto
William C. Hamlin, Professor Emeritus*
Ph.D., University of Missouri-Columbia
Charles Larson, Professor*
Ph.D., Indiana University
Howard Schwartz, Professor*
M.A., Washington University
James E. Tierney, Professor*
Ph.D., New York University
Peter Wolfe, Professor*
Ph.D., University of Wisconsin
Richard M. Cook, Associate Professor*
Ph.D., University of Michigan
Sally Ebest, Associate Professor*
Ph.D., Indiana University
Kathy Gentile, Associate Professor*
Ph.D., University of Oregon
Barbara Kachur, Associate Professor*
Ph.D., The Ohio State University
Deborah A. Larson, Associate Professor*
Ph.D., Columbia University
Bruce L. Liles, Associate Professor Emeritus*
Ph.D., Stanford University
John T. Onuska, Jr., Associate Professor*;
Ph.D., Harvard University
Steven Schreiner, Associate Professor*
Ph.D., Wayne State University
Jane Zeni, Associate Professor*
Ed.D., University of Missouri-St. Louis
Francis Grady, Assistant Professor*
Ph.D., University of California-Berkeley
Nanora Sweet, Assistant Professor*
Ph.D., University of Michigan
Charles Wartts, Assistant Professor
M.F.A., University of Iowa
Dennis Bohnenkamp, Senior Lecturer
M.A., University of Missouri-Columbia
Barbara Burns, Lecturer
M.A., Vanderbilt University
Ellie Chapman, Senior Lecturer Emerita
M.A., Murray State University
Susan Grant, Senior Lecturer
M.A., Southern Illinois University-Edwardsville
Bill Foster, Lecturer
M.A., University of Missouri-Columbia
Nancy Gleason, Lecturer
M.A., University of Missouri-St. Louis
Judy Gurley, Senior Lecturer
M.A., University of Arkansas
Linda Kick, Senior Lecturer
M.A., University of Toronto

M.A., University of Missouri-Columbia
William Klein, Senior Lecturer
M.A., University of Tulsa
Judith Linville, Senior Lecturer
M.A., University of Arkansas
Jennifer MacKenzie, Lecturer
M.A., Purdue University
Terence Martin, Senior Lecturer
Ph.D., Southern Illinois University-Carbondale
William Mayhan, Lecturer
Ph.D., Washington University
Scott McKelvie, Lecturer
M.A., University of Missouri-St. Louis
Lyman Peters, Lecturer
M.A., University of Missouri-St. Louis
David Rota, Senior Lecturer
Ph.D., Southern Illinois University-Carbondale
Mar Troy, Lecturer
M.F.A., University of Arkansas
Barbara Van Voorden, Lecturer
M.A., Washington University
Harry Weber, Lecturer
M.A., University of Minnesota

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The English department offers or participates in the offering of the B.A. in English, the B.A. in English with certification for secondary teaching, and the B.S. in secondary education with an emphasis area in English. The department also offers a minor in English. Additionally, students with any major in the University may earn a Certificate in Writing so that they may demonstrate evidence of training in creative, journalistic, or technical writing.

The department has a graduate program leading to the Master of Arts degree. Students may pursue a literature track where they acquire a broad coverage in British and American writers or thesis, a writing track where half of the course work deals with composition and writing theory. The department also offers the Master of Fine Arts in creative writing, in which half of the courses are writing workshops and independent writing projects.

Departmental Honors Candidates for departmental honors in English must achieve a 3.2 average in English at graduation and complete an undergraduate or graduate seminar in English, the final paper for which must be acceptable to the instructor as an honors thesis.

Undergraduate Studies

General Education Requirements

Majors must meet the University general education requirements and the requirements of the School or College from which they expect to receive their degree. After fulfilling the general education and specific major degree requirements, students are to take the remaining 70 hours required to complete the B.A. in English from

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courses which the appropriate department has evaluated as being of university-level quality from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/ archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and inter-disciplinary. English courses may be used to meet the University's humanities requirement, **except** the following:

10, Freshman Composition
 11, Freshman Composition for International Students
 112, Topics in Writing
 122, Traditional Grammar
 209, Practical Criticism: Writing About Literature
 210, Advanced Expository Writing
 211, Advanced Expository Writing for International Students
 212, Business Writing
 213, Technical Writing
 214, News Writing
 215, Feature Writing
 216, Writing in the Sciences
 218, Reporting
 262, The Curriculum and Methods of Teaching English
 300, Writing in the Professions
 305, Writing for Teachers
 313, Advanced Business and Technical Writing
 319, Editing

The College's foreign language requirement may be met in any language.

Satisfactory/Unsatisfactory Option

English majors may take any English course on a satisfactory/unsatisfactory basis except the following:
 10, Freshman Composition
 11, Freshman Composition for International Students
 209, Practical Criticism: Writing About Literature
 210, Advanced Expository Writing
 211, Advanced Expository Writing for International Students
 212, Business Writing
 213, Technical Writing
 214, News Writing
 215, Feature Writing
 216, Writing in the Sciences
 218, Reporting
 262, The Curriculum and Methods of Teaching English
 300, Writing in the Professions
 305, Writing for Teachers
 313, Advanced Business Writing
 319, Editing

Degree Requirements

Bachelor of Arts in English English majors must complete at least 36, but no more than 45, hours in English exclusive of English 10, Freshman Composition; English 11, Freshman Composition for International Students; and English 209, Practical Criticism: Writing About Literature.

- 1) Students majoring in English must take:
 131, English Literature I
 132, English Literature II
 171, American Literature I
 172, American Literature II
- 2) English 209, Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 300-level courses in English.)
- 3) Students must also complete one course from five of the following nine areas:

Area 1 Medieval English

322, Old English Literature
 324, Chaucer
 325, Medieval English Literature

Area 2 Shakespeare

337, Shakespeare: Tragedies and Romances
 338, Shakespeare: Comedies and Histories

Area 3 The Renaissance

332, Elizabethan Poetry and Prose
 339, Tudor and Stuart Drama
 342, Early Seventeenth-Century Poetry and Prose
 345, Milton

Area 4 Restoration and Eighteenth-Century English

346, Restoration and Eighteenth-Century Drama
 352, Age of Dryden and Pope
 353, Age of Johnson
 364, The Eighteenth-Century English Novel

Area 5 Nineteenth-Century English

365, The Nineteenth-Century English Novel
 368, Early Romantic Poetry and Prose
 369, Later Romantic Poetry and Prose
 371, Prose and Poetry of the Victorian Period
 372, Literature of the Late Nineteenth and Early Twentieth Centuries

Area 6 Nineteenth-Century American

373, Selected Major American Writers I
 374, Selected Major American Writers II
 375, American Fiction to World War I

Area 7 Twentieth-Century English/American

376, Modern American Fiction
 383, Modern British Fiction
 384, Modern Poetry
 385, Modern Drama
 386, Poetry Since World War II

Area 8 Literary Criticism

321, History of Literary Criticism
 327, Contemporary Critical Theory
 329, Forms and Modes of Poetry

Area 9 Special Topics

306, Adolescent Literature
 323, Continental Fiction

English

- 380, Studies in Women and Literature
 390, Seminar
 391, Special Topics in Jewish Literature
 395, Special Topics in Literature

Work in 100-level courses provides background in literary history and forms, as well as the means for discussing literary issues, on paper and orally. Thus, the Department requires English 131 or consent of the instructor as a prerequisite for all courses in Areas 1-4 and English 132 or consent of the instructor as a prerequisite for all courses in Areas 5 and 7, except American literature courses. English 171 or consent of the instructor is a prerequisite for all courses in Area 6, and both English 171 and English 172 or consent of the instructor are prerequisites for English 376. All survey courses (English 131, 132, 171, and 172) must be taken before the major has completed 90 hours toward a degree.

A maximum of six satisfactory/unsatisfactory hours may be taken in the department. Majors must compete at least 18 graded (i.e., not satisfactory/unsatisfactory) hours in English courses at the 200 level or above with a grade point of 2.0 or better in these courses.

Transfer students majoring in English must complete a minimum of 12 graded hours in English courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Students should consult with faculty advisers to determine which upper-level courses best satisfy their major needs and interests.

Bachelor of Arts in English with Certification for Secondary Education

In addition to the requirements for the B.A. in English, students must meet the following requirements for secondary certification:

- 1) Two courses in American literature. This requirement may be met by courses counted for the major.
 - a American literature must include a unit or course in the literature of ethnic groups.
 - b American literature must include a unit or course in literature for adolescents.
 - 2) Twelve hours in composition and rhetoric:
 - English 10, Freshman Composition, may be counted.
 - English 209, Practical Criticism: Writing About Literature, is required.
 - English 305/SEC ED 305, Writing For Teachers, is required.
 Recommended courses include creative writing, journalism, and business writing.
 - 3) English language requirements
 - a English 122, Traditional Grammar

Students with sufficient background may gain exemption from the English 122 requirement by passing the English-Educational Studies Test of Basic Grammar. This test may be taken only twice. Certification candidates must pass English 122 or the English-Educational Studies Test of Basic Grammar before applying for student teaching.
 - b English 308, English Grammar
 - c English 307, Linguistics or English 309, History of the English Language
- 4) English 262, The Curriculum and Methods of Teaching English. Must be taken before student teaching. Prerequisite: SEC ED 213, Techniques of Secondary School Teaching, and a near major in English.
 - 5) English 270, English Teaching Intern Seminar, must be taken concurrently with SEC ED 290, Secondary School Student Teaching.
 - 6) Candidates for certification in Missouri must have a 2.5 cumulative GPA, computed from the beginning of freshman year and including all colleges attended. They also need a minimum GPA of 2.5 in their English courses. All grades in professional education and in required English courses must be C or better.

Courses in professional education listed as requirements by the Teacher Education Program in the School of Education are also required for secondary certification. Note that SEC ED 385, Problems of Teaching Reading in Secondary Schools, is required for prospective English teachers.

Bachelor of Science in Secondary Education with an Emphasis Area in English The required courses in English and professional education are the same as those for the B.A. with certification for secondary education. However, students fulfill the general education requirements of the School of Education rather than those of the College of Arts and Sciences.

Minor in English A student may minor in English by taking at least 18 hours of English courses exclusive of Basic Writing, English 10, Freshman Composition, and English 11, Freshman Composition for International Students. English 209 is required, and 12 of the 18 hours must be in literature courses, 9 of which must be in courses at the 200 or 300 level. Every student taking a minor in English must consult with an advisor in the English department in order to ensure a coherent program of studies. The GPA in courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis.

No more than three hours taken on a satisfactory/unsatisfactory basis may be counted toward the 18-hour minimum.

Certificate Program in Writing A student may receive the Certificate in Writing by completing a total of 18 hours in writing courses chosen from the following:

- Comm 212, Broadcast Writing and Reporting
- Comm 217, Script Writing for Business and Industry
- CCJ 200, Writing in Criminology and Criminal Justice
- English 103, Poetry Writing
- English 104, Short Story Writing
- English 105, Play Writing
- English 108, Advertising Copywriting, or Comm 108 Advertising Copywriting

English

English 209, Practical Criticism: Writing About Literature

English 210, Advanced Expository Writing

English 211, Advanced Expository Writing for International Students

English 212, Business Writing

English 213, Technical Writing

English 214 or **Comm 214**, News Writing

English 215, Feature Writing

English 216, Writing in the Sciences

English 218, Reporting

English 228 or **Comm 228**, Writing for Public Relations

English 300, Writing in the Professions

English 302, Writing Literary Criticism

English 303, Advanced Poetry Writing

English 304, Advanced Fiction Writing

English 305, Writing for Teachers

English 313, Advanced Business and Technical Writing

English 317, Topics in Teaching Writing

English 319, Editing

English 320, Independent Writing Project (This course is required. It is to be taken as the last course a student will take in the program, and it is to be used to generate an extensive final project.)

Note: English 313, Advanced Business and Technical Writing, may be substituted for English 320 as the required final course for students who wish to do their final projects in business or technical writing.

Courses taken to fulfill requirements for the Writing Certificate may not be taken on a satisfactory/unsatisfactory basis.

Graduate studies

Admission Requirements

To enter the graduate program in English, a candidate must satisfy the requirements both of the Graduate School and of the Department of English. A candidate should have a bachelor's degree, with at least 24 hours in English courses. Normally only students with a grade point average of at least 3.0 in undergraduate English courses and with an overall undergraduate average of 2.75 will be considered.

In addition, the English department requires letters of recommendation from two of the applicant's former English instructors. The graduate committee will use the letters, the undergraduate record, and the Graduate Record Examination scores as the basis for its decision. Applications to the Master of Arts program should be submitted according to the following schedule: May 1 for the Fall Semester; May 1 for the Summer Session; and December 1 for the Winter Semester. Late applications will be considered for the upcoming semester only if all spaces for that semester have not been filled.

Teaching Assistantships

A number of teaching assistantships are available for qualified applicants. Applications should be submitted to the graduate coordinator of the English department no later than March 15 preceding the academic year for which the appointment is desired.

Degree Requirements

Master of Arts in English In addition to the Graduate School requirements, students must complete at least 36 hours, 27 hours of which must be in 400-level courses. Nine hours may be taken in 300-level courses approved by the department and Graduate School.

At the outset of the program, students in the literature and writing theory tracks must take English 400, Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 400.

Students who choose a literature track must also take at least **one** course in **each** of the following **six** areas:

Area 1 British literature before 1660

Area 2 British literature between 1660 and 1900

Area 3 Twentieth-century literature (British, American, post-colonial, or in translation)

Area 4 American literature

Area 5 Theories of writing, criticism, language, and/or culture

Area 6 Literature in translation, study of a particular literary genre, or a course in another relevant discipline.

Students who choose the writing theory track must take 18 hours in literature courses and 18 hours in writing theory courses. The literature courses should provide broad coverage, rather than a narrow focus on a particular genre or historical period.

Thesis Option Students in literature or writing theory may elect the thesis option, which requires a total of six (6) hours of thesis credit. The thesis should demonstrate original thought and substantial research and may be a critical study of literary works, a theoretical exploration of issues related to literature or writing, or a descriptive assessment of fieldwork related to writing and pedagogy. The thesis must be approved and assigned a grade by a thesis committee. The student will select a major professor who, after consulting with the chair and the graduate coordinator, will select two other members of the committee.

Further information may be found in *The Master of Arts in English*, available from the English Department.

Master of Fine Arts in Creative Writing

The application process is identical to that for the Master of Arts degree, with two exceptions: a writing sample is required (10-12 poems or 20-40 pages of fiction), and there is one annual deadline for all applications, March 1.

In addition to the Graduate School requirements, students must complete at least 39 hours, 30 of which must be in 400-level courses. Nine hours may be taken in 300-level courses approved by the department and Graduate School. Students will specialize in one genre, poetry or fiction. They must complete the following course work: (a) 21 hours hours in creative writing courses: 15 hours of workshops (at least one course outside the genre) and six hours of English 494; (b) 15 hours of courses in literature,

English

language, or writing theory offered by the English department; and (c) three hours of elective—another workshop or literature/language/writing theory course or a relevant offering in another discipline. Students may not take a 300-level writing course in their genre for graduate credit. At least two of the writing workshops and English 494 must be taken at UM-St. Louis.

Further information may be found in *The Master of Fine Arts in Creative Writing*, available from the English Department.

Career Outlook

In addition to traditional employment as teachers at the primary, secondary, and community-college levels, recent UM-St. Louis graduates in English are working in journalism, editing, advertising, public relations, and other fields that place a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.

English

Course Descriptions

Courses in this section are grouped as follows: Composition; Language; Literature; and Special Offerings.

English 10, Composition, or its equivalent, is a general prerequisite for all English courses numbered 131 and above. This, and other specific prerequisites, may be waived by consent of the department.

English 210, Advanced Expository Writing, its equivalent or consent of the instructor is a general prerequisite for all literature courses numbered 300 and above for non-English majors.

The following courses fulfill the Humanities [H] breadth of study requirements: COMPOSITION: 103, 104, 105, 302, 303, 304. LANGUAGE: 307, 308, 309. LITERATURE: 12, 13, 15, 16, 17, 20, 70, 71, 120, 123, 124, 125, 126, 127, 128, 131, 132, 133, 134, 135, 171, 172, 225, 280, 306, 321, 322, 323, 324, 325, 327, 329, 332, 337, 338, 339, 342, 345, 346, 352, 353, 364, 365, 368, 369, 371, 372, 373, 374, 375, 376, 380, 383, 384, 385, 386, 391, 395. SPECIAL OFFERINGS: 250, 390. THEATRE: 23, 80, 198, 223, 261, 281, 282, 322.

Composition

10 Freshman Composition (3)

This course teaches critical reading and thinking skills and emphasizes writing as a process. It is designed to prepare students for college writing by moving them through a sequence of increasingly complex writing assignments, beginning with the narrative and ending with the research paper. Class discussion and small-group workshops focus on problems of invention, organization, development, and revision in essay writing. The course fulfills the campus freshman writing requirement. It does not count toward the major in English.

11 Freshman Composition for International Students (3)

Prerequisite: Essay proficiency test or a TOFEL score of 500 or above. Theory and practice of writing expository American prose. Special attention is given to verb tenses, idioms, articles, and syntax. Does not count toward the major in English. This course substitutes for English 10 in all University requirements.

103 Poetry Writing (3)

Prerequisite: English 10 or equivalent. Theory and practice of poetry writing.

104 Short Story Writing (3)

Prerequisite: English 10 or equivalent. Theory and practice of writing the short story.

105 Play Writing (3)

Prerequisite: English 10 or equivalent. Theory and practice of writing plays.

108 Advertising Copywriting (3)

(Same as Comm 108.) To give students a hands-on

approach for writing advertising material for print and broadcast against tight deadlines in a professional setting.

112 Topics in Writing (3)

Prerequisite: English 10 or equivalent. This course will introduce the student to writing in specific areas. The department will announce topics and course content in the schedule. Possible topics are Argumentation, Reading and Writing About Public Affairs, Sports Reporting and Writing, and Writing About Science. A student may repeat the course once when topics are different. The course counts toward the Certificate in Writing.

209 Practical Criticism: Writing About Literature (3)

Prerequisites: English 10 or equivalent and junior standing or consent of the department. The course acquaints students with the techniques and terminology of literary criticism and trains them in the rudiments of writing about literature. Students compose eight to ten practical, critical essays on drama, poetry, fiction, and nonfictional prose. Explication of particular texts is emphasized. A longer critical paper incorporating secondary sources and introducing students to basic methods and resources for research is assigned. The course is required of English majors but is open to all qualified students. Course does not count toward the major in English. May not be taken on the satisfactory/unsatisfactory option.

210 Advanced Expository Writing (3)

Prerequisites: English 10 or equivalent and junior standing or consent of department. Development of the writer's style and critical and analytical capabilities. Course offers an introduction to research methods and fulfills the University requirement for a junior level course in communicative skills. May not be taken on the satisfactory/unsatisfactory option.

211 Advanced Expository Writing for International Students (3)

Prerequisite: English 11 or equivalent. This course will develop the student's style and critical-analytical abilities in contemporary American English writing. The course will also offer an introduction to formal research and documentation methods for preparing papers in a variety of fields. Additional emphasis will be placed on improving the student's reading abilities, both in comprehension and vocabulary. Course satisfies the junior-level communicative skills requirement. May not be taken on the satisfactory/unsatisfactory option.

212 Business Writing (3)

Prerequisites: English 10 or equivalent and junior standing or consent of department. The major elements of business writing. Writing assignments include business correspondence (inquiry, complaint, employment letters, etc.), reports (informal, travel, periodic, etc.), proposals (sales, etc.), analysis (marketing research, etc.), and writing for house organizations (company newsletters, etc.). Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course includes an introduction to research methods and documentation. All readings are selected from business material. Fulfills the University requirement for a junior-level course in communicative skills, subject to

English

the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option.

213 Technical Writing (3)

Prerequisites: English 10 or equivalent and junior standing or consent of department. The major elements of industrial technical writing. Writing assignments include technical definitions, abstracts and summaries, mechanism descriptions, instructions, process analyses, technical reports and proposals. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course includes an introduction to research methods and documentation. All readings are selected from industrial material. Fulfills the University requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option.

214 News Writing (3)

(Same as Comm 214.) Prerequisite: English 10 or equivalent. An introduction to news writing and reporting. Course covers basic components of news, reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed.

215 Feature Writing (3)

Prerequisite: English 10 or equivalent. Study of free-lance and staff-written magazine or newspaper feature articles. Emphasis on relationship between types of publication and article content, research methods, and writing style. Frequent short assignments—journal entries, interviews, library projects, article critiques, and market reports—lead to production of full-length feature articles. Fulfills the University requirement for a junior-level course in communicative skills. May not be taken on the S/U option.

216 Writing in the Sciences (3)

Prerequisite: English 10 or equivalent and junior standing or consent of department. Designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals and a major project. Students are encouraged to select projects that will reflect work in a science course which may include a research or analytical report, a formal proposal or a procedures/instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course will include an introduction to research methods and documentation. Fulfills the University requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option.

218 Reporting (3)

Prerequisite: English 214 or equivalent. Theory and practice of reporting news for publication in the print media. Includes one classroom session and one field assignment weekly. Stories must be filed within deadline limits. Writing emphasis is on clarity, conciseness, and accuracy.

228 Public Relations Writing (3)

(Same as Comm 228.) Prerequisite: English 214 or

equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals.

300 Writing in the Professions (3)

Prerequisite: Completion of the University's junior-level requirement in communication skills. A reading and writing course (1) to analyze and imitate the ways that writers in the arts and humanities, sciences, and business adapt their on-paper personalities, topics, organizations, and styles to achieve different aims or address different audiences; and (2) to speculate what finished texts imply about how different writers and disciplines see the world.

302 Writing Literary Criticism (3)

Prerequisite: English 210 or equivalent as judged by instructor. Intensive training in the writing of literary criticism, with some attention to the bibliography and to methods of research in literature. Recommended for all English majors.

303 Advanced Poetry Writing (3)

Prerequisite: English 210 or its equivalent as judged by instructor. Workshop in poetry writing.

304 Advanced Fiction Writing (3)

Prerequisite: English 210 or its equivalent as judged by instructor. Workshop in fiction writing.

305 Writing for Teachers (3)

(Same as SEC ED 305.) Prerequisite: English 210 or a comparable course in advanced composition. Designed for prospective as well as in-service teachers, the course includes: (1) writing—short papers to be shared in workshop groups; (2) reading—current theory and research on writing and the implications for teachers; (3) teaching—classroom activities that foster growth in writing.

313 Advanced Business and Technical Writing (3)

Prerequisite: English 210 or its equivalent as judged by instructor. An advanced, project-oriented course to produce substantial, multifaceted business and technical writing projects (e.g., reports, manuals, proposals) that demonstrate the ability to handle complex assignments requiring initiative, independent judgment, and good writing skills.

317 Writing Project Workshop (3)

Prerequisites: English 210 or equivalent. A workshop in writing and in teaching writing designed for in-service teachers. Topics may vary. Counts toward Certificate in Writing.

319 Editing (3)

Prerequisites: English 210 or its equivalent as judged by instructor; English 22 or English 322. Introduction to the language and processes of editing. Includes copy editing, the study of style manuals, and an overview of the production process. Counts toward requirement for the Writing Certificate.

English

320 Independent Writing Project (3)

Prerequisite: English 210 or its equivalent as judged by instructor. Course limited to students who are completing their certificates in writing. May be taken concurrently with the final course in the certificate sequence. Students work individually with the instructor to complete an extensive writing project.

329 Forms and Modes of Poetry (3)

Prerequisite: English 209 prerequisite or corequisite. An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g., Yeats, McKay, Bogan, Auden).

485 Theories of Writing (3)

An analysis of major modern theories in composition.

486 Studies in Rhetoric (3)

Provides graduate students with a clear definition of and strong background in rhetoric. Topics may include classical rhetoric, modern rhetorical theory, rhetoric/composition.

487 Writing/Reading Theory (3)

The parallel evolution of reading and writing theory and pedagogy. Topics include the influence of psycho-linguistics and reader-response theory and the link between reading and writing theory and instruction.

488 Composition Research (3)

Students analyze and conduct research in composition. Course work teaches students to evaluate methodologies and implications, and to analyze data and to design research.

489 Teaching College Writing (3)

Provides the opportunity for practical application of composition theory with an emphasis on improving teaching skills. Strongly recommended for graduate teaching assistants.

490 Gateway Writing Project (1-6)

(Same as SEC ED 436.) An intensive course in the writing process and the writing curriculum, designed for experienced teachers. Readings of current theory and research will be related to participants' experiences as writers and as teachers. Topics may vary. May be repeated for credit. No more than six hours may be applied toward the M.Ed. Counts toward the Certificate in Writing.

491 Studies in Composition (3)

The study of special topics in composition. Topics may include history of composition, psychology of writing, reader-response theory, etc.

492 Graduate Workshop in Poetry (3)

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the poetry written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry throughout

the course. May be repeated for maximum graduate credit of fifteen (15) hours.

493 Graduate Workshop in Fiction (3)

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the fiction (short stories or chapters of a novel) written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

494 Final Writing Project (1-6)

Prerequisite: Successful completion of 15 hours in graduate creative writing courses or permission from instructor. An independent writing tutorial taken by students after they have completed all other creative writing course work. Completion of the project (defined as six hours of credit) requires a substantial body of original poetry or fiction. May be repeated for maximum graduate credit of six (6) hours.

Language

122 Traditional Grammar (3)

An introduction to the terms and concepts of traditional grammar, beginning with the parts of speech and moving to more complex structures such as participles, gerunds, and clauses. The course also deals with the conventions of formal usage and punctuation.

307 Linguistics (3)

Prerequisite: English 210; majors, English 209. A survey of linguistics with emphasis on what the field reveals about the English language. Topics include the sounds of language, grammar, writing systems, language acquisition, language in society, language history, dialects, and usage.

308 English Grammar (3)

Prerequisite: English 210; majors, English 209. A study of modern English grammar from the perspectives of traditional, structural, and transformational grammar.

309 History of the English Language (3)

Prerequisite: Prerequisites: English 10 or equivalent. A historical survey of the English language from its Indo-European roots through Old and Middle English to the present. Topics include changes in sound, meaning, and grammar, as well as developments in American English, including regional and social dialects.

410 Modern Linguistics (3)

A study of selected topics in the structure of the English language, combining readings in current linguistics publications with original research.

Literature

12 Literary Types (3)

The student is introduced to the various literary types, including poetry, drama, fiction, and the essay.

English

13 Topics in Literature (3)

Introduces the student to selected literary topics and/or genres. Each semester the department will announce topics and course content. Topics such as alienation, justice, and the absurd, and genres such as science fiction and contemporary drama are typical possibilities.

14 Short Subjects (1)

A course on special limited subjects in literature, language, or writing. Content will vary from semester to semester. Subject matter may include, for example, Shakespeare's sonnets, the novels of Tolkien, Wertmuller's films, or any other topics suitable for treatment in a one-hour course. Since the topics of English 14 may change each semester, the course may be repeated for credit if the topics are substantially different.

15 Images of the Elderly in Film (3)

(Same as Gerontology 15.) Analysis of the portrayal of older adults in various films. Class discussions focus on the style and thematic content of the film, as well as intergenerational relationships.

16 Images of Age in Literature (3)

(Same as Gerontology 16.) Reading and discussion of literature that portrays aging and old age in various settings. Emphasis is on contemporary novels, but poetry and drama such as King Lear are read as well. Discussion and short essays enable consideration of how literature helps in the study of aging and also how the process of aging can be a creative force within literature.

17 American Literary Masterpieces (3)

An introduction to major themes and works in American literature from the nineteenth century to the present. Selected works from Hawthorne, Poe, Melville, Whitman, Twain, James, Frost, Hemingway, Faulkner, O'Connor, Plath, and Bellow.

20 Myth (3)

The nature of myth, with some consideration of the various theories used to account for its origins. An examination of central mythic motifs, images, and characters. While some attention will be given to comparing the mythologies of different cultures, the emphasis will be on reading Classical Greek and Roman mythology.

70 African-American Literature (3)

A survey of prose, poetry, and drama by black Americans from the period of enslavement through the Negro Renaissance to the present.

71 Native American Literature (3)

(Same as Anthropology 71.) Surveys the literature of American Indians from its oral tradition of myth, legend, song, and oratory through its modern forms. The course satisfies the ethnic literature requirement for Missouri state certification in Secondary Education and the College of Arts and Sciences Cultural Diversity requirement.

120 Classical Literature in Translation (3)

The civilization of ancient Greece and Rome as reflected by their major creative writers in some of their principal

works: the epics of Homer and Vergil; the plays of Aeschylus, Sophocles, Euripides, Aristophanes, Plautus, Terence, and Seneca; the lyrics of Sappho and Catullus; the satire of Petronius; and Ovid's rendering of the classical myths.

123 Jewish Literature (3)

Examines the traditional Jewish literature of the Bible and later legends found in the Talmud and Midrash and also considers later phases of Jewish literature, both sacred and secular. These include medieval folklore and Hasidic tales.

124 Literature of the New Testament (3)

A comprehensive understanding of the New Testament, its literary background, and significance for Western civilization.

125 Literature of the Old Testament (3)

Prerequisite: Sophomore standing or consent of instructor. A comprehensive understanding of the Old Testament, its literary background, and significance for Western civilization.

126 Continental Medieval Masterpieces in Translation (3)

A survey of the masterworks of the early and later Middle Ages, to include the Divine Comedy, Nibelungenlied, Song of Roland, El Mio Cid, selections from Chretien de Troyes, Boccaccio's Decameron, and Machiavelli's The Prince.

127 Survey of European Literature From 1650 to the Second World War (3)

Works of continental writers such as Moliere, Goethe, Dostoevsky, Ibsen, and Kafka, read in translation.

128 The Contemporary World in Literature (3)

Selected world literature since the second World War from the Middle East, Europe, Latin America, Africa, India, and Asia with emphasis on non-European literatures. This course excludes literature from the United States and England and it satisfies the College of Arts and Sciences Cultural Diversity requirement.

131 English Literature I (3)

The development of English literature from the Middle Ages through the eighteenth century. Reading and analysis of representative works of selected major writers.

132 English Literature II (3)

The development of English literature during the nineteenth and twentieth centuries. Reading and analysis of representative works of selected major writers.

133 Introduction to Poetry (3)

A close study of poems, with special emphasis on the varieties of poetic forms, and the means of interpretation and evaluation. The works studied will be primarily English and American, and from at least three different centuries.

134 Introduction to Drama (3)

A close study of major dramatic works in various modes, to introduce the student to the forms and techniques of dramatic literature. The works studied will be primarily English and American, and from at least three different centuries.

English

135 Introduction to Fiction (3)

A close study of major prose fiction, with particular attention to the varieties of fictional forms and techniques. The works studied will be primarily English and American, and from at least three different centuries.

171 American Literature I (3)

Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century.

172 American Literature II (3)

Representative selections from American authors from the middle of the nineteenth century to the present. Fulfills the requirement for Missouri Teacher Certification of "a unit in literature of American ethnic groups" and "a unit in American literature for adolescents."

225 Themes and Forms in Literature (3)

The study of particular literary ideas, modes, and genres, and their significance. Topics announced in advance by the department. Since the topics of English 225 may change each semester, the course may be repeated for credit if the topics are substantially different.

280 Topics in Women and Literature (3)

An examination of the role of women in literature, either as figures in literary works or as writers. Specific topics to vary from semester to semester. Since the topics of English 280 may change each semester, the course may be repeated for credit if the topics are substantially different.

306 Adolescent Literature (3)

The course will expose students to the large variety of quality adolescent literature available for reading and study in middle and high school classes. It will also examine the relevance of a variety of issues to the reading and teaching of adolescent literature, among them: reader response, theory and practice; multi-culturalism; literacy; the relation of adolescent literature to "classic" literature; the role of adolescent literature in interdisciplinary studies; adolescent literature as an incentive to extracurricular reading.

321 History of Literary Criticism (3)

Historical survey of the principles of literary criticism from Plato to the present.

322 Old English Literature (3)

Prerequisite: English 210; or, for majors, English 209 prerequisite or corequisite and English 131 prerequisite or permission of instructor. An introduction to the literary culture of Anglo-Saxon England through study of the Old English language and close reading of a diverse group of Old English texts from the eighth to eleventh centuries.

323 Continental Fiction (3)

Prerequisites: Two college courses in literature. The development of the European novel in the nineteenth and twentieth centuries. Representative works of writers such as Balzac, Flaubert, Dostoevsky, Tolstoy, Kafka, and Proust, read in translation.

324 Chaucer (3)

Concentrates on the poetry of Geoffrey Chaucer, including the *Canterbury Tales*, early poetic works, and the *Troilus* and *Criseyde*. All readings are in the original Middle English.

325 Medieval English Literature (3)

A survey of old and middle English literature from *Beowulf* to Malory's *Morte d'Arthur*, exclusive of Chaucer. All works are read in modern English translations.

327 Contemporary Critical Theory (3)

This course is to acquaint students with a range of critical methodologies that have gained currency since the 1960s. The kinds of criticism considered include formalist (New Critical, Russian, and Aristotelian), structuralist, post-structuralist, Marxist, reader-response, psycho-sexual, and feminist.

329 Forms and Modes of Poetry (3)

An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g. Yeats, McKay, Bogan, Auden).

332 Elizabethan Poetry and Prose (3)

Spenser, Sidney, Wyatt, and other poets of the latter sixteenth century. The origin and development of prose fiction.

337 Shakespeare: Tragedies and Romances (3)

The development of Shakespeare's concept of tragedy and tragicomedy from *Titus Andronicus* to *The Tempest*. The plays will be related to the social and literary milieu of the period.

338 Shakespeare: Comedies and Histories (3)

Shakespeare's early work for the theatre with some attention to the sonnets and longer poems. An historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage, and Shakespeare's biography.

339 Tudor and Stuart Drama (3)

A survey of the dramatic writings of the period from the interludes of John Heywood to the closing of the theatres in 1642, with particular attention to the plays of Marlowe, Jonson, Webster, and Ford. Though Shakespeare will not be studied in this course, connections between his works and those of his contemporaries will be discussed.

342 Early Seventeenth-Century Poetry and Prose (3)

Donne, Jonson, Marvell, Bacon, and other poets and essayists of the Metaphysical, Cavalier, and Baroque schools, exclusive of Milton.

345 Milton (3)

All the minor poems and the three longer poems with some attention to the major prose; Milton and his relation to the politics, theology, and literature of the seventeenth century.

English

346 Restoration and Eighteenth-Century Drama (3)

The principal tragedies and comedies from Dryden to Sheridan, including the plays of Congreve, Farquhar, Rowe, Gay, Fielding, and Goldsmith, among others.

352 Age of Dryden and Pope (3)

The beginnings of English neoclassic literature in the Restoration and its development through the first half of the eighteenth century, focusing on Dryden, Swift, and Pope.

353 Age of Johnson (3)

The breakdown of the neoclassic spirit and the introduction of the "new" poetry and novel. Consideration of Fielding, Johnson, Thompson, Young, Goldsmith, Sheridan, and others.

364 The Eighteenth-Century English Novel (3)

The origins and early development of the English novel, from Defoe to Jane Austen.

365 The Nineteenth-Century English Novel (3)

Novels of the Romantic and Victorian Periods, from Austen to George Eliot.

368 Early Romantic Poetry and Prose (3)

The English romantic movement with special emphasis on the early writers—Blake, Wordsworth, and Coleridge. Additional readings in selected prose writers and minor poets.

369 Later Romantic Poetry and Prose (3)

The English romantic movement with special emphasis on the later writers—Byron, Shelley, and Keats. Additional readings in selected prose writers and minor poets.

371 Prose and Poetry of the Victorian Period (3)

Critical readings of selections from Tennyson, Browning, Arnold, and others, in addition to selections from the major prose writing.

372 Literature of the Late Nineteenth and Early Twentieth Centuries (3)

Literature of the period between 1870 and the First World War, including works by writers such as Hardy, Conrad, James, Wilde, Stevenson, Shaw, Jefferies, and Wells.

373 Selected Major American Writers I (3)

American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others.

374 Selected Major American Writers II (3)

American literature of the late nineteenth and early twentieth centuries: James, Twain, Stephen Crane, Dreiser, and others.

375 American Fiction to World War I (3)

Development of the novel and short story in America.

376 Modern American Fiction (3)

The novel and short story in America since World War I. There may be some attention to British and continental influences.

380 Studies in Women and Literature (3)

The course examines feminist critical approaches to literature, the appropriation or transformation of literary genres by women writers, or the writings of women during a particular historical period. Specific topics vary from semester to semester. The course may be repeated for credit if topics are substantially different.

383 Modern British Fiction (3)

Critical reading and analysis of British fiction of the twentieth century. There may be some attention to American and continental influences.

384 Modern Poetry (3)

Critical reading and analysis of poetry of the late nineteenth and early twentieth centuries: Yeats, Eliot, Frost, Williams, and others.

385 Modern Drama (3)

British, American, and European drama of the last one hundred years: the well-made play, the problem play, verse drama, new definitions of tragedy, the angry theater, theater of the absurd.

386 Poetry Since World War II (3)

Reading and analysis of contemporary poetry.

391 Special Topics in Jewish Literature (3)

Intensive readings, critical discussion, and writing on topics relating to Jewish literature. Topics to be announced. This course may be repeated for credit if the topics are substantially different.

395 Special Topics in Literature (3)

Special topics in literature that are not covered in other 300-level English courses. Since the topics of English 395 may change each semester, the courses may be repeated for credit if the topics are substantially different.

400 Introduction to Graduate Study in English (3)

A course designed to prepare students to prepare students for the professional study of English. The course will both familiarize students with basic bibliographic tools and scholarly methods and introduce them to issues that are of current critical interest to those engaged in the advanced study of literature. These issues include gender, textuality, reader-response, multiculturalism, feminism, psychoanalysis, cultural studies, literary history and the relationship of literature to philosophy, history and science. Must be taken within the first twelve hours of graduate study.

415 Literary Criticism (3)

An examination of selected theories of literature.

416 Feminist Critical Theory (3)

Prerequisite: Graduate standing and consent of instructor. A consideration of feminist critical theory as a means of reassessing literary texts and our cultural heritage. After exploring the roots of feminist criticism, the seminar will examine Anglo-American and continental debates on theories of language, writing and representation. In providing an interdisciplinary context the course will consider studies in psychology, anthropology, history,

English

and philosophy/theology which have influenced and enriched feminist approaches to literature.

420 Old English (3)

Elements of old English grammar and exercises from Anglo-Saxon literature.

421 Studies in Middle English Literature (3)

Special topics in English literature before 1500.

430 Renaissance Literature (3)

Special topics in English literature from 1500 to 1660.

450 Eighteenth-Century Literature (3)

Studies in Augustan poetry and prose, including drama and fiction, with emphasis on background and major figures.

460 Studies in Poetry (3)

Study of a few selected British and American poets.

465 Studies in Fiction (3)

Study of a few selected British and American novelists and short story writers.

467 Studies in Drama (3)

Study of a few selected British and American dramatists.

470 Nineteenth-Century Literature (3)

Special topics in English romanticism, in Victorian life and thought, and in the development of the novel and of poetry between 1797 and 1914.

475 American Literature Before 1900 (3)

Selected American writers or topics from the Colonial period to 1900.

476 Twentieth-Century American Literature (3)

Selected American writers or topics from 1900 to the present.

480 Twentieth-Century British Literature (3)

Selected British and Commonwealth writers of the twentieth century.

495 Seminar in Special Topics (1-3)

Special topics which are not covered in other graduate-level English courses.

497 Independent Reading (1-3)

Directed study in areas of English for which courses are not available.

499 Thesis (6)

Prerequisite: 3.5 graduate G.P.A. Thesis research and writing on a selected topic in English studies.

Special Offerings

250 Special Studies (1-3)

Prerequisites: A course in the area of proposed work and consent of instructor. Individual work, with conferences adjusted to needs of the student. May not be used to meet specific English department distribution and language

requirements. May be repeated for a maximum total of three hours credit.

262 The Curriculum and Methods of Teaching English (3)

(Same as SEC ED 232.) Prerequisites: SEC ED 213 and a near-major in the subject matter. A study of the scope and sequence of the English courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Includes field experiences. The course prepares students for reflective teaching by relating course readings to field experiences and theory to practice. To be taken prior to student teaching. This course must be completed in residence.

270 English Teaching Intern Seminar (1)

(Same as SEC ED 270.) Prerequisite: Concurrent enrollment in SEC ED 290. A seminar in the integration of English curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290.

390 Seminar (3)

Prerequisite: Consent of instructor. Intensive reading, critical discussion, and writing on topics to be announced each semester. Since the topics of English 390 may change each semester, the course may be repeated for credit if the topics are substantially different. Enrollment limited to twelve students.

Theatre

21 Fundamentals of Acting (3)

Oral and physical communication of a role through improvisations, exercises, and scene work. Emphasis on modern representational method with some attention given to other styles.

23 Production Aesthetics (3)

An analysis of the visual components of dramatic presentation, including an introduction to theatrical styles and forms, technical design elements, and presentational techniques. A broad survey of theatre production.

60 Voice and Diction (3)

A course designed to aid the student in developing clear and distinct enunciation and in using correct pronunciation as requisite in mass media communication, public address, theatre, and oral interpretation.

80 Introduction to the Theatre (3)

A study of theatre as an art form, emphasizing the audience's appreciation of the art of the playwright, actor, director, and designer. Study of major periods, genres, and plays from classical to modern times.

124 Stage Movement (3)

Training in movement techniques for the stage, including mime, stage combat, and dramatic dance forms.

125 Stagecraft (4)

A survey of the theory and practice of stage scenery methods. Practical experiences in construction, rigging, and stage lighting and painting techniques, as well as

English

supervised work in all other phases of theatrical production will be emphasized. Two hours of lecture and four hours of laboratory.

126 Costuming for the Theatre (3)

This course covers the theory and practice of costume design and construction. It includes an overview of the history of clothing and fashion and its effect on the actor playing period drama. Lab required.

128 Stage Lighting (3)

Prerequisite: Theatre 23 or consent of instructor. An introduction to the theory and practice of stage lighting. The course will include a variety of established theories of stage lighting as well as practical training in lighting instrumentation and control systems.

198 Practicum in Theatre (1-2)

Prerequisites: Theatre 21, 23, or 80. Laboratory experience in campus theatre production from one of the following areas: acting, directing, stage management, lighting, sound design, scene construction, house management. Repeatable, but no more than four credit hours may be earned in departmental practicum courses.

221 Ensemble Acting (3)

Prerequisite: Theatre 21. Laboratory-discussion course emphasizing role analysis, scene study, characterization, and ensemble acting.

223 Aesthetics of Theatrical Styles (3)

Prerequisite: Theatre 23. Analysis of the development of dramatic and artistic styles as they affect the visual presentation of ideas in theatre.

224 Movement for Musical Theatre (3)

Prerequisite: Theatre 124 or consent of instructor. Specialized training in movement and dance techniques for musical theatre.

225 Designing for the Theatre (3)

An introduction to the theories and practices of scenic and costume design for the theatre. The course will survey the evolution of theatrical designs through different cultures, dramatic genres, and theatre architecture.

261 Readers Theatre (3)

Prerequisite: Communication 160. Study of the oral interpretation of literature as a theatrical experience. Study of theory, techniques, and performance.

281 Theatre from the Ancient Greeks to the Restoration (3)

Prerequisite: Theatre 80 or consent of instructor. History of theatre and drama from Classical Greek to the Restoration period.

282 Theatre from the Eighteenth Century to the 1990s (3)

Prerequisite: Theatre 80 or consent of instructor. History of theatre and drama from the eighteenth century to the present.

321 Acting Styles (3)

Prerequisite: Theatre 221. Studies in period acting styles, emphasizing cultural distinctions in manners, movement, and vocal practice.

322 Directing for the Theatre (3)

Prerequisite: Theatre 21 or consent of instructor. A survey of the theories and practices of theatrical directing. The course will explore the director's role in the theatre from script analysis and production planning to the performance of laboratory scenes.

323 Theatre Management (3)

Prerequisite: Communication 135. Comprehensive study of theatre management techniques, including season selection, budget control, box office, facility management, and promotional techniques for theatre.

398 Internship in Theatre (3)

Prerequisite: Senior standing with at least 12 hours of course work in theatre. Supervised practical work at a theatre off-campus in one of the following areas: acting, directing, design stage management. Repeatable, but no more than six hours total credit may be earned in internship courses.

Foreign Languages and Literatures

Faculty

Ingeborg M. Goessl, Assistant Professor*, Chairperson, German
Ph.D., University of Kansas

Linda Quinn Allen, Assistant Professor, French
Ph.D., Purdue University

Marcus Allen, Associate Professor Emeritus*, French
Ph.D., University of Pittsburgh

Panayiotis Bosnakis, Assistant Professor, Greek
Ph.D., Ohio State University

Albert J. Camigliano, Assistant Professor*, German
Ph.D., University of Wisconsin

Roland A. Champagne, Professor*, French
Ph.D., The Ohio State University

Alfred F. Goessl, Associate Professor Emeritus*, German
Ph.D., Tulane University

Paul R. Hoffman, Assistant Professor Emeritus, German
M.A., University of Michigan

Rolf R. Mueller, Assistant Professor, German
Ph.D., University of Kansas

Theresa Sears, Associate Professor*, Spanish
Ph.D., Cornell University

Lorna V. Williams, Professor*, Spanish
Ph.D., Indiana University

Jeanne Morgan Zarucchi, Associate Professor*; French
Ph.D., Harvard University

Deborah Baldini, Senior Lecturer, Spanish
M.A., Washington University

Rita Bergoudian, Senior Lecturer, French
M.A., University of South Carolina

Anne-Sophie Blank, Lecturer, French
M.A., Washington University

Martha Caero, Lecturer, Spanish
M.A., Washington University

Sandra Harris, Lecturer, French
M.A., University of Missouri-Columbia

Geremie Hoff, Senior Lecturer, Italian and Spanish
M.A., Webster University

Gunsoo Lee, Lecturer, Korean
Ph.D., University of Wisconsin

Denise Mussman, Lecturer, ESL
M.A., University of Illinois-Chicago

Margaret B. Phillips, Lecturer, Latin
Ph.D., St. Louis University

Susana Walter, Lecturer, Spanish
M.A., Washington University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The Department of Foreign Languages and Literatures offers course work in French, German, and Spanish, leading to the B.A. degree, and a field of concentration in each of these languages for those students seeking the B.S. degree in education. In addition, the department offers lower-level courses in Chinese, English as a Second Language, Italian, Japanese, Korean, Latin, and Russian.

Courses in Chinese, Japanese and Korean are offered on the UM-St. Louis campus in conjunction with Washington University faculty, as part of the Joint Center for East Asian

Studies. A minor in French, German, or Spanish may also be earned in the department. For details, see "Specific Requirements for the Minor," which appears later in this section.

The Department maintains a library where books, journals, magazines, and other foreign language realia are available to students, and a language resource center with audiovisual and computer materials.

Cooperative Study Courses in other languages are available to UM-St. Louis students through Washington University and St. Louis University. For information, consult the UM-St. Louis registrar's office.

Study Abroad Language students who have been at the University of Missouri-St. Louis at least one semester and have studied the language at least one year may receive 3-6 credits for formal study abroad during the summer. Prior consent of the department must be obtained for summer courses abroad, and the student must present a transcript for evaluation. Exchange programs are available with several universities in foreign countries. For information, contact the Study Abroad office.

Alumni Scholarship Qualified junior and senior language majors may apply for the Foreign Language Alumni Scholarship that is renewable each semester on a competitive basis. For information, contact the department.

German Majors Students of German may apply for UM-St. Louis Summer Abroad scholarships that will partially finance their summer studies abroad. Qualified German majors with junior or senior standing may apply for educational fee waivers. For information, contact the department.

Departmental Honors Candidates for departmental honors in French, German, or Spanish must meet the following requirements:

- 1) achieve a GPA of 3.5 in the major for all hours attempted beyond the first two semesters (Language Courses 001 and 002)
- 2) maintain an overall GPA of 3.2
- 3) successfully complete an honors thesis or project.

Undergraduate Studies

General Education Requirements

Each language major must satisfy the general education requirements of the University and the general education requirements of the College of Arts and Sciences. Any literature or civilization course offered by the department may be used to meet the humanities requirement.

Satisfactory/Unsatisfactory Option

Any course offered by the department may be taken on a satisfactory/unsatisfactory basis by nonmajors except Language 001, 002, and 101 (or equivalent), and Language 115a, b, and c, Intensive Language. Courses taken as a part of the major may not be taken on a satisfactory/unsatisfactory basis.

Foreign Languages and Literatures

Students who have fulfilled the language requirement (thirteen hours: Language Courses 001, 002, and 101) may enroll in a second language on a satisfactory/unsatisfactory basis.

Specific Requirements or Restrictions

Students entering with no high school language units must enroll in Language 001 or may enroll in Language 115. Language 115 (a, b, and c) is the intensive study of a language and will satisfy the foreign language requirement.

A D in a Language 001 course is a passing grade but not an entrance grade for a Language 002 course. A D in a Language 002 course is a passing grade but not an entrance grade for a Language 101 course or its equivalent. A D in a Language 101 course fulfills the language requirement, but is not an entrance grade for a higher level course.

Students with a degree of proficiency equivalent to 13 hours of college-level work may obtain exemption and/or credit by passing the department's placement exam. Upon taking the exam, non-native speakers of the language will receive credit (up to 13 hours) provided that they take a higher level course at UM-St. Louis and receive a grade of C- or better. A native speaker is defined as a person who speaks the target language fluently and has had formal schooling through the secondary-school level or equivalent in the target language. The specific dates for the exam are announced in the Schedule of Courses or may be obtained from the admissions office or the department.

Demonstration of a high level of proficiency may reduce the number of hours required for the major. Native speakers of a foreign language should consult with the department concerning appropriate placement.

Students may not take for credit an elementary course if they have already completed a higher level course for which the elementary course or its equivalent is a prerequisite.

Degree Requirements

Students electing to major in the department must have completed the 002 course in the language selected with a grade of C- or better. Any major who receives a grade of D in any course required for the major must repeat that course. No course required for the major may be taken on a satisfactory/unsatisfactory basis.

Bachelor of Arts

All students seeking a B.A. in a foreign language must meet the departmental requirement of a minimum of 33 hours (excluding Language 001 and 002). The maximum number of hours that may be taken in the major is 45 (including Language 001 and 002). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 264 (same as SEC ED 274), Curriculum and Methods of Teaching Foreign Languages, Course 364 (same as SEC ED 374), Foreign Language Teaching Seminar, and fulfill the professional secondary education requirements of the School of Education.

Bachelor of Science in Education Those students seeking the B.S.Ed. degree, with a concentration in a foreign

language, are required to complete 30 hours of work (excluding credit for Language 001 and 002), of which 12 hours must be on the 300 level. Students working toward a degree in elementary education, with related work in a foreign language, should consult the School of Education concerning their program.

Transfer Students

Transfer students majoring in one of the modern foreign languages must complete at UM-St. Louis a minimum of 12 graded hours in language courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

Native Speakers

Native speakers must complete five courses on the 200 level or above to obtain a major in their native language.

Specific Requirements for the Major

French

Each major in French must complete the following courses:

- 101, Intermediate French Language and Culture, or the equivalent
- 170, Composition and Conversation
- 180, Readings in French
- 200, Advanced Grammar
- 211, Contemporary French Civilization
- 280, French Literature I: Middle Ages to Eighteenth Century
- 281, French Literature II: Nineteenth and Twentieth Centuries

and four courses at the 300 level.

In addition to fulfilling the general education and specific major degree requirements, each French major is advised to take 15 hours of electives from two or more of the following areas: art, economics, English, history, music, philosophy, or political science. Listings of recommended courses may be obtained in the department office. The remaining hours should be selected from university-level courses at UM-St. Louis in one or more of the areas listed below or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The following courses are also strongly recommended:

- German 110, Masterpieces of German Literature in Translation
- Spanish 110, Spanish Literature in Translation
- History 332c, Modern France: To 1870
- History 333a, Contemporary France: Since 1870

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German

Each major in German must complete the following courses:

- 101**, Intermediate German Language and Culture
- 170**, Composition and Conversation
- 180**, Readings in German
- 201**, Masterpieces of German Literature
- 202**, The German Novelle and Drama
- 208**, Intermediate Composition and Conversation
- 210**, German Culture and Civilization

and **four** courses at the 300 level.

In addition to fulfilling the general education and specific major degree requirements, each German major is advised to take 15 hours of electives from two or more of the following areas: art, economics, English, history, music, philosophy, or political science. Listings of recommended courses may be obtained in the department office. The remaining hours should be selected from university-level courses at UM-St. Louis in one or more of the areas listed below or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The following courses are also strongly recommended:

- English 120**, Classical Literature in Translation
- English 337**, Shakespeare: Tragedies and Romances
- French 110**, Modern French Literature in Translation, or **150**, European Literature in Translation: Special Topics
- Spanish 110**, Spanish Literature in Translation, or **150**, European Literature in Translation: Special Topics
- History 333b**, Germany in the Modern Age
- Philosophy 105**, Twentieth-Century Philosophy

Spanish

Each major in Spanish must complete the following courses:

- 101**, Intermediate Spanish Language and Culture, or **105**, Commercial Spanish, or the equivalent

Two of the following three:

- 171**, Spanish Conversation and Pronunciation
- 172**, Spanish Composition
- 180**, Readings in Spanish
- 200**, Syntax of the Spanish Language
- 210**, Hispanic Culture and Civilization: Spain, or **211**, Hispanic Culture and Civilization: Spanish America
- 280**, Introduction to Hispanic Literature: Spain
- 281**, Introduction to Hispanic Literature: Spanish America and four courses at the **300** level, one of which must be: **399**, Seminar on Hispanic Literature

In addition to fulfilling the general education and specific major degree requirements, each Spanish major is advised to take 15 hours of electives from two or more of the following areas: art, economics, English, history, music, philosophy, or political science. Listings of recommended courses may be obtained in the department office. The remaining hours should be selected from university-level courses at UM-St. Louis in one or more of the areas listed below or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The following courses are also strongly recommended:

- French 110**, Modern French Literature in Translation, or **150**, European Literature in Translation: Special Topics
- German 110**, Masterpieces of German Literature in Translation
- History 332a**, History of Spain
- History 371**, History of Latin America: to 1808
- History 372**, History of Latin America: Since 1808
- PolSci 253**, Political Systems of South America
- PolSci 254**, Political Systems of Mexico, Central America, and the Caribbean

Specific Requirements for the Minor

A minor in French, German, or Spanish may be earned by completing six courses in the language beginning with Language 101 or its equivalent. These courses must be completed with a grade of C- or better. Transfer students must complete at least two courses for the minor at UM-St. Louis. After Language 101, students must complete the following courses in the language of their chosen minor:

French

- French 170**, Composition and Conversation
- French 180**, Readings in French
- French 280**, French Literature I, or **French 281**, French Literature II

Plus any two additional courses on the 200 level or above.

German

- German 170**, Composition and Conversation
- German 180**, Readings in German
- German 201**, Masterpieces of German Literature, or **German 202**, The German Novelle and Drama
- Plus any two additional courses on the 200 level or above.

Spanish

Two of the following three:

- Spanish 171**, Conversation and Pronunciation
- Spanish 172**, Composition
- Spanish 180**, Readings in Spanish
- Spanish 200**, Syntax of the Spanish Language, or **Spanish 271**, Advanced Spanish Conversation
- Spanish 280**, Introduction to Hispanic Literature: Spain, or **Spanish 281**, Introduction to Hispanic Literature:

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Spanish America
Plus an additional course on the 200 level or above.

Career Outlook

Graduates with a foreign language degree may elect to enter the fields of teaching, business, journalism, communications, or government, or to pursue advanced degrees in their specialty. It is especially recommended that students consider a double major or another discipline and a language. A language then becomes an asset that makes graduates more adaptable to the demands of international communication in their second major discipline and hence more competitive and marketable upon completion of the B.A. degree.

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Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements:

FRENCH: 110, 150, 180, 211, 280, 281, 331, 341, 342, 353, 354, 362, 365, 371, 375, 390. GERMAN: 110, 150, 180, 201, 202, 210, 315, 320, 345, 397, 398, 399. SPANISH: 110, 111, 150, 180, 210, 211, 280, 281, 310, 315, 320, 321, 325, 330, 331, 335, 340, 345, 351, 360, 399.

Foreign Language and Literature (FLL)

264 Curriculum and Methods of Teaching Foreign Languages (3)

(Same as SEC ED 274.) Prerequisites: SEC ED 213 and passing the departmental language skills test. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign languages. To be taken prior to student teaching. This course must be completed in residence.

300 Language Acquisition and Analysis (3)

The nature of human language, including language universals, sounds and sound patterns, word formation, and language processing. Students will be acquainted with first and second language acquisition, and will analyze data from various languages. Recommended for teachers of English and foreign languages.

364 Foreign Language Teaching Seminar (2)

(Same as SEC ED 374.) Prerequisite: Concurrent enrollment in SEC ED 290 or consent of instructor. A practicum course in the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of FLL 264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with SEC ED 290, Student Teaching.

Chinese

Courses in Chinese are taught on the UM-St. Louis campus by faculty of Washington University, through the Joint Center for East Asian Studies.

001 Chinese I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese and upon the acquisition of the fundamentals of grammar and syntax.

002 Chinese II (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Mandarin Chinese. Continuation of the acquisition of the fundamentals of grammar and syntax.

101 Intermediate Chinese I (5)

Prerequisite: Chinese II or equivalent. Grammar review and continued development of language skills.

102 Intermediate Chinese II (5)

Prerequisite: Chinese 101 or equivalent. Continuation of Chinese 101.

English as a Second Language

301 Conservation and Pronunciation (3)

Designed for non-native speakers who need to improve their fluency and pronunciation in American English. Conversation strategies, oral presentations and extensive practice to reduce accent are included. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

302 Listening and Note-taking (2)

Listening and note-taking skills are developed through practice. Students learn to recognize the organization and emphasis of class lectures. Strategies include vocabulary building, test-taking, and participation in class discussions. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

303 Writing and Reading (3)

Students develop vocabulary, organization and grammatical accuracy for college level writing. Reading and editing skills are emphasized. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

305 Advanced ESL Grammar (2)

Prerequisites: Minimum TOEFL score of 500. This course is for ESL students who need review and applied practice of English grammar for oral and written work. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

390 Special Readings (1-3)

Prerequisites: Consent of instructor. Independent study through readings, reports and conferences.

400 International Teaching Assistant Seminar (1-3)

Prerequisites: Consent of instructor. Focus is on presentation skills, strategies to facilitate communication, and cultural differences in education. Students develop effective teaching skills through class presentations. Not applicable to graduate degree program.

French

001 French I (5)

Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002 French II (5)

Prerequisite: French 1 or equivalent. Emphasis will be placed upon the speaking and understanding of French and upon

Foreign Languages and Literatures

the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate French Language and Culture (3)

Prerequisite: French 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

110 Modern French Literature in Translation (3)

Prerequisite: Sophomore standing. Reading and discussion of selected works in French literature from the modern period, in English translation. No credit toward major in French.

111 Francophone Culture (3)

Prerequisites: French 101 or equivalent and permission of instructor. Analyses and discussions of cultural issues in the French-speaking world through the critical reading of representative texts.

115A, 115B, 115C Intensive French (15)

Prerequisites: Aptitude test and permission of department. An intensive study of French. 115a, 115b, 115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Sciences.

125 Introduction to French/English Translation Techniques (3)

Prerequisite: French 101 or equivalent, or permission of instructor. Practical training in translating from English into French and French into English using a variety of technical, scientific, literary, and commercial texts.

150 European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic is announced in advance by the department. Does not count toward major in French.

160 French Phonetics (3)

Prerequisite: French 101 or consent of instructor. An analytic and practical study of French pronunciation. Emphasis is placed upon the articulation and practice of contemporary French sounds.

170 Composition and Conversation (3)

Prerequisite: French 101 or equivalent. Emphasis will be placed on the development of speaking and writing skills in French.

180 Readings in French (3)

Prerequisite: French 170 or equivalent. Development of language skills through reading and discussion of literary texts.

190 Special Readings in French (1-3)

Prerequisites: French 101 and consent of the department.

Independent study on mutually acceptable topics through readings, reports, and conferences.

200 Advanced Grammar (3)

Prerequisite: French 170 or equivalent. Problems in grammatical analysis.

205 Commercial French (3)

Prerequisite: French 170 or equivalent. Introduction to French business language with emphasis on technical vocabulary and correct French usage in business affairs.

211 Contemporary French Culture (3)

Prerequisite: French 180 and 200 or equivalent. Aspects of contemporary French culture, studied through a variety of authentic cultural materials and readings of fiction and nonfiction. All readings and class work in French.

271 Intermediate French Conversation (3)

Prerequisites: French 170 or consent of department. Emphasis will be placed upon the further development of oral skills in French.

280 French Literature I: Middle Ages to Eighteenth Century (3)

Prerequisite: French 180 and 200 or equivalent. Designed to acquaint the student with the development of French literature from the Middle Ages to the eighteenth century. Critical reading of representative texts.

281 French Literature II: Nineteenth and Twentieth Centuries (3)

Prerequisite: French 180 and 200 or equivalent. Designed to acquaint the student with the development of French literature from the nineteenth century to the present. Critical reading of representative texts.

290 Special Readings (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300 Syntax and Stylistics (3)

Prerequisite: French 200 or equivalent. Advanced theoretical and practical study of modern French syntax. Analysis of French prose style.

311 Special Topics in French Culture (3)

Prerequisite: Junior standing or French 280 or 281 for French majors. Selected topics in French culture taught in English with assignments in English. French majors will do course assignments in French. This course may be repeated for credit.

331 Medieval and Renaissance Literature (3)

Prerequisite: French 280 or 281. A study of the development of French literature from the Middle Ages to the end of the sixteenth century. Texts for reading and discussion will include medieval romances, lyric poetry, and works of humanist philosophy.

341 Seventeenth-Century French Theatre and Poetry (3)

Prerequisite: French 280 or 281. Critical reading and analysis of French Classical Age theatre and poetry, including works by Corneille, Molière, Racine, and La Fontaine.

Foreign Languages and Literatures

342 Seventeenth-Century French Prose (3)

Prerequisite: French 280 or 281. A study of moralists and social commentators in the age of Louis XIV, with critical reading and analysis of texts by Pascal, La Rochefoucauld, and others.

353 Eighteenth-Century French Literature (3)

Prerequisite: French 280 or 281. The philosophic movement. Selected readings of the eighteenth century, including Montesquieu, Voltaire, Diderot, and Rousseau.

354 Eighteenth-Century French Theatre and Novel (3)

Prerequisite: French 280 or 281. Critical reading and discussion of representative novels and plays of the eighteenth century.

362 Nineteenth-Century French Novel (3)

Prerequisite: French 280 or 281. Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism.

365 Modern French Poetry (3)

Prerequisite: French 280 or 281. A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets.

371 Twentieth-Century French Novel (3)

Prerequisite: French 280 or 281. A study of selected works by the principal novelists of the modern period.

375 Modern French Theatre (3)

Prerequisite: French 280 or 281. A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists.

390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399 French Seminar (3)

Prerequisite: French 280 or 281. Specialized topic in French literature. Subject to be announced by instructor in charge of seminar.

400 Contemporary French Thought (3)

Prerequisite: B.A. or permission of instructor. Analyses and discussion of contemporary cultural French issues through a representative sample of journals and pamphlets. In French.

German

001 German I (5)

Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

002 German II (5)

Prerequisite: German 1 or equivalent. Emphasis will be placed upon the speaking and understanding of German and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

50 German for Reading Knowledge (3)

This course presumes no prior knowledge of German and is designed to provide the student with a basic recognition knowledge of vocabulary, structure, and syntax. German for Reading Knowledge does not fulfill the language requirement nor does it count toward a major or minor in German.

100 Scientific German (3)

Prerequisite: German 2 or equivalent. Reading of selected German texts in the natural and social sciences. Designed primarily for majors in these areas. This course is the equivalent of German 101. German 101 and German 100 may not both be taken for credit.

101 Intermediate German Language and Culture (3)

Prerequisite: German 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

110 Masterpieces of German Literature in Translation (3)

Prerequisite: Sophomore standing. Representative readings in German literature from the beginning to the present. Emphasis to be placed upon German literature in the general context of European culture. No credit toward major in German.

115A, 115B, 115C Intensive German (15)

Prerequisites: Aptitude test and permission of department. An intensive study of German assuming no previous knowledge of German. 115a, 115b, 115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

150 European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic announced in advance by the department. Does not count toward major in German.

170 Composition and Conversation (3)

Prerequisite: German 101 or equivalent. Emphasis will be placed on the development of speaking and writing skills in German.

180 Readings in German (3)

Prerequisite: German 170 or equivalent. May be taken concurrently. Further development of language skills through readings and discussions of literary texts.

190 Special Readings (1-3)

Prerequisites: German 101 and consent of department. Independent study on mutually acceptable topics through readings, reports, and conferences.

Foreign Languages and Literatures

201 Masterpieces of German Literature (3)

Prerequisite: Two years of college German or equivalent. Introduction to German literature. Readings and critical analysis of selected works of German literature.

202 The German Novelle and Drama (3)

Prerequisite: German 201 or equivalent. Reading and critical analysis of selected German Novellen and dramas.

208 Intermediate Composition and Conversation (3)

Prerequisite: German 170 or equivalent. Emphasis on speaking and writing German.

210 German Culture and Civilization (3)

Prerequisite: German 180 or equivalent. A survey of the development of German culture and civilization. All reading and class work in German.

290 Special Readings: German (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

308 Advanced Composition and Conversation (3)

Prerequisite: German 208 or equivalent. Continuation of German 208. Designed to develop accuracy and fluency of expression in German.

315 German Classicism and Romanticism (3)

Prerequisites: German 201 and one other 200-level course in German. Representative writers from the classical and romantic periods of German literature, including works by Lessing, Goethe, Kleist, and E.T.A. Hoffmann.

320 German Realism and Naturalism (3)

Prerequisites: German 201 and one other 200-level course in German. Representative writers of realism and naturalism in German literature, including works of Grillparzer, Hebbel, Stifter, Keller, and Hauptmann.

345 Modern German Literature (3)

Prerequisites: German 201 and one other 200-level course in German. Representative works from modern German literature.

390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

397 Survey of German Literature Part I (3)

Prerequisite: German 201 or 202. Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

398 Survey of German Literature Part II (3)

Prerequisite: German 201 or 202. Special emphasis on the summary and synthesis of trends and characteristics of major periods in German literature, considered in the general context of European culture.

399 German Seminar (3)

Prerequisite: German 201 or 202. Specialized topic in German literature.

Ancient Greek

001 Ancient Greek 1 (5)

Study of grammar, syntax, and vocabulary, accompanied by readings of simple prose selections.

002 Ancient Greek 2 (5)

Prerequisite: Ancient Greek 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Greek 1. Readings and discussion from selected classical authors.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Ancient Greek Language and Culture (3)

Prerequisite: Ancient Greek 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

151 Greek and Latin in English Today (3)

(Same as Latin 151.) Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

190 Special Readings (1-3)

Prerequisites: Greek 101 and consent of department. Independent study through readings, reports, and conferences.

Modern Greek

001 Modern Greek I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.

002 Modern Greek II (5)

Prerequisite: Modern Greek 001 or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Modern Greek and upon the acquisition of the fundamentals of grammar and syntax.

101 Intermediate Modern Greek Language and Culture (3)

Prerequisite: Modern Greek 002 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

Hebrew

Courses in Biblical and Modern Hebrew are available at Washington University for UM-St. Louis students. Consult the Foreign Languages and Literatures department for details.

Foreign Languages and Literatures

101D Beginning Biblical Hebrew (3)

102D Beginning Biblical Hebrew (3)

211D Intermediate Biblical Hebrew (3)

212D Biblical Literature (3)

105D Beginning Modern Hebrew I (5)

106D Beginning Modern Hebrew II (5)

213D Intermediate Modern Hebrew I (5)

Note: Course 101 at Washington University is equivalent to Course 001 at UM-St. Louis.

Italian

001 Italian I (5)

Fundamentals of Italian grammar, pronunciation, and diction for students with no previous acquaintance with the language. One-hour laboratory per week required.

002 Italian II (5)

Prerequisite: Italian I or equivalent. Continuation of grammar and conversation with introductory readings centering on Italian contributions to art, literature, and music. One-hour laboratory per week required.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Italian Language and Culture (3)

Prerequisite: Italian 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

190 Special Readings (1-3)

Prerequisite: Italian 101 or equivalent. Readings on literary topics mutually acceptable to student and instructor.

Japanese

Courses in Japanese are taught on the UM-St. Louis campus by faculty of Washington University, through the Joint Center for East Asian Studies.

001 Japanese I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese and upon the acquisition of the fundamentals of grammar and syntax.

002 Japanese II (5)

Prerequisite: Japanese I or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Japanese. Continuation of the acquisition of the fundamentals of grammar and syntax.

101 Intermediate Japanese I (5)

Prerequisite: Japanese II or equivalent. Grammar review and continued development of language skills.

102 Intermediate Japanese II (5)

Prerequisite: Japanese 101 or equivalent. Continuation of Japanese 101.

Korean

001 Korean I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Korean and upon the acquisition of the fundamentals of grammar and syntax.

002 Korean II (5)

Prerequisite: Korean I or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Korean. Continuation of the acquisition of the fundamentals of grammar and syntax.

101 Intermediate Korean I (5)

Prerequisite: Korean II or equivalent. Grammar review and continued development of language skills.

102 Intermediate Korean II (5)

Prerequisite: Korean 101 or equivalent. Continuation of Korean 101.

Latin

001 Latin 1 (5)

A study of Latin grammar, syntax, and vocabulary, accompanied by reading selections from literary texts.

002 Latin 2 (5)

Prerequisite: Latin 1 or equivalent. The study of vocabulary, grammar, and syntax is continued from Latin 1. Readings and discussion from selected classical authors.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Latin Language and Culture (3)

Prerequisite: Latin 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

151 Greek and Latin in English Today (3)

(Same as Ancient Greek 151.) Language and culture of Greece and Rome reflected in modern English. Emphasis on vocabulary derived from Greek and Latin. Included will be the Greek alphabet and an introduction to historical language change involving the relationship among Greek, Latin, and Romance languages, and Germanic languages (particularly English). Attention will be paid to terms used in law, medicine, science, liberal arts, and to general vocabulary enrichment.

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190 Special Readings (1-3)

Prerequisites: Latin 101 and consent of department. Independent study through readings, reports, and conferences.

Portuguese

Courses in Portuguese are available at Saint Louis University for UM-St. Louis students. Consult the Foreign Languages department for details and obtain the necessary forms from the registrar's office.

Russian

001 Russian I (5)

Emphasis will be placed upon the speaking and understanding of Russian and upon the acquisition of the fundamentals of grammar and syntax. Five hours of class and one-hour language laboratory per week required.

002 Russian II (5)

Prerequisite: Russian 1 or equivalent. Emphasis will be placed upon the speaking and understanding of Russian and upon the acquisition of the fundamentals of grammar and syntax. Five hours of class and one-hour language laboratory per week required.

008 Introduction to Life in Russia (2)

This course gives insights into the practices, customs and habits of contemporary Russian society. It targets the beginner and teaches many useful phrases for basic reading skills for business or travel. Course is taught in English and does not count towards the language requirement.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

100 Scientific Russian (3)

Prerequisite: Russian 2 or equivalent. Introduction to reading of selected Russian texts in the natural and social sciences. Designed primarily for majors in these areas. This course is the equivalent of Russian 101. Russian 101 and Russian 100 may not both be taken for credit.

101 Intermediate Russian Language and Culture (5)

Prerequisite: Russian 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

190 Special Readings (1-3)

Prerequisite: Russian 101 or equivalent. Readings on literary topics mutually acceptable to student and instructor.

Spanish

001 Spanish I (5)

Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour

language laboratory per week required.

002 Spanish II (5)

Prerequisite: Spanish 1 or equivalent. Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Spanish Language and Culture (3)

Prerequisite: Spanish 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

105 Commercial Spanish (3)

Prerequisite: Spanish 2 or equivalent. Grammar review and cultivation of language skills with emphasis on technical vocabulary and correct Spanish usage in business affairs. Designed for business majors, economics majors, or anyone interested in the commercial application of Spanish. This course is the equivalent of Spanish 101; both may not be taken for credit.

110 Spanish Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spain from the Middle Ages to the contemporary period. Reading and discussion of works of representative Spanish writers: Cervantes, Calderon, Galdos, Unamuno, Garcia Lorca, Buero Vallejo, and others. No credit toward major in Spanish.

111 Spanish-American Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spanish America. Reading and discussion of works of representative poets, novelists, and essayists of the contemporary period. No credit toward major in Spanish.

115A, 115B, 115C Intensive Spanish (15)

Prerequisites: Aptitude test and permission of department. An intensive study of Spanish assuming no previous knowledge of Spanish. 115a, 115b, 115c are co-requisites and must be taken concurrently. All three sections must be completed with a grade of C- or better in each section to satisfy the foreign language requirement of the College of Arts and Science.

150 European Literature in Translation: Special Topics (3)

Major figures, works, or movements in the literature of Europe and their relevance to our own age. Topic is announced in advance by the department. Does not count toward major in Spanish.

171 Spanish Conversation and Pronunciation (3)

Prerequisite: Spanish 101 or equivalent. Emphasis will be placed upon the development of oral skills in Spanish and

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upon the problems of Spanish pronunciation and intonation.

172 Spanish Composition (3)

Prerequisite: Spanish 101 or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

180 Readings in Spanish (3)

Prerequisite: Spanish 101 or equivalent. Development of language skills through reading and discussion of a variety of texts.

190 Special Readings (1-3)

Prerequisites: Spanish 101 and consent of department. Independent study through readings, reports, and conferences.

200 Syntax of the Spanish Language (3)

Prerequisite: Spanish 171, 172, 180 (2 of the 3 courses) or equivalent. Study of the syntactical and morphological characteristics of the Spanish language. Designed primarily for students majoring in Spanish. May be taken concurrently with any 200-level course.

210 Hispanic Culture and Civilization: Spain (3)

Prerequisite: Spanish 171, 172, 180 (2 of the 3 courses) or equivalent. The development of Spanish peninsular civilization from its Roman beginnings to the present.

211 Hispanic Culture and Civilization: Spanish America (3)

Prerequisite: Spanish 171, 172, or 180 (2 of the 3 courses) or equivalent. The development of the cultures and civilization of the Spanish-speaking nations of the Western hemisphere.

271 Advanced Spanish Conversation (3)

Prerequisite: Spanish 171 or consent of department. Emphasis will be placed upon the further development of oral skills in Spanish.

280 Introduction to Hispanic Literature: Spain (3)

Prerequisite: Spanish 171, 172, 180 (2 of the 3 courses) or equivalent. Study of selected texts of Spanish writers from the Middle Ages to the present and the historical, cultural, and political factors which influence their writing. Required of Spanish majors. Spanish 180 is recommended for prerequisite.

281 Introduction to Hispanic Literature: Spanish America (3)

Prerequisite: Spanish 171, 172, 180 (2 of the 3 courses) or equivalent. Study of selected texts of Spanish-American writers from the colonial period to the present and the historical, cultural, and political factors which influenced their writings. Required of all Spanish majors. Spanish 180 is recommended for prerequisite.

290 Special Readings: Spanish (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300 Advanced Spanish Grammar (3)

Prerequisite: Spanish 200 or equivalent. Advanced theoretical and practical study of the form and syntax of the Spanish language, focusing especially on sentence

structure. Analysis of texts which illustrate different linguistic levels and their values. Designed to develop accuracy and fluency of expression in Spanish.

310 Spanish Literature From 1898 to 1939 (3)

Prerequisite: Spanish 280. A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists.

315 Spanish Literature From 1939 to the Present (3)

Prerequisite: Spanish 280. A study of cultural and literary development since the Spanish Civil War. Emphasis on leading novelists and dramatists.

320 Realism and Naturalism in the Nineteenth-Century Spanish Novel (3)

Prerequisite: Spanish 280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading novelists of the epoch (Galdos, Clarin, Pardo-Bazan, Blasco-Ibanez).

321 Poetry and Drama of the Nineteenth Century (3)

Prerequisite: Spanish 280. A study of the culture and literature of Spain in the nineteenth century with emphasis on the leading poets (Espronceda, Becquer) and playwrights (Zorrilla, Duque de Rivas).

325 Poetry and Drama of the Golden Age (3)

Prerequisite: Spanish 280. Selected readings from the drama of Lope de Vega, Tirso de Molina, Ruiz de Alarcon, and Calderon de la Barca, and from the poetry of Garcilaso, Fray Luis de Leon, San Juan de la Cruz, Gongora, Lope de Vega, and Quevedo.

326 Applied Linguistics in Spanish (3)

Prerequisites: Spanish 200 or equivalent. Study of the general principles of linguistics applied to the learning and teaching of Spanish with special emphasis on historical linguistics. The course will focus on the development of the Spanish language with emphasis on etymological and phonological changes. Recommended for prospective teachers of Spanish.

327 Spanish Dialectology (3)

Prerequisites: Spanish 200 or equivalent. The course will focus on the syntactical, lexical and phonological variations of modern Spanish from a sociolinguistics perspective. Regional variations may include Castilian, Mexican, and Caribbean Spanish, Spanish of the northern Andes region and the Southern Cone, and the Spanish spoken in the United States.

330 Cervantes (3)

Prerequisite: Spanish 280. A study of Don Quixote in relation with the author's life and with the cultural background of the Spanish Golden Age. Independent readings on other works of Cervantes.

331 Picaresque and Satirical Prose (1550-1650) (3)

Prerequisite: Spanish 280. A study of Renaissance and Baroque prose in its social context. All readings and discussions in Spanish.

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335 Masterpieces of Spanish Medieval and Renaissance Literature (3)

Prerequisite: Spanish 280. Designed to acquaint students with the cultural background of medieval and Renaissance Spanish traditions. Critical reading and discussion of representative works of these periods: Poema del Cid, El Conde Lucanor, Libro de Buen Amor, El Romancero, La Celestina, the Picaresque novel, and Don Quixote.

340 Spanish-American Literature of the Nineteenth Century (3)

Prerequisite: Spanish 281. A study of the culture and literature of Spanish America in the nineteenth century with emphasis on the leading novelists and essayists of the epoch.

341 Modernismo (3)

Prerequisite: Spanish 281. The genesis, development, and influence of this literary movement in Spanish-American letters with emphasis on Modernista poetry and prose.

345 Spanish-American Literature of the Twentieth Century (3)

Prerequisite: Spanish 281. A study of the leading Spanish American poets, essayists, and novelists of this period as interpreters of contemporary man's dilemma and the "pathos" and "ethos" of their culture.

351 Spanish-American Fiction in the Twentieth Century (3)

Prerequisite: Spanish 281. The role of prose fiction in Spanish American literary and cultural history from World War I to the present.

360 Spanish American Poetry From Modernismo to the Present (3)

Prerequisite: Spanish 281. A study of poetry and its role in the literary and cultural history of Spanish-American society from Modernismo to the present.

390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399 Seminar on Hispanic Literature (3)

Required of major students in the senior year. Subject to be announced every year by the instructor in charge of the seminar.

400 Spanish as Spoken Today (3)

Prerequisite: Graduate standing. Contemporary Spanish, including emphasis on standard and colloquial speech: slang, proverbs, and the mass media. Some attention will be given to the influence of English on twentieth-century spoken Spanish. Study of samples; oral practice.

History

Faculty

Mark A. Burkholder, Professor*; Chairperson
Ph.D., Duke University

Jerry M. Cooper, Professor*; Graduate Coordinator
Ph.D., University of Wisconsin

Walter Ehrlich, Professor Emeritus*
Ph.D., Washington University

Louis Gertels, Professor*;
Ph.D., University of Wisconsin

John R. Gillingham, Professor*
Ph.D., University of California-Berkeley

Steven C. Hause, Professor*
Ph.D., Washington University

Charles P. Korr, Professor*
Ph.D., University of California-Los Angeles

William S. Maltby, Professor*
Ph.D., Duke University

Richard H. Mitchell, Professor*
Ph.D., University of Wisconsin

James Neal Primm, Curators' Professor Emeritus
of History*
Ph.D., University of Missouri-Columbia

Steven W. Rowan, Professor*
Ph.D., Harvard University

Arthur H. Shaffer, Professor*; Education Coordinator
Ph.D., University of California-Los Angeles

Blanche M. Touhill, Professor*; Chancellor
Ph.D., St. Louis University

Robert Archibald, Associate Professor*; President,
Missouri Historical Society
Ph.D., University of New Mexico

J. Frederick Fausz, Associate Professor*
Ph.D., William and Mary

Paul Corby Finney, Associate Professor*
Ph.D., Harvard University

Winston Hsieh, Associate Professor*
Ph.D., Harvard University

Andrew J. Hurley, Associate Professor*
Ph.D., Northwestern University

Priscilla Dowden, Assistant Professor*
Ph.D., Indiana-Bloomington

Adell Patton Jr., Associate Professor*
Ph.D., University of Wisconsin

Richard W. Resh, Associate Professor*
Ph.D., University of Wisconsin

John A. Works, Jr., Associate Professor*;
Undergraduate Coordinator
Ph.D., University of Wisconsin

Gerda W. Ray, Assistant Professor*
Ph.D., University of California-Berkeley

Leslie Brown, Instructor
M.A., Duke University

Louise B. Robbert, Adjunct Professor*
Ph.D., University of Wisconsin

Suzanne H. Burkholder, Adjunct Assistant Professor*
Ph.D., University of California-San Diego

Eric Sandweiss, Adjunct Assistant Professor
Ph.D., University of California-Berkeley

*members of Graduate Faculty

General Information

The study of history, in addition to providing background for other subjects and disciplines, is an essential part of a liberal arts education. It encourages students to develop self-knowledge and helps them to understand people of widely disparate backgrounds and periods. The history department offers instruction in a wide variety of fields and formats at all levels, and the program is organized to serve as an introduction to the discipline of history.

Cicero said, "To be ignorant of the past is to remain a child," Santayana reminded nations that those who did not know history were doomed to repeat it, and Demosthenes told Athenians that "the time for extracting a lesson from history is ever at hand." The past does not die; we cannot let bygones be bygones. We remember, and we bolster that memory with the written and artifactual record to make it more accurate and lasting. This extension of memory allows us to establish a common pool of wisdom. One of the early acts of the tyrant is to burn the history books. Knowledge of what has been said and done is essential to freedom.

Degrees and Areas of Concentration: The department offers work in Asian, African, European, Latin American, Middle Eastern, and United States history from ancient to modern times. At the bachelor's level, the department offers the B.A. in history, and, in cooperation with the School of Education, the B.A. in history with teacher certification and the B.S. in education with an emphasis in social studies.

At the graduate level, the department offers an M.A. in history with work in Latin American, European, East Asian, United States, and African history.

Departmental Honors

Students majoring in history may be awarded departmental honors upon graduation if they have achieved the following: a) at least a 3.2 overall GPA; b) at least a 3.5 GPA for all hours attempted in history courses; and c) an outstanding research paper in the Senior Seminar as certified by the faculty member responsible for directing it.

Undergraduate Studies

General Education Requirements

History majors must meet the University and College general education requirements. History courses that will satisfy the University's state requirement are:

History 3, American Civilization

History 4, American Civilization

History 207, The History of Missouri

History 302, United States History: Revolution and the New Nation, 1763 to 1815

History 311, Topics in American Constitutional History

Students may take any language that fulfills the College's foreign language requirement. Majors may not take required history courses on a satisfactory/unsatisfactory basis. Students enrolled in variable credit reading courses for five credit hours must complete a seminar paper.

History

Degree Requirements

Bachelor of Arts in History Students are encouraged to take programs which combine breadth of coverage with intensity. The following courses are required:

Courses 1 to 199.

History 3, American Civilization

History 4, American Civilization

Plus two of the following:

History 30, The Ancient World

History 31, Topics in European Civilization: The Emergence of Western Europe to 1715

History 32, Topics in European Civilization: 1715 to the Present

Plus:

Non-Euro/American survey: One three-hour course

Courses 201 to 399.

One course in **United States history**

One course in **European history**

One course in **Non-Euro-American history**

History 393, Senior Seminar

Three additional **200 or 300-level** courses

Other

38-hour minimum/45 maximum; No grade below C in major; Courses 255 and 256 do not count toward major. After fulfilling the general education and specific major degree requirements, students are to take the remaining 31 hours required to complete the B.A. or B.S. degrees from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics and astronomy/geology, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Undergraduate majors must complete a minimum of fourteen hours of 300 level history courses in residence. One course must be 393, Senior Seminar (5.0 credit hrs.)

Minor in History

Students may minor in history by taking **18 hours** of history courses as follows:

- 1) **One** course numbered 1-199 in each of the following areas: United States history, European history, and Non-Euro-American history
- 2) **One** course numbered 201-399, except 255 and 256 in **each** of the following areas: United States history, European history, and Non-Euro-American history

No course in which a grade below a "C" is received shall count toward a minor.

Related Areas

Since history is a broad discipline, it can be combined with serious work in any other discipline. Courses in the humanities, social sciences, languages, and the natural sciences may complement the history program. Students should consult with faculty advisers to select courses suited to their individual interests.

Bachelor of Arts with Teacher Certification For information, refer to the School of Education section in this *Bulletin*.

Bachelor of Science in Education: Emphasis in Social Studies The History requirements are the same as for the B.A. degree except students fulfill the School of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the School of Education section in this *Bulletin*.

Graduate Studies

Degree Requirements

Master of Arts in History

The Department of History offers students two ways of completing the Master of Arts degree: one path of study emphasizes depth of knowledge and research competence acquired through writing a substantial master's thesis; the second emphasizes breadth of historical knowledge acquired through graduate course work and the writing of research papers. Both paths include a core of substantive courses in history (see "Core") to which the student adds either a thesis (see "Thesis") or additional research papers and seminars (see "Research Papers").

The M.A. program offers all students intermediate training preparatory to doctoral programs, advanced training leading to teaching and other careers, and disciplined advanced work.

The department offers study in European history, United States history, East Asian history, Latin American history, and African and Middle Eastern history. Within these general areas of study, students may specialize in the following fields:

Europe to 1715

Europe since 1715

Latin America

China and Japan since 1800

United States to 1865

United States since 1865

Africa and the Middle East

Admission Requirements

Applicants must meet several departmental admission requirements in addition to the general criteria of the Graduate School. The applicant's undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, only students with a 3.2 grade point average in their undergraduate major are admitted; most successful applicants have higher grades.

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Applicants must submit three letters of recommendation, preferably from former teachers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Applicants must take the Graduate Record Examination (GRE) Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, the sample of written work, and the GRE scores.

Core

All candidates for the M.A. degree in history must complete a core of 26 hours of course work (excluding thesis credit), with no more than nine hours of history and related fields at the 300 level (except History 393). This 26-hour core must include seven courses at three credit hours each (21 hours in all), and one five-credit-hour writing seminar (consisting of a two-credit-hour research paper supplement to a three-credit-hour, 400-level history readings course).

To earn the 26-hour core, candidates select three fields of study, the first with a minimum of four courses (each at three credit hours or more), the second and third with a minimum of two courses each (at three credit hours or more). Each field must include at least one 400-level course.

In addition to this core, each candidate must select one of the two following degree options:

1) Thesis Option—32 hours total

In addition to the Core, the candidate choosing this option must enroll for six hours of thesis credit and submit an acceptable thesis. The thesis is based on original research in primary sources. Normally, theses do not exceed 100 pages of text. Candidates receive a grade for the thesis upon its approval by an advisory committee. The committee consists of professors selected by the candidate after consultation with the major professor. One member of the committee must be outside the candidate's general area of study, and one may be outside the history department.

The advisory committee conducts an oral examination on the thesis during the candidate's last semester of residence. The committee decides whether the candidate shall pass, fail, or fail with the option to repeat the oral examination at a later date. Students may not take the oral examination more than twice. The second examination must be held no less than one and no more than two semesters following the date of the first examination. Summer session may be counted as a semester under this procedure, but students should be aware of the difficulties involved in assembling faculty committees during the summer.

Thesis candidates must demonstrate competence in one foreign language or in quantitative methods as applied to historical study. Candidates may demonstrate foreign language competence by satisfactory performance on a GSFLT examination or by other means approved by the department Graduate Committee. Candidates may demonstrate quantitative methods competence by satisfactory performance in History 300, Selected Topics in History:

Quantitative Methods in Historical Research, or by other means approved by the Graduate Committee.

2) Research Paper Option—36 hours total

To complete this option, the candidate must complete two five-credit-hour seminars (each consisting of a 400-level reading seminar plus two credit hours of supplementary work on a substantial research paper), in addition to the core. The candidate may choose a fourth field in addition to the three already represented in the core to complete this option.

Career Outlook

An important rationale for the discipline of history is its centrality to the university curriculum and to the life experience. The ability to put events or developments into the context of the past is useful as well as pleasurable. Responses to a questionnaire sent to our graduates have indicated that alumni in a wide variety of fields are as conscious of and appreciative of their training in history as those who have chosen it as a profession. Men and women in business, lawyers, bankers, librarians, and foreign service officers have all found it relevant to their careers. Study and research in history sharpens organizational and writing skills that are important to success in business and the legal profession. A growing interest in local history has created employment opportunities in museum, archival, and preservation work, broadening the historian's traditional options of teaching, civil service, and social service.

Writing history accurately is a public service, as well as intellectual exercise. To break off a significant fragment of the human past and examine it closely is an act of social importance; historical research contributes to society's store of useful memory. Writing a history essay or monograph based on primary sources carries with it the stirring experience of firsthand knowledge. One who paints, writes poetry, or carves in stone understands the problems of the masters better than any armchair critic. The writer of history gains a new awareness in understanding it.

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Course Descriptions

Students enrolled in variable credit reading courses for five credit hours must complete a seminar paper.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 3, 4, 30, 31, 32, 61, 62, 71, 72, 81, 82, 83, 84, 91, 201, 202, 203, 207, 210, 211, 212, 220, 241, 242, 243, 244, 252, 262, 300, 301, 302, 303, 304, 305, 306, 311, 312, 313, 314, 315, 316, 317, 318, 320, 321, 323, 324, 330, 331, 332, 333, 334, 335, 336, 337, 341, 342, 343, 345, 347, 348, 349, 351, 352, 353, 354, 355, 358, 361, 362, 371, 372, 380, 381, 382, 385, 386, 390, 393.

The following courses fulfill the Cultural Diversity requirement: 61, 62, 71, 72, 81, 82, 83, 84, 252, 262, 361, 362, 371, 380, 381, 382, 385, 386.

3 American Civilization (3)

Evolution of the cultural tradition of the Americas from the earliest times to the mid-nineteenth century, with emphasis on the relationship of ideas and institutions to the historical background. Course fulfills the state requirement.

4 American Civilization (3)

Continuation of History 3 to the present. Course fulfills the state requirement. Either History 3 or History 4 may be taken separately.

30 The Ancient World (3)

Survey of ancient history in the near east, the Aegean, the central and western Mediterranean. Themes: politics and economy, war and society, culture, including art, literature, technology, religion and philosophy. The chronological span is from the neolithic period (7500-3000 B.C.) in the near east to the fall of the Roman Empire in the fifth century A.D.

31 Topics in European Civilization: Emergence of Western Europe to 1715 (3)

Lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

32 Topics in European Civilization: 1715 to the Present (3)

Lectures and discussions on the development of Western European society and tradition from 1715 to the present. Either History 31 or History 32 may be taken separately.

61 East Asian Civilization (3)

The development of Asian civilization from earliest times to the Manchu conquest. This course fulfills the Cultural Diversity requirement.

62 East Asian Civilization (3)

Continuation of History 61 with emphasis on the Asian response to the Western incursion. Either History 61 or History 62 may be taken separately. This course fulfills the Cultural Diversity requirement.

71 Latin American Civilization (3)

A survey of selected topics important in the development

of Latin America from pre-Columbian times to the twentieth century. This course fulfills the Cultural Diversity requirement.

72 Mexican Civilization (3)

This course will focus on the history and culture of Mexico from the Aztecs to the mid-twentieth century. Among the topics to be covered are: the Aztecs, Cortez and the Conquest of Mexico, colonial institutions and culture, the obtaining of political independence, disorder and dictatorship in the nineteenth century, the Mexican Revolution, contemporary Mexico. This course fulfills the Cultural Diversity requirement.

81 African Civilization to 1800 (3)

Introduction to African cultural history from the emergence of early man to the abolition of the Atlantic slave trade. This course fulfills the Cultural Diversity requirement.

82 African Civilization Since 1800 (3)

Survey of African initiative and response in the period spanning the loss and reassertion of independence. History 81 or History 82 may be taken separately. This course fulfills the Cultural Diversity requirement.

83 The African Diaspora to 1800 (3)

An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic, Mediterranean, and Indian Ocean areas from the earliest times to 1800. The course will survey the political, social, and religious foundations of the African continent and include a comparative analysis of other diasporas. Special attention will be given to themes and issues associated with: slavery, creolization, multi-racialism, transformation from heterogeneous crowds to new homogeneous communities, and cultural linkages between Africans and their descendants in the Atlantic Communities. This course satisfies the Cultural Diversity requirement.

84 The African Diaspora Since 1800 (3)

An examination of the major developments which have shaped the history of Africans and their descendants in the Atlantic world from 1800 to contemporary times. The course will include a comparative analysis of other diaspora groups. Special attention will be given to themes and issues associated with: slavery, multi-racialism, cultural clocks, the social transformation from heterogeneous crowds to the formation of new homogeneous communities, the new elite, and the modern cultural linkages between Africans and their descendants in the Atlantic Communities. This course satisfies the Cultural Diversity requirement.

91 The Rise of Modern Judaism (3)

Introduction to the historical development of modern day Judaism and the Jewish people. Subjects will include the genesis of the major movements in Jewish life, the destruction of European Judaism, Zionism and the birth and growth of Israel. Substantial attention will be given to the flowering of American Judaism and its significant role in defining the rise of Modern Judaism.

201 History of Women in Comparative Cultures (3)

Prerequisite: Junior standing or the consent of the instructor. An introduction to the historical development of women's

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status in a variety of cultures and periods within the areas of Africa, Europe, the Far East, Latin America, and the Middle East. The course analyzes women's political, economic, familial, and sexual roles and the economic, demographic, ideological, and political forces which promoted change and continuity in those roles. This course fulfills the Cultural Diversity requirement.

202 Black History in the United States (3)

Prerequisite: Junior standing or the consent of the instructor. The experience of black people in America from the period of the slave trade to the twentieth century, beginning with the areas and cultures of West Africa. The development and importance of slave trade, the institutionalization of slavery; black resistance to bondage; the role of blacks during the Civil War and reconstruction period; the rise of segregation and disfranchisement of blacks; the testing of laws; and the protest and revolutionary movements of today.

203 U.S. Social Movements in the 20th Century

Prerequisite: Junior standing or the consent of the instructor. This course challenges students to analyze the historical sources, objectives, and techniques of social movements initiated by racial minorities, women, gays and lesbians, evangelical Christians, and many others.

207 History of Missouri (3)

Prerequisite: Junior standing or the consent of the instructor. Lecture and readings. Seventeenth-century Spanish and French explorations and interaction with the Indians; settlement and organization of the Louisiana territory; lead mining and the fur trade; the Louisiana Purchase; the Missouri territory; the struggle for statehood and slavery; antebellum politics; banking and internal improvements; westward expansion; Civil War and reconstruction; postwar agrarian politics, industrialization; Irish, German, and southern European immigration; the Progressive reforms—Political and economic change; and twentieth-century social changes and political developments. Course satisfies the state requirement.

210 African-American History: From Slavery to Civil Rights (3)

Prerequisite: Consent of the instructor. This course examines the impact of region, gender, and class on black activism by focusing on topics such as remembering slavery and emancipation, institution and community building during segregation, changing strategies in politics and protest, and the emergence of the direct action civil rights movement.

211 Sport and Society (3)

Prerequisite: Junior standing or the consent of the instructor. This course looks at sport in Western society as a form of social history. The first section of the course covers from early Olympic games through the end of the eighteenth century. The major part of the course deals with the role of organized sport in Europe and the United States since 1840, the political and economic aspects of sports, and the growth of international sports.

212 African-American History: From Civil Rights to Black Power (3)

Prerequisite: Consent of instructor. A seminar on the

activities, ideas, movement centers, and personalities that created the Civil Rights and Black Power movements in the U.S. from the 1950s through the 1970s. Some familiarity with the broad contours of U.S. history is presupposed. Special attention will be devoted to the roles of the African-American masses, college students, and women, and to the points of conflict cooperation, and intersection between African-America and the larger American society.

220 History of Feminism in Western Society (3)

Prerequisite: Junior standing or the consent of the instructor. History of feminist movement and feminist thought on status of women, family, work, and sexuality in the United States, Great Britain, Western Europe, and Russia, as well as the relationship between feminist theory and the feminist movement.

241 European Social History to 1715

Prerequisite: Junior standing or the consent of the instructor. This is a survey course that examines the life of ordinary people in late medieval and early modern Europe. It begins with an analysis of economic conditions and the social relationships that derive from them, but most of the course explores the conditions of every day life. Topics include demography, marriage and the family, sexuality, children and old age, the roles of women, disease and death, diet and drink, clothing and housing, leisure and entertainment, and popular attitudes.

242 European Social History Since 1715

Prerequisite: Junior standing or the consent of the instructor. This is a survey course examining the life of ordinary people in modern Europe. It begins with an examination of economic conditions and the social classes that derive from them. Most of the course explores the conditions of every day life. Topics include demography, marriage and the family, sexuality, children and old age, the roles of women, disease and death, diet, drink and drugs, clothing and housing, leisure and entertainment, and popular attitudes.

243 Western Legal System to 1800

Prerequisite: Junior standing or the consent of the instructor. An introduction to the development and elaboration of English Common Law and other legal systems (Roman law, canon law, Germanic Customary law) which developed in Western Europe before the period of the Napoleonic codifications and the English Benthamite reforms.

244 War and Society in Pre-Industrial Europe

Prerequisite: Junior standing or the consent of the instructor. The development of early modern warfare from the end of the feudal era to the battle of Waterloo.

252 The World of Islam (3)

Prerequisite: Junior standing or consent of instructor. The development of Islam as a religion and a civilization will be traced from its Arabian origins to its present position as the major religion of Africa and Asia. Special emphasis on the Islamic state, Sufi mysticism, the Shariah and the Muslim confrontation with modernization. This course fulfills the Cultural Diversity requirement.

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255 Curriculum and Methods of Teaching Secondary School History and Social Studies (3)

(Same as SEC ED 255.) Prerequisite: Junior standing and Sec Ed 213. A study of the scope and sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is directed also toward learning the techniques and research tools of the scholar in the fields of history and social studies. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence.

256 Social Studies Teaching Intern Seminar (1)

(Same as SEC ED 256.) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of educational philosophy, social studies curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, SEC ED 290.

262 Modern History of the Pacific Rim

Prerequisite: Junior standing or the consent of the instructor. A survey course on the 20th-century history of the most rapid growth of a broad economic region in East and Southeast Asia as well as their interactions with America. For students who need to understand the political and economic dynamics of the countries around the Pacific Basin and the historical roots of various problems. This course fulfills the Cultural Diversity requirement.

300 Selected Topics in History (3)

Prerequisite: Junior standing or consent of instructor. Special topics in history. The course may be repeated for credit with the consent of the instructor.

301 United States History: Colonial America to 1763 (3)

Prerequisite: Junior standing or consent of instructor. English background of colonization; rise of distinctive New England and Southern societies; English colonial policy to the Peace of Paris.

302 United States History: Revolution and the New Nation, 1763 to 1815 (3)

Prerequisite: Junior standing or consent of the instructor. The American Revolution and the creation of the new nation. The young republic and the development of the first American party system. Course fulfills the state requirement.

303 United States History: Nationalism and Sectionalism, 1815 to 1860 (3)

Prerequisite: Junior standing or consent of the instructor. The Era of Good Feelings, the Age of Jackson, manifest destiny, the political and social developments of the antebellum period relating to the growth of sectionalism and the developing antislavery crusade.

304 United States History: 1860-1900 (3)

Prerequisite: Junior standing or consent of the instructor. The Civil War, Reconstruction, industrial and urban expansion and their impact on American life.

305 United States History: 1900-1940 (3)

Prerequisite: Junior standing or consent of the instructor. The economic, political, and social developments and crises of the mature industrial United States. The growing importance of foreign relations.

306 United States History: 1940 to the Present (3)

Prerequisite: Junior standing or consent of instructor. The economic, political, and social developments and crises of postindustrial United States. The role of foreign affairs in American life.

311 Topics in American Constitutional History (3)

Prerequisite: Junior standing or consent of instructor. Origins and development of the principal institutions and ideas of the American constitutional system; the role of the Constitution and the Supreme Court in the growth of the nation; important Supreme Court decisions; great American jurists and their impact upon the law; historical background to current constitutional issues. Course fulfills the state requirement.

312 British Indian Relations 1580-1806 (3)

Prerequisite: Junior standing or the consent of instructor. This lecture-and-discussion class will explore the reciprocal impact of Anglo-Amerindian contacts in North America from Roanoke Island to the Lewis and Clark Expedition. Arranged chronologically and focusing on multidisciplinary ethnohistory, the course will compare the east-to-west "frontier (s)" and investigate cultural changes among all intersecting groups through primary historical documents and tribal ethnographies.

313 American Military History to 1900 (3)

Prerequisite: Junior standing or consent of instructor. A study of American military institutions from colonial times to 1900. The impact of the military upon major aspects of American life. The place of war in American history to 1900.

314 American Foreign and Military Affairs, 1900-Present (3)

Prerequisite: Junior standing or consent of instructor. A survey of American foreign and military affairs since 1900, with particular emphasis on the major wars during the period and the Cold War Era. Consideration of the nation's changing place in a changing world.

315 History of Women in the United States (3)

Prerequisite: Junior standing or consent of the instructor. Development of women's economic, political, and social role in the United States with special emphasis on the nineteenth and twentieth centuries; women and work; women and the family; women and reform movements; women and education; feminist theorists and activists; images of women.

316 U.S. Urban History (3)

Prerequisite: Junior standing or consent of the instructor. The physical and spatial growth of U.S. cities from colonial times to the present with special attention to the impact of industrialization, public policy, and advances in transportation technology.

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317 Comparative Urban History (3)

Prerequisite: Junior standing or consent of the instructor. Historical overview of urban social problems in comparative perspective with an emphasis on cities in Latin America and the United States.

318 African-American Women's History (3)

Prerequisite: Junior standing or consent of the instructor. This course introduces some of the themes of African-American women's history. By examining the impact of region, gender, and class on African-American women's experiences across time, the course highlights black women's applied and theoretical contributions to feminist politics and activism as well as the black struggle for freedom and equality. Topics covered include: slavery and emancipation, institution and community building, the family and work, electoral politics and direct action protest, civil rights, and contemporary issues.

320 History of Crime and Justice (3)

(Same as CCJ 330) Prerequisite: Junior standing or consent of the instructor; CCJ 110, 120, 130, 210, 220. The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison and the juvenile court.

321 Medieval England (3)

Prerequisite: Junior standing or consent of the instructor. A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of the institutional, social, and legal evolution of the realm of England. English development will be viewed in its European context.

323 Yorkist and Tudor England (3)

Prerequisite: Junior standing or consent of instructor. The turmoil over the monarchy and consolidation of the Tudor dynasty. A study of the English Reformation and the political and economic changes of the sixteenth century.

324 Stuart England (3)

Prerequisite: Junior standing or consent of instructor. A study of the English revolutions, religious controversy, and the rise of parliamentary power; the social and economic changes of the century; and the role played by England in the European struggles of the period.

330 The Ancient Near East(3)

Prerequisite: Junior standing or consent of the instructor. The Bronze age in Mesopotamia and Egypt, Amorite expansion, the Hittite Empire, Arameans, Canaanites, Philistines, Phoenicians and Israelites in Syria-Palestine at the end of the Bronze Age and into the Iron Age, the Kingdom of Israel, the Assyrian and Persian Empires, Egypt in the first millennium B.C. Major themes: politics, economy, religion and culture.

331 The Ancient World: Greece (3)

Prerequisite: Junior standing or consent of the instructor. The Bronze age in the Aegean: Minoans and Mycenaens; the dark age transition; historical Greek civilization from Homer to Alexander; comparative political forms; Greek

colonization; Athens and Sparta; classical Greece and the dispersion of Greek culture to the end of the Hellenistic period.

332 Rome: The Republic (3)

Prerequisite: Junior standing or consent of the instructor. Italy in the first millennium B.C.; Etruscans, Greeks and indigenous Italic people; the legendary royal period ca. 750-500 B.C.; the Republic 509 to 29 B.C. The major focus of this course will concern the political and social transformation of Italy due to the Punic wars of the third century B.C.

333 Rome: The Empire (3)

Prerequisite: Junior standing or consent of the instructor. The Augustan Principate and the creation of a Roman monarchic and imperialistic system extending over the years 29 B.C. to the reign of Justinian, 527-565 A.D. Themes: politics and economy, war, society, ethnicity, gender, culture, religion and philosophy.

334 History of the Church: Early Christianity (3)

Prerequisite: Junior standing or consent of the instructor. Survey of Jewish, Greek, and Roman antecedents, Christian beginnings, and the emergence of Christian traditions, to the council of Nicaea (325 A.D.).

335 History of the Church: The Middle Ages (3)

Prerequisite: Junior standing or consent of the instructor. A topical study of the Christian church in Europe as an autonomous and central institution from the sixth century through the reformation crisis. Special attention will be given to the relations between the church and the secular world, and the contributions of medieval Christianity to the development of European institutions and ideas.

336 Europe in Early Middle Ages (3)

Prerequisite: Junior standing or consent of the instructor. The end of the Roman Empire as a universal entity; the successor states of the Mediterranean and Northern Europe; the emergence of a Western Christendom under the Franks; the development of feudal states; the Gregorian reforms; the Crusades; the revival of education and learning in the twelfth century.

337 Europe in the High and Late Middle Ages (3)

Prerequisite: Junior standing or consent of the instructor. Medieval society at its political, economic, and intellectual zenith; the crisis of the later Middle Ages; the papal schism and the development of national particular churches within Catholicism; and the rise of estate institutions.

341 The Age of the Renaissance (3)

Prerequisite: Junior standing or consent of the instructor. The Italian and Northern Renaissance as a distinct age; political, socioeconomic, intellectual, religious, and artistic movements attending the decline of medieval society, and the transition to the early modern period.

342 The Age of Reformation (3)

Prerequisite: Junior standing or consent of the instructor. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

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343 Absolutism and Revolution: Europe from 1598 to 1715 (3)

Prerequisite: Junior standing or consent of the instructor. Examines how the final stages of the Reformation and the decline of Habsburg hegemony interacted with a series of simultaneous "revolutions" (social, political, scientific, and economic) in the mid-seventeenth century to produce a vibrant, expansionist Europe with Bourbon France as the major power.

345 Europe 1763-1871: Revolution, Reaction, and Reform (3)

Prerequisite: Junior standing or consent of the instructor. This course will examine Europe from the end of the Seven Years' War to the end of the Franco-Prussian war. It includes industrialization and the social and economic responses to it, the causes and course of the French Revolution and its impact on the rest of Europe, the romantic and reactionary aftermath to revolution, the slow and unsteady pace of political, social, and economic reform during the nineteenth century, the significance of the revolutions of 1848, the dawn of the the age of nationalism, and the unification of Italy and Germany. The approach will be topical.

347 Europe in the Belle Epoque (1870-1914) (3)

Prerequisite: Junior standing or consent of the instructor. This is an advanced course examining European history in the late 19th and early 20th centuries. Special emphasis is placed upon the great powers of that era (Austria-Hungary, Britain, France, Germany, Italy, and Russia) and the European state system in a period of German hegemony. Topics covered include the persistence of monarchy and the old order, the gradual development of democratic institutions, the challenge of socialism and trade unionism, standards of living and the conditions of daily life, the position of women and the development of feminism, the condition of minorities and human rights, European imperialism in Africa and Asia, and the origins of World War One.

348 Europe 1900-1950: War and Upheaval (3)

Prerequisite: Junior standing or consent of the instructor. The impact of World Wars I and II and the search for equilibrium.

349 Europe, 1950-Present: Peace and Prosperity(3)

Prerequisite: Junior standing or consent of instructor. A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.

351 Contemporary France: Since 1870 (3)

Prerequisite: Junior standing or consent of instructor. The history of Republican France. Topics discussed include the creation of a liberal-democratic government; the scandals and crises of the Third Republic; the Dreyfus affair; the rise of imperialism, socialism, and feminism; the impact of World War I, the popular front, defeat, collaboration, and resistance during World War II; and the reestablishment of France as an important power.

352 Germany in the Modern Age (3)

Prerequisite: Junior standing or consent of instructor. The course deals with whether or not the Third Reich should be considered the culmination of German history.

Problems of national unification, economic development, representative government, and cultural modernism will be considered.

353 Russian History to 1917 (3)

Prerequisite: Junior standing or consent of instructor. This course will emphasize the history of Russia from the Napoleonic Wars to the Revolution of 1917, including social and economic modernization and the development of the bureaucratic state, foreign policy and maintenance of the empire, rise and development of liberal reform and revolutionary movements, and the Revolution of 1917.

354 History of Russia From 1917-Present (3)

Prerequisite: Junior standing or consent of the instructor. The nature and results of the Bolshevik revolution (October 1917). Topics include Lenin as a ruler, War Communism, and NEP; the struggle for power and the triumph of Stalin, 1924-1930; collectivization of agriculture and industrialization; Stalinist foreign policy, the Second World War, and the Cold War; and continuity and change in post-Stalinist Russia.

355 History of Spain (3)

Prerequisite: Junior standing or consent of the instructor. A survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development.

358 Central Asia, Nationalism, and the Contemporary World (3)

Prerequisite: Junior standing or consent of the instructor. This course provides a broad background for understanding developments leading to the present-day configuration of Central Asia, a cultural and ethnic mosaic that was under Russian and Soviet domination for 130 years. It will analyze changes in Central Asian culture and art, demography, economics, history, language, politics, and related fields in order to examine nation building, identity levels, and potential ethnic and religious conflicts. This course fulfills the Cultural Diversity requirement.

361 Modern Japan: 1850 to Present (3)

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern Japan. This course fulfills the Cultural Diversity requirement.

362 Modern China: 1800 to Present (3)

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern China. This course fulfills the Cultural Diversity requirement.

371 History of Latin America: To 1808 (3)

Prerequisite: Junior standing or consent of instructor. Latin America from the pre-Columbian civilizations to 1808, stressing social, political, and economic institutions in the Spanish colonies. This course satisfies the Cultural Diversity requirement.

372 History of Latin America: Since 1808 (3)

Prerequisite: Junior standing or consent of instructor. Emphasis on the attainment of political independence

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and social, political, and economic developments of the nineteenth and twentieth centuries in Latin America. This course satisfies the Cultural Diversity requirement.

380 West Africa to 1800 (3)

Prerequisite: Junior standing or consent of instructor. This course discusses both the history and historiography of Africa's most populous and ethnically diverse region. Beginning with the prehistoric era prior to the desiccation of the Sahara, the course explores climatology and population movement, changes in food production and technology, state formation, the spread of Islam, cultural and political diversity in the forest region, domestic slavery, the Atlantic slave trade and abolition. This course fulfills the Cultural Diversity requirement.

381 West Africa Since 1800 (3)

Prerequisite: Junior standing or consent of instructor. Analysis of change in the savanna/forest societies occasioned by Islamic reform and the end of the slave trade, the imposition of colonial rule and African response, growth of nationalist protest, and postindependence development. This course fulfills the Cultural Diversity requirement.

382 History of Southern Africa (3)

Prerequisite: Junior standing or consent of instructor. Historical roots of apartheid and black nationalism in South Africa and Rhodesia/Zimbabwe. Foundation of white African societies, Khoisan resistance, the Mfecane and African state formation, the mineral revolution, colonialism versus autonomy, and the current confrontation of rival ideologies. This course fulfills the Cultural Diversity requirement.

385 Africa Diaspora to 1800 (3)

Prerequisite: Junior standing or consent of instructor. Comparative in scope, the course examines major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora up to 1800. Themes include: slavery, multi-racialism, economics of the South Atlantic system, political dimensions and the social transformation from heterogeneous crowds to new and homogenous communities. Linkages between Africans and their descendants in the Atlantic communities of Latin America, the Caribbean, as well as North America will be stressed. This course fulfills the Cultural Diversity requirement.

386 African Diaspora Since 1800 (3)

Prerequisite: Junior standing or consent of instructor. Comparative in scope, this course uses a comparative methodology to examine the major themes in West and Central Africa and their impact on the history of Africans in the Atlantic diaspora after 1800. This course fulfills the Cultural Diversity requirement.

390 Special Readings (1-10)

Prerequisite: Consent of the instructor. Independent study through readings, reports, and conferences.

393 Senior Seminar (5)

Prerequisites: Consent of department. Studies in historical

methodology and historiography. Directed readings, research, and writing leading to the production of an original piece of historical scholarship. Required for all history majors. May not be taken for graduate credit.

400 Readings in American History to 1865 (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history to 1865.

405 Readings in American History Since 1865 (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history since 1865.

410 Readings in European History to 1715 (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history to 1715.

415 Readings in European History Since 1715 (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in European history since 1715.

420 Readings in East Asian History (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in East Asian history.

425 Readings in Latin American History (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in Latin American history.

430 Readings in African History (3 or 5)

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in African history.

435 Introduction to Historical Agencies (3)

Prerequisite: Graduate standing and consent of instructor. A survey of the varieties, purposes, and functions of historical agencies in American culture. To be team-taught by members of the department and adjunct faculty from area historical agencies.

436 Studies in Historical Agencies (3)

Prerequisite: Graduate standing and consent of instructor. Specialized studies in various aspects of historical agency activity, such as museology, archives and manuscripts, site interpretation, and historic preservation. Specific topics will be announced each semester; the course may be repeated for credit if the topic is not a duplication of a course taken previously.

437 Practicum in Historical Agencies (1-6)

Prerequisite: Graduate standing and consent of instructor. Participation as a staff worker in the practical operation of an historical agency in the St. Louis metropolitan area. Students will design their programs in consultation with the department and the staff of the participating historical agency.

History

440 United States History for the Secondary Classroom (3-6)

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of American history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques particularly designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 440 may not be used to meet History degree requirement.

441 World History for the Secondary Classroom (3-6)

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of World history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 441 may not be used to meet History degree requirement.

448 Thesis Seminar (2-6)

Prerequisite: Graduate standing and consent of instructor. Thesis research and writing on a selected topic in history.

449 Directed Readings (3) or (5)

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the graduate level.

450 Doctoral Proseminar in American History to 1865 (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

451 Doctoral Research Seminar in American History to 1865 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

455 Doctoral Proseminar in American History Since 1865 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

456 Doctoral Research Seminar in American History Since 1865 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

460 Doctoral Proseminar in European History to 1715 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

461 Doctoral Research Seminar in European History to 1715 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

465 Doctoral Proseminar in European History Since 1715 (3)

Prerequisite: Consent of the instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

466 Doctoral Research Seminar in European History Since 1715 (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

470 Doctoral Proseminar in East Asian History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

471 Doctoral Research Seminar in East Asian History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

475 Doctoral Proseminar in Latin American History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

476 Doctoral Research Seminar in Latin American History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

480 Doctoral Proseminar in African History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

481 Doctoral Research Seminar in African History (3)

Prerequisite: Consent of instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

491 Dissertation Research (1-18)

Prerequisite: Completion of the doctoral qualifying examination. Dissertation research and writing on a selected topic in history.

492 Doctoral Presentation Seminar (1-3)

Prerequisite: Previous enrollment in History 491 and consent of department. Discussion and presentation of research in progress for the doctoral dissertation. Normally taken in the final year.

499 Directed Readings for Doctoral Students (1-6)

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the doctoral level.

Mathematics and Computer Science

Faculty

Raymond Balbes, Professor*; Chairperson
Ph.D., University of California-Los Angeles

Edward Z. Andalafte, Professor*
Ph.D., University of Missouri-Columbia

William Connett, Professor*
Ph.D., University of Chicago

Deborah Tepper Haimo, Professor Emeritus*
Ph.D., Harvard University

Wayne L. McDaniel, Professor*
Ph.D., St. Louis University

A. Prabhakar Rao, Professor*
Ph.D., University of California, Berkeley

Alan L. Schwartz, Professor*
Ph.D., University of Wisconsin-Madison

Stephen Selesnick, Professor*
Ph.D., University of London

Jerrold Siegel, Professor*
Ph.D., Cornell University

Grant V. Welland, Professor*
Ph.D., Purdue University

Chal Benson, Associate Professor*
Ph.D., Yale University

Haiyan Cai, Associate Professor*
Ph.D., University of Maryland

Ronald Dotzel, Associate Professor*
Ph.D., Rutgers University

Richard Friedlander, Associate Chairperson;
Associate Professor*
Ph.D., University of California-Los Angeles

Cezary Janikow, Associate Professor*
Ph.D., University of North Carolina at Chapel Hill

Rajiv Mehrotra, Associate Professor*
Ph.D., Wayne State University

Gail Ratcliff, Associate Professor*
Ph.D., Yale University

Frederick Wilke, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia

Shiying Zhao, Associate Professor
Ph.D., University of South Carolina

Sanjiv K. Bhatia, Assistant Professor*
Ph.D., University of Nebraska-Lincoln

Kyungho Oh, Assistant Professor*
Ph.D., Purdue University

W.L. Golik, Research Fellow
Ph.D., New Mexico State University

John Antognoli, Senior Lecturer; Coordinator
of Evening Program
M.A., University of Missouri-St. Louis

Dorothy Gotway, Lecturer
M.A., University of Kansas-Lawrence

Marlene Gustafson, Senior Lecturer
M.A., Western Reserve University

Mary Kay McKenzie, Lecturer
M.S., St. Louis University

Mark Nugent, Senior Lecturer
M.S., St. Louis University

Shahla Peterman, Senior Lecturer
M.S., University of Wisconsin-Madison

Gillian Raw, Senior Lecturer
M.A., Washington University

Paul Schneider, Senior Lecturer
M.A., St. Louis University

Cynthia Siegel, Senior Lecturer
M.S., University of Chicago

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The Department of Mathematics and Computer Science offers work leading to the B.A. in mathematics, the B.S. in applied mathematics, the B.S. in computer science, and in cooperation with the School of Education, the B.S. in secondary education with a major in mathematics. The applied mathematics program has three emphasis areas: statistics, classical applied mathematics, and computational mathematics.

The department also offers minors in computer science, mathematics, and statistics.

The program leading to the B.A. in mathematics is flexible, providing a broad introduction to the important branches of mathematics but giving students the depth necessary to pursue graduate study successfully. The B.S. in applied mathematics and the B.S. in computer science provide a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. The B.S. in secondary education introduces students to those branches of mathematics most relevant to teaching secondary-school mathematics.

The Department of Mathematics and Computer Science also offers work leading to the M.A. in mathematics. The program is designed to ensure that students will obtain a strong background in the areas of analysis and algebra. Through appropriate choice of electives, students may build upon this background a degree program well-suited to preparation for teaching at the high school, junior college, or four-year liberal arts college level; a program directed toward application of mathematics in industry or business; or a program designed to serve as a basis upon which students may continue toward a Ph.D. in mathematics.

Mathematical Sciences Alumni Scholarship

The Mathematical Sciences Alumni Scholarship is a monetary award for an outstanding junior or senior majoring in mathematical sciences, as evidenced by a grade point average of 3.5 or higher in at least 24 graded hours of course work at the University of Missouri-St. Louis and superior achievement in courses in mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application is March 15.

Undergraduate Studies

General Education Requirements

All majors must satisfy the University and appropriate School or College general education requirements. All mathematics courses may be used to meet the University's general education breadth of study requirement in natural sciences and mathematics.

Mathematics and Computer Science

Satisfactory/Unsatisfactory Restrictions

Majors in mathematics and computer science may not take mathematical sciences or related area courses on a satisfactory/unsatisfactory basis. Students considering graduate study should consult with their advisers about taking work on a satisfactory/unsatisfactory basis.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. or B.S. degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: criminology and criminal justice, anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, economics, English, foreign languages/literature, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The Department of Mathematics and Computer Science may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Degree Requirements

All mathematical sciences courses presented to meet the degree requirements must be completed with a grade of C- or better. At least four courses numbered 250 or above must be taken in residence. Students must have a 2.0 grade point average in the mathematical sciences courses completed.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the Schedule of Courses. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- shall be required to meet the prerequisite requirement for any course except with permission of the department.

Note: Courses that are prerequisites for higher-level courses may not be taken for credit or quality points if the higher-level course has been satisfactorily completed.

Bachelor of Arts in Mathematics and Bachelor of Science in Education majoring in Secondary Education with Emphasis in Mathematics Candidates for either the B.A. degree or the B.S. in education are required to complete the following course work:

- 1) All of the following **mathematics** courses:
80, Analytic Geometry and Calculus I
175, Analytic Geometry and Calculus II
180, Analytic Geometry and Calculus III

- 202**, Introduction to Differential Equations
- 245**, Elementary Linear Algebra
- 250**, Introduction to Modern Mathematics

2) Probability and Statistics

- 132**, Applied Statistics I

3) **Five** courses from at least three of the following blocks.

Analysis and Topology

- 310**, Advanced Calculus I
- 311**, Advanced Calculus II
- 316**, Functions of a Complex Variable
- 380**, Introduction to Topology

Algebra

- 335**, Theory of Numbers
- 340**, Introduction to Abstract Algebra I
- 341**, Introduction to Abstract Algebra II
- 345**, Linear Algebra

Applications

- 303**, Applied Mathematics I
- 306**, Applied Differential Equations
- 320**, Mathematical Statistics I
- 321**, Mathematical Statistics II
- 323**, Numerical Analysis I
- 324**, Numerical Analysis II
- 327**, The Calculus of Variations
- 355**, Discrete Mathematics

Geometry and Logic

- (B.S. in secondary education majors must complete 366 or 367.)
- 358**, Mathematical Logic
 - 362**, Projective Geometry
 - 364**, Introduction to Differential Geometry
 - 366**, Foundations of Geometry
 - 367**, Introduction to Non-Euclidean Geometry

One of the following computer science courses is required:
Computer Science 122, Computers and Programming or
Computer Science 125, Introduction to Computer Science

Bachelor of Science in Applied Mathematics

The following course work is required:

1) Mathematics

- 80**, Analytic Geometry and Calculus I
- 175**, Analytic Geometry and Calculus II
- 180**, Analytic Geometry and Calculus III
- 202**, Introduction to Differential Equations
- 245**, Elementary Linear Algebra
- 250**, Introduction to Modern Mathematics
- 345**, Linear Algebra
- 310**, Advanced Calculus I, or
- 340**, Introduction to Abstract Algebra I

2) Probability and Statistics

- 132**, Applied Statistics I

Mathematics and Computer Science

3) All the courses in option a, b, or c:

a) Classical Applied Mathematics Option

The following courses in mathematics are required:

- 303, Applied Mathematics I
- 316, Functions of a Complex Variable
- 320, Mathematical Statistics I
- 323, Numerical Analysis I

One of the following computer science courses is required:

- CS 122, Computers and Programming, or
- CS 125, Introduction to Computer Science.

Also required are two additional courses in mathematical sciences, numbered above 250, as well as Physics 111, Physics: Mechanics and Heat, and Physics 112, Physics: Electricity, Magnetism, and Optics.

b) Probability and Statistics Option

The following courses in probability and statistics are required:

- 232, Applied Statistics II
- 320, Mathematical Statistics I
- 321, Mathematical Statistics II
- 330, Multivariate Analysis
- 333, Nonparametric Methods in Statistics

Also required are the following computer science courses:

- 125, Introduction to Computer Science
- 225, Data Structures and Problem Solving

Two related courses should be chosen with the approval of the adviser.

c) Computational Mathematics Option

The following courses in mathematics and computer science are required:

- 125, Introduction to Computer Science
- 225, Data Structures and Problem Solving
- 313, Analysis of Algorithms
- 323, Numerical Analysis I
- 324, Numerical Analysis II
- 355, Discrete Mathematics

Also required are three additional courses numbered above 250, one of which must be in computer science, and two in mathematics.

Bachelor of Science in Computer Science

The following course work is required:

1) Mathematics

- 80, Analytic Geometry and Calculus I
- 175, Analytic Geometry and Calculus II
- 180, Analytic Geometry and Calculus III
- 202, Introduction to Differential Equations
- 245, Elementary Linear Algebra
- 250, Introduction to Modern Mathematics

Also required is one of the following:

- 320, Mathematical Statistics I
- 323, Numerical Analysis I
- 355, Discrete Mathematics

2) Computer Science

- 125, Introduction to Computer Science
- 225, Data Structures and Problem Solving
- 240, Computer Hardware and Small Computer Systems I
- 241, Computer Hardware and Small Computer Systems II
- 275, Advanced Programming Techniques in C
- 313, Analysis of Algorithms
- 328, Programming Languages and Compiling Techniques
- 376, Operating Systems

3) Probability and Statistics

- 132, Applied Statistics I

4) Three further courses in mathematical sciences, numbered above 250, at least one of which must be in computer science. Computer Science 272, Programming Languages Laboratory, may be counted as one of these three courses only if three or more hours of credit are obtained in the course.

Related Area Requirements

In order to broaden student understanding of the sources and uses of mathematics, the department requires all candidates for the B.A. in mathematics, B.S. in education, B.S. in applied mathematics, and B.S. in computer science to complete all courses in any two of the groups below with a grade of C- or better.

Restrictions Students are reminded that related area requirements may not be taken on a satisfactory/unsatisfactory basis. Students in either the computer science degree program or the statistics or computational mathematics emphasis areas for the applied mathematics degree program may not choose group 5; students in the classical applied math emphasis area may not choose group 8. Candidates for the B.S. in applied mathematics and the B.S. in computer science who choose group 9 must satisfy group 9 requirements with Physics 221, Mechanics, and Physics 223, Electricity and Magnetism. Students in the computational mathematics emphasis area for the applied mathematics degree are strongly encouraged to choose group 8 as one of their related areas.

Related Area Courses

1) Biology:

- Biology 220, General Ecology
- Biology 222, General Ecology Laboratory

2) Biology:

- Biology 224, Genetics
- Biology 342, Population Biology

3) Chemistry:

- Chemistry 11, Introductory Chemistry I
- Chemistry 12, Introductory Chemistry II

4) Chemistry:

- Chemistry 231, Physical Chemistry I
- and another 200-level, or above, chemistry course.

Mathematics and Computer Science

5) Computer Science

Computer Science 225, Data Structures and Problem Solving, and one of either
240, Computer Hardware and Small Computer Systems I, or
313, Analysis of Algorithms.

6) Economics:

Economics 365, Introduction to Econometrics, and one of either:
Economics 366, Applied Econometrics, or
Economics 367 Econometric and Time Series Forecasting

7) Philosophy:

Philosophy 160, Formal Logic
Philosophy 260, Advanced Formal Logic
Philosophy 280, Philosophy of Science

8) Physics:

Physics 111, Physics: Mechanics and Heat
Physics 112, Physics: Electricity, Magnetism, and Optics

9) Physics:

Physics 221, Mechanics
 and another 200-level, or above, physics course

10) Business Administration:

BA 375, Operations Research and one of the following:
BA 308, Production and Operations Management
BA 329, Business Forecasting
BA 385, Operations Research II
BA 483, Production and Operations Management
 (with consent of the School of Business Administration)
BA 487, Advanced Operations Research Applications
 (with consent of the School of Business Administration)

11) Engineering:

Engineering 144, Statics
Engineering 145, Dynamics

Many students are qualified, as a result of having studied calculus in high school, to begin their major with Math 175, Analytic Geometry and Calculus II, or Math 180, Analytic Geometry and Calculus III. These students are urged to consult with the department before planning their programs. Credit for Mathematics 80, Analytic Geometry and Calculus I, will be granted to those students who complete Mathematics 175 with a grade of C- or better. Similarly, students who are ready to begin their computer science studies with Computer Science 225, Data Structures and Problem Solving, will be granted credit for Computer Science 125, Introduction to Computer Science, once they complete Computer Science 225 with a grade of C- or better.

Students preparing for graduate study should take eight or nine mathematics courses at the junior-senior level. The department recommends the following mathematics courses:

310, Advanced Calculus I
316, Functions of a Complex Variable
340, Introduction to Abstract Algebra I
345, Linear Algebra
380, Introduction to Topology

Minor Requirements

The department offers minors in computer science, mathematics, and statistics. All courses presented for any of these minors must be completed with a grade of C- or better.

Minor in Computer Science

The requirements for the minor are:
125, Introduction to Computer Science
225, Data Structures and Problem Solving
240, Computer Hardware and Small Computer Systems I

Two additional courses in Computer Science numbered above 240. At least one of these must be either Computer Science 241, Computer Hardware and Small Computer Systems II, or Computer Science 313, Analysis of Algorithms. Computer Science 272, Programming Languages Laboratory, may be counted as one of these courses only if three or more hours of credit are obtained in this course. A minimum of two computer science courses numbered above 240 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Minor in Mathematics

The requirements for the minor are:
80, Analytic Geometry and Calculus I
175, Analytic Geometry and Calculus II
180, Analytic Geometry and Calculus III

and one additional three-hour mathematics course numbered above 180. A minimum of two mathematics courses numbered 180 or above must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Minor in Statistics

The requirements for the minor are:
132, Applied Statistics I
232, Applied Statistics II
320, Mathematical Statistics I
321, Mathematical Statistics II

A minimum of two statistics courses numbered above 200 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

Graduate Studies

The Department of Mathematics and Computer Science offers a Master of Arts degree in Mathematics. Candidates for the M.A. degree may choose to concentrate in either **pure** or **applied** mathematics.

Preliminary Advisement

Incoming students are assigned advisers with whom they should consult before each registration period. First-year students will meet with their advisers to determine an appropriate course of study. If necessary, students may be required to complete undergraduate coursework without receiving graduate credit.

Mathematics and Computer Science

Degree Requirements

Master of Arts in Mathematics Candidates for the M.A. degree must complete 33 hours of coursework. The minimum GPA requirement for graduation is 3.0, and each course number below 400 must be completed with a grade of B- or better. The courses taken must include those listed below in either group (a-1) or group (a-2), together with additional courses discussed in (b). Students who have already completed courses equivalent to those in (a-1) or (a-2) may substitute other courses numbered above 300. All substitutions of courses for those listed in (a-1) or (a-2) require the prior approval of the Graduate Director.

a-1) Students intending to specialize in pure mathematics should take:

310, Advanced Calculus
316, Functions of a Complex Variable
340, Introduction to Abstract Algebra I
345, Linear Algebra
380, Introduction to Topology

a-2) Students intending to specialize in applied mathematics should take:

310, Advanced Calculus
316, Functions of a Complex Variable
320, Mathematical Statistics
323, Numerical Analysis I
345, Linear Algebra

b) Master's candidates must also complete eighteen hours of coursework numbered above 400, chosen with the prior approval of the Graduate Director. Courses may be chosen to develop expertise in either pure or applied mathematics.

Thesis Option Part of **b** may consist of a Master's Thesis written under the direction of a faculty member in the department of Mathematics and Computer Science. A thesis is not, however, required for this degree. A student who wishes to write a thesis should enroll in six hours of Mathematics 490, Master's Thesis. Students writing a Master's Thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

Financial Assistance Financial support is available to full-time graduate students in the form of teaching assistantships. For further information, contact the chairperson of the Department of Mathematics and Computer Science.

Ph.D. in Mathematics with an emphasis in Applied Mathematics

Sixty (60) credit hours of graduate course work are required beyond the bachelor's degree. The student must meet all requirements, including residence requirements, of the Graduate School of the University of Missouri-St. Louis.

Required courses in the program

Math 310, Advanced Calculus I
Math 311, Advanced Calculus II
Math 340, Introduction to Abstract Algebra I

Math 345, Linear Algebra

Math 410, Theory of Functions of a Real Variable I

Math 411, Theory of Functions of a Real Variable II

Math 416, Theory of Functions of a Complex Variable

Math 442, Algebra I

Math 480, Topology I

At least 30 hours of the 60 hours must be taken in 400-level courses. The remaining credits may be taken at the 300-level or, with prior consent from the students' advisory committee, at the 200-level (6 hours maximum) in courses from allied departments. At least 31 hours must be taken from the University of Missouri-St. Louis. At most 9 hours of the course Math 499, Ph.D. Research, may be applied toward the 60 hours requirement.

Language Requirements

Significant portions of the current mathematical literature are published in languages other than English and only a small portion of this work is routinely translated into English. The working mathematician, therefore, must have sufficient command of other languages to access important parts of the literature of the subject. Consequently the student, prior to candidacy, must demonstrate satisfactory proficiency in reading mathematical literature in two foreign languages. Students may satisfy this language requirement by passing an examination to the satisfaction of the Department in two of the following languages: French, German, or Russian. Other languages may be substituted if deemed more appropriate to the student's field of study and approved by the Department.

Qualifying Examination

Students will be given a written qualifying examination prior to the accumulation of 45 credit hours to test proficiency in at least three broad areas of mathematics. In addition, candidates will take an oral exam over a predetermined topic outside of the area of intended research.

Dissertation

A dissertation, which will be defended before an examining committee, will be required. Candidates also will be expected to present their findings to the department. A submission of Doctoral Dissertation Proposal form should be filed before the student conducts any substantial research. Prior to this filing, the dissertation committee will meet with the candidate for an oral defense of the proposal. Students will not be allowed to enroll for more than four hours of dissertation credit before the Graduate School has accepted the dissertation topic.

Students, with the approval of their advisory committee and the department, may obtain up to 6 semester hours credit for a supervised internship in one of the technical organizations in the area. Under such an internship the university faculty in conjunction with the technical staff of the cooperating organization will provide a carefully monitored environment in which the student intern can work on projects that have both industrial and academic content.

Mathematics and Computer Science

Career Outlook

Students graduating with a Ph.D. in this program will be prepared to do research in mathematics and to understand and study the scientific literature of mathematics and related areas. They will be properly trained to conduct research at an industrial site, and to contribute to scientific developments which lead to product development. The most important outcome of doctoral-level training is the ability to understand and solve real-life problems. This ability is essential to any high-technology enterprise such as the aerospace industry or communications technology.

Career Outlook

Graduates from the Department of Mathematics and Computer Science have little difficulty in finding positions in industry, government, and education. The demand for individuals well-trained in statistics, in computer science, and in applied mathematics is greater than the available supply. In addition, a number of graduates in mathematics have elected careers in business and other related fields where they have found their logical and analytical skills to be well-rewarded.

Mathematics and Computer Science

Course Descriptions

Courses in this section are grouped as follows: Mathematics; Computer Science; and Probability and Statistics.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the Schedule of Courses. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- shall be required to meet the prerequisite requirement for any course except with permission of the department.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements:
MATHEMATICS: 20, 30, 35, 50*, 80, 100, 102, 103, 105, 151*, 175, 180, 202, 203, 245, 250, 303, 304, 306, 310, 311, 316, 323, 324, 327, 335, 340, 341, 345, 350, 355, 358, 362, 364, 366, 367, 380, 389. **COMPUTER SCIENCE:** 22, 122,* 125, 225, 240, 241, 272, 273, 275, 313, 328, 332, 334, 368, 370, 371, 373, 376, 379. **PROBABILITY AND STATISTICS:** 31, 132, 232, 320, 321, 326, 330, 331, 333, 339.

* Mathematics 50 and 151 fulfill this requirement only for students seeking the B.S. in Education degree in Early Childhood Education, Elementary Education, and Special Education

Mathematics

20 Contemporary Mathematics

Prerequisites: A grade of A or B in high school algebra II, or a grade of C or better in a two or four year college intermediate algebra course, or a satisfactory score on the mathematics placement examination. This course presents methods of problem solving, centering around problems and questions which arise naturally in everyday life. Topics surveyed may include aspects of algebra and geometry, the mathematics of finance, probability and statistics, exponential growth, and other topics chosen from traditional and contemporary mathematics which do not employ the calculus. The course may be taken to meet the mathematical proficiency requirement, but may not be used as a prerequisite for other mathematics courses. It is designed for students who do not plan to take Calculus. Credit will not be granted for Math 20 if credit has been granted for Math 31, 80, 101 or 102. Concurrent enrollment in Math 20 and any of these courses is not permitted. (This course counts toward the [SM] requirement for breadth of study.)

30 College Algebra (3)

Prerequisites: A grade of A or B in high school Algebra II, or a grade of C or better in a two or four year college Intermediate Algebra course, or a satisfactory score on the mathematics placement examination. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, and solutions to systems of equations.

35 Trigonometry (2)

Prerequisite: Math 30 or concurrent registration. A study of the trigonometric and inverse trigonometric functions with emphasis on trigonometric identities and equations.

50 Structure of Mathematical Systems I (3)

Prerequisites: 45 hours of college credit and a satisfactory score on the mathematics placement examination. A study of sets, relations, functions, whole numbers, the integers and their properties, and the rational and real number systems. Credit will be granted only toward the B.S. in Education degree in Early Childhood Education, Elementary Education, and Special Education.

70 Applied Mathematics of Interest (2)

Prerequisites: Math 30. An introduction to the role of interest in applied mathematics. Topics include simple and compound interest, mathematics of annuities, amortization bonds, sinking funds, and mortgages.

80 Analytic Geometry and Calculus I (5)

Prerequisites: Math 30 and 35 or four units of high school mathematics covering the equivalent material and a satisfactory score on the algebra-trigonometry placement examination. Introduction to analytic geometry, differential calculus, and integral calculus. Math 80, 175, and 180 form the calculus sequence.

100 Basic Calculus (3)

Prerequisite: Math 30 or a satisfactory score on the mathematics placement examination. Introduction to plane analytic geometry and basic differential and integral calculus with application to various areas. No credit for Mathematics majors. Credit not granted for both Math 80 and 100.

102 Finite Mathematics I (4)

Prerequisite: Same as for Math 101. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes, Markov chains, vectors and matrices, linear programming, and game theory.

105 Basic Probability and Statistics (3)

Prerequisites: Math 30 or a satisfactory score on the mathematics placement examination. An introduction to probability and statistics. Topics include the concept of probability and its properties, descriptive statistics, discrete and continuous random variables, expected value, distribution functions, the central limit theorem, random sampling and sampling distributions. Credit not granted for more than one of Stat 31, Stat 132 and Math 105.

132 Applied Statistics I

See Statistics 132 in Probability and Statistics section that follows.

151 Structure of Mathematical Systems II (3)

Prerequisite: Math 50. An introduction to probability and statistics. An intuitive study of elementary geometry. Introduction to the deductive theory of geometry and to coordinate geometry. Credit will be granted only toward the B.S. in Education degree in Early Childhood Education, Elementary Education, and Special Education.

Mathematics and Computer Science

175 Analytic Geometry and Calculus II (5)

Prerequisite: Math 80. Selected topics from plane analytic geometry and calculus.

180 Analytic Geometry and Calculus III (5)

Prerequisite: Math 175. Solid analytic geometry and selected topics in calculus.

202 Introduction to Differential Equations (3)

Prerequisite: Math 180. Topics will be chosen from linear differential equations, equations with constant coefficients, Laplace transforms, power series solutions, systems of ordinary differential equations.

203 Finite Mathematics II (3)

Prerequisite: Math 102. A continuation of Math 102. Linear programming and game theory, application of combinatorial mathematics. A student cannot receive credit for both Math 203 and BA 375.

245 Elementary Linear Algebra (3)

Prerequisites: Math 101 or 175. An introduction to linear algebra. Topics will include complex numbers, geometric vectors in two and three dimensions and their linear transformations, the algebra of matrices, determinants, solutions of systems of equations, eigenvalues and eigenvectors.

250 Introduction to Modern Mathematics (3)

Prerequisite: Math 180. A careful introduction to important ideas in modern mathematics. Topics will include set algebra, equivalence relations, partitions, functions, mathematical induction, cardinality, fundamental theorem of arithmetic, Cauchy sequences, and development of elementary algebraic and completeness properties of the real numbers.

303 Applied Mathematics I (3)

Prerequisites: Math 202 and 245. Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

304 Applied Mathematics II (3)

Prerequisite: Math 303. A continuation of Math 303. Topics will include systems of differential equations and applications.

306 Applied Differential Equations (3)

Prerequisite: Math 202. Series solutions to ordinary differential equations, numerical methods, Laplace transforms, differential systems, stability, applications to physics, engineering, and biology.

310 Advanced Calculus I (3)

Prerequisite: Math 250 or consent of the department. Limits, continuity, and differentiability of functions of one and several variables, sequences and series, and the Riemann Stieltjes integral.

311 Advanced Calculus II (3)

Prerequisite: Math 310. Continuation of Math 310.

316 Functions of a Complex Variable (3)

Prerequisite: Math 202 or 250. Complex numbers and their geometrical representation, point sets, analytic functions

of a complex variable, complex integration, Taylor and Laurent series, residue theorem, conformal mapping.

320 Mathematical Statistics I (3)

See Stat 320 in Probability and Statistics section that follows.

321 Mathematical Statistics II (3)

See Statistics 321 in Probability and Statistics section that follows.

323 Numerical Analysis I (3)

Prerequisites: Math 202, 245, and ability to program in an upper-level language such as FORTRAN. Solutions of equations, interpolation and approximation, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers.

324 Numerical Analysis II (3)

Prerequisite: Math 323 or consent of instructor. Topics chosen from: the numerical solution of systems of linear equations; the eigenvalue/eigenvector problem; numerical solution of Partial Differential Equations (PDE); numerical solution of stiff Ordinary Differential Equations (ODE); boundary value problems; sparse matrix methods; approximation theory; optimization theory; digital filters; integral equations.

327 The Calculus of Variations (3)

Prerequisites: Math 202 and 310. Methods for optimizing functionals and their application. The Euler-Lagrange condition. Hamilton's principle, two dimensional variational problems, and isoperimetric problems. Approximate methods for the solution of variational problems.

335 Theory of Numbers (3)

Prerequisite: Math 250 or consent of department. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

340 Introduction to Abstract Algebra I (3)

Prerequisite: Math 250 or consent of the department. Introduction to groups, rings, and fields, with emphasis on groups and rings.

341 Introduction to Abstract Algebra II (3)

Continuation of Math 340 with emphasis on fields.

345 Linear Algebra (3)

Prerequisites: Math 245 and 250. Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, and quadratic forms.

350 Special Readings (1-10)

Prerequisites: Math 250 and consent of instructor.

355 Discrete Mathematics (3)

Prerequisite: Math 250. General counting methods including the use of binomial coefficients, and generating functions, difference equations, graph theory, and properties of trees. Possible additional topics selected

Mathematics and Computer Science

from proof of computer program properties, finite-state machines, grammars, and first-order logic.

358 Mathematical Logic (3)

Prerequisite: Math 250 or Philosophy 260 or consent of the department. A study of the logic of mathematics by the axiomatic method, with a development of the propositional calculus and restricted predicate calculus emphasizing its application to the foundations of mathematics.

362 Projective Geometry (3)

Prerequisites: Math 245 and 250. Analytic approach to the study of projective spaces. Theorems of Desargues, Pascal, and Brianchon. Projective properties of conics.

364 Introduction to Differential Geometry (3)

Prerequisite: Math 250. Geometry of curves and surfaces in Euclidean three-space. Calculus on a surface. Intrinsic geometry of surfaces.

366 Foundations of Geometry (3)

Prerequisite: Math 250 or consent of department. A development of portions of Euclidean geometry from a selected set of axioms, including a discussion of consistency, independence, categoricity, and completeness of the axioms.

367 Introduction to Non-Euclidean Geometry (3)

Prerequisite: Math 250 or consent of the department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry.

380 Introduction to Topology (3)

Prerequisite: Math 250 or consent of the department. A study of topological spaces, including the concepts of limit, continuity, connectedness, compactness, etc. Special emphasis placed on, and examples taken from, the space of real numbers.

389 Topics in Mathematics (3)

Prerequisite: Consent of instructor. A seminar on special topics in mathematics to be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

401 Theory of Ordinary Differential Equations (3)

Prerequisite: Math 310. A theoretical treatment of ordinary differential equations including the existence and uniqueness of solutions of differential equations and systems of differential equations. The course treats such topics as systems of linear differential equations, eigenvalue problems, autonomous systems, and boundary value problems.

402 Applied Mathematics (3)

Prerequisites: Math 310, 316, and 345. Fourier series and integrals, Laplace transforms, boundary value problems, matrices, integral equations, Sturm-Liouville systems.

403 Topics in Applied Mathematics (3)

Prerequisite: Consent of instructor. The course will cover various advanced topics in applied mathematics, and can

be taken more than once for credit. Examples of such topics are: Fast transforms, digital filters, etc.

404 Topics in Computation (3)

Prerequisite: Consent of instructor. The course will cover various advanced topics in computation and can be taken more than once for credit. Examples of such topics are: computer graphics, computer architecture, theories of language, analysis of operating systems, numerical geometry and computer aided design, etc.

410 Theory of Functions of a Real Variable (3)

Prerequisites: Math 310 and 380. The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

411 Differentiable Manifolds (3)

Prerequisites: Math 310, 345, and 380. An introduction to smooth manifolds and maps. Topics will include the Implicit Function Theorem, Sard's Theorem, transversality, intersection and degree theory, differential forms and integration on manifolds.

416 Functions of a Complex Variable (3)

Prerequisites: Math 310, 316, and 380. Complex numbers, topology of the complex plane, analytic functions, conformal mappings, Taylor series, Laurent series, complex integration, residues, analytic continuation, representation of analytic functions, elliptic functions, normal families, Riemann theorem, majorization.

418 Topics in Analysis (3)

Prerequisite: Consent of instructor. Topics selected from the areas of Fourier analysis, harmonic analysis, Hilbert spaces, Banach algebras, special functions, generalized functions, partial differential equations. May be taken more than once for credit with consent of department.

420 Probability Theory (3)

Prerequisite: Math 410 (may be taken concurrently). Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, and branching processes.

423 Topics in Numerical Analysis (3)

Prerequisite: Consent of instructor. The course will cover various advanced topics in numerical analysis and can be taken more than once for credit. Examples of such topics are: A.D.I. Techniques for solving p.d.e., finite element techniques, the algebraic eigenvalue problem, the software, etc.

428 Topics in Probability Theory (3)

Prerequisite: Consent of instructor. The course will cover advanced topics in probability theory and may be taken more than once for credit with the consent of the department.

430 Partial Differential Equations (3)

Prerequisites: Math 310, 316, 345, and 380. Classification of partial differential equations; Cauchy, Dirichlet, and Neumann problems; the fundamental solution; existence

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theorems of potential theory; eigenvalue problems; and Tricomi's problem.

439 Topics in Number Theory (3)

Prerequisite: Consent of instructor. Topics selected from elementary, algebraic, analytic, and other branches of number theory. Examples of topics include the distribution of primes, the Riemann Zeta function, averages of arithmetic functions, the theory of partitions, ideal theory, and representations of integers by quadratic forms.

442 Algebra (3)

Prerequisites: Math 340 and 345. Basic fundamentals of the theory of groups, rings and fields.

444 Lie Groups (3)

Prerequisites: Math 340 and 411. The course provides an introduction to Lie Groups, Lie Algebras, and their representations.

448 Topics in Algebra (3)

Prerequisite: Consent of instructor. Topics selected from the theory of groups, rings, fields, algebras, and other algebraic systems. May be taken more than once for credit with consent of department.

450 Directed Readings (1-6)

Prerequisite: Consent of instructor. Independent readings at an advanced level.

452 Topics in Advanced Mathematics for the Teacher (3)

Prerequisite: Consent of instructor. This course will look at various topics in algebra, analysis, and geometry that will deepen a teacher's understanding of the mathematics of the precollegiate curriculum. It can be taken more than once for credit.

460 Optimization and Variation (3)

Prerequisites: Math 310 and 345. Topics from classical optimization, linear programming, calculus of variations, and other techniques of optimization.

470 Functional Analysis (3)

Prerequisites: Math 345 and 410. Algebraic and topological tools applied to problems in analysis. The topics chosen will usually include topological vector spaces, metric spaces, Banach spaces, Hilbert spaces, and Banach algebras.

488 Topics in Topology (3)

Prerequisite: Consent of instructor. The course will cover topics selected from algebraic or differential topology and may be taken more than once for credit with the consent of the department.

490 Master's Thesis (1-6)

Prerequisite: Consent of instructor. Thesis work under the supervision of a faculty member. The course is designed for those students intending to present a thesis as part of their M.A. program. Students who do not write a thesis cannot apply Math 490 to a degree.

Computer Science

22 Introduction to Computing (3)

Prerequisite: Math 30 or equivalent. Fundamental concepts of computer systems and introduction to the applications of computers. The programming language BASIC. Credit will not be granted for both BA 103 and CS 22.

122 Computers and Programming (3)

Prerequisite: Math 80 or 101, or a grade of at least B in Math 30. An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of the FORTRAN language will be studied including basic data types, subroutines and functions, arrays, and files. Credit not granted for both BA 104 and CS 122.

125 Introduction to Computer Science (3)

Prerequisite: Math 80 or 101, or a grade of at least B in Math 30. An overview of a computer system is presented. Structured design techniques are considered and applied to the development of computer programs. Aspects of a high level language such as Pascal or C will be studied, including elementary and advanced data types and subprograms. Various features of the UNIX operating system will also be discussed.

225 Data Structures and Problem Solving (3)

Prerequisite: CS 125. A continuation of CS 125. Advanced programming techniques including recursion, divide-and-conquer, and backtracking will be considered. A discussion of dynamic data structures such as lists, binary trees, stacks, queues, and symbol tables will be presented. An introduction to modular programming, program specification and verification, and analysis of algorithms will be given.

240 Computer Hardware and Small Computer Systems I (3)

Prerequisite: CS 225. CS 240 and CS 241 present an introduction to the design and operation of small computer systems. This course will emphasize logic circuit design, both combinatorial and sequential. Also, basic assembly language programming will be considered.

241 Computer Hardware and Small Computer Systems II (3)

Prerequisite: CS 240. A continuation of CS 240. This course will emphasize specific architectures and application programming.

272 Programming Languages Laboratory (1-3)

Prerequisites: CS 225 or consent of instructor. Computer programming in a specified language. The credit will vary but will usually be 3 hours. The language taught may be a procedural language, such as Ada, a functional language, such as ML, or a mathematical programming language, such as Mathematica. This course may be repeated for up to six hours credit if a different language is studied each time.

273 The C Programming Language (3)

Prerequisite: CS 225 or the equivalent without C. The C language is introduced together with the associated tools which make up the UNIX C programming environment. The course is project-oriented and a portion of the

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practical work will involve UNIX systems programming. This course is intended for students who have completed the equivalent of CS 125 and CS 225 but without the C language. It may not be taken for credit if the student has taken CS 225 with C.

275 Advanced Programming Techniques in C (3)

Prerequisite: CS 225 with C or CS 273. In-depth exploration of C, including pipes, various system calls, random/direct/interactive file operations, file buffering and low-level access, controlling exceptions, controlling interfaces generic interfacing, and robust IO. Introduction to Object Oriented programming with C++ (or a comparable language). Program development tools for UNIX and DOS/Windows. Creation and use of user/system-specific libraries.

313 Analysis of Algorithms (3)

Prerequisites: Math 132, 245, 250 and CS 225. This course addresses the design and mathematical analysis of fundamental algorithms in computer science and provides an introduction to the theory of NP completeness. Algorithms studied may involve search, sorting, data compression, string manipulation, graph traversal and decomposition, and algebraic and numeric manipulation.

328 Programming Languages and Compiling Techniques (3)

Prerequisites: CS 240, Math 245, and Math 250. Concepts of programming languages will be considered, together with a practical introduction to compilers as defining constraints on the semantic content of such languages. Compiler generator tools, such as lex and yacc, will be presented.

332 Artificial Intelligence (3)

Prerequisites: CS 275, Statistics 132, Math 245 and Math 250. An overview of AI applications will be presented. An AI programming language, such as Prolog or Lisp, will be introduced. Fundamental AI problem solving techniques will be applied to heuristic search and game playing. An introduction to knowledge representation and expert systems will be given. Topics such as theorem proving, neural networks, and natural language processing may also be studied.

334 Topics in Artificial Intelligence (3)

Prerequisite: CS 332 or consent of the instructor. Selected areas of AI will be considered in some depth. Topics may include robotics, computer vision, natural language processing, machine learning, neural networks, and knowledge based systems. The concept of object oriented programming may also be discussed.

368 Computer Graphics (3)

Prerequisites: CS 275 and Math 245. The basic architecture of various types of graphics systems is presented. The course will then present a detailed description of the basic algorithms for 2-dimensional and 3-dimensional graphics systems. Algorithms for shading, hidden line removal, and rendering in the 3-D systems will be examined. The course will involve significant project work.

370 Software Design and Development (3)

Prerequisites: CS 225, Math 245, and 250. Software design techniques including stepwise refinement, segmentation, top-down design, and iterative enhancement. Organization and management of software development teams. Documentation of integrated software projects. Organization, management, and development of a large scale software project by students working in teams.

371 Database Design and Implementation (3)

Prerequisites: CS 225 (with C), or CS 273, Statistics 132, Math 245 and Math 250. The course presents the foundations, concepts, and principles of data base design. Various models of data representation will be considered, including the hierarchical and relational models. The course will also consider some of the implementation issues for data base systems.

373 Computer Networks and Communications (3)

Prerequisite: CS 275 and Statistics 132. Communication systems will be considered in the context of the ISO standard for systems interconnection. Various types of networks will be studied including wide area networks, local area networks, and fiber optic networks.

376 Operating Systems (3)

Prerequisites: CS 275, CS 240, Statistics 132 and Math 245. The structure of a generic operating system will be studied. The various components, including the interface with the underlying hardware, will be considered in detail. UNIX is considered as a case study throughout the course and familiarity with UNIX and C is required. Some practical work, using the UNIX operating system, will be required.

379 Topics in Computer Science (3)

Prerequisite: Consent of instructor. A seminar on social topics in computer science to be determined by recent developments in the field and the interests of the instructor. May be repeated for credit provided different topics are studied.

Probability and Statistics

31 Elementary Statistical Methods (3)

Prerequisite: Math 30. An introduction to the basic tools and elementary methods of statistics, such as testing of hypotheses, analysis of variance, method of least squares, and time series. Does not satisfy the School of Business Administration requirement ordinarily met by BA 131. A student may not receive credit for both Statistics 31 and BA 131.

132 Applied Statistics I (3)

Prerequisite: Math 80 or 101. An introduction to the basic tools and elementary methods of statistics, such as least squares estimation, analysis of variance, regression, and testing of hypotheses. The use of the statistical package, SAS, for operation on statistical data. A student cannot receive credit for more than one of BA 131, Statistics 31, and Statistics 132.

Mathematics and Computer Science

232 Applied Statistics II (3)

Prerequisite: Statistics 31, or 132, or equivalent. Topics to be chosen from: fitting distributions to data, goodness of fit, parametric and non-parametric correlations and partial correlation, and nonparametric statistics. Sampling, design of experiments, categorical data, and regression. Emphasis on practical applications.

320 Mathematical Statistics I (3)

(Same as Math 320.) Prerequisites: Statistics 132 and Math 180. Introduction to theory of probability and statistics using concepts and methods of calculus.

321 Mathematical Statistics II (3)

(Same as Math 321.) Prerequisite: Statistics 320. Continuation of Statistics 320. Continuous sample spaces, stochastic processes, statistical inference, and statistical models.

326 Introduction to Stochastic Processes (3)

Prerequisite: Statistics 320. Markov chains, martingales, stationary distributions of a Markov chain, recurrent states, branching, birth and death, queuing chains, jump processes, second order processes, continuity and differentiation of second order processes, white noise, and stochastic differential equations.

330 Multivariate Analysis (3)

Prerequisites: Math 245 and Statistics 320, or consent of instructor. Multivariate normal distribution and related distributions such as the Wishart distribution. Statistical inference for the multivariate normal distribution. Multiple regression, canonical correlations, multivariate analysis of variance, classification problems, and discriminant analysis.

331 Analysis of Variance and Design of Experiments (3)

Prerequisites: A year of calculus, some matrix theory, and an intermediate course in statistics. Theory of general linear hypotheses, important special cases of analysis of variance, theory of least square estimation, interval estimation. One-way, two-way, and higher-way layouts, completely randomized design, randomized complete blocks. Latin square design, factorial, incomplete block and fractional replications, lattice design, optimum design.

333 Nonparametric Methods in Statistics (3)

Prerequisite: Statistics 320 or consent of instructor. Emphasis on statistical tests which are distribution-free; one-sample and two-sample location and detection of shifts, point estimators, and confidence intervals; relative dispersion, K-sample tests, detection of independence, and regression.

339 Topics in Probability and Statistics (3)

Prerequisite: Consent of instructor. A seminar on special topics in probability and statistics to be determined by the interests of the instructor. May be determined by the interests of the instructor. May be repeated for credit provided different topics are studied.

Music

Faculty

John Hylton, Professor*; Chairperson
D.Ed., Penn State University

Kenneth E. Miller, Professor Emeritus
Ph.D., Northwestern University

Evelyn Mitchell, Professor Emerita

Arnold Perris, Professor Emeritus
Ph.D., Northwestern University

James Richards, Professor*
Ph.D., University of Rochester, Eastman School of Music

Diane Toulaitos, Professor*
Ph.D., Ohio State University

Fred Willman, Professor*
Ph.D., University of North Dakota

Mark Madsen, Associate Professor*
D.M.A., University of Arizona

Robert J. Ray, Associate Professor*
B.M., Northwestern University

Douglas Turpin, Associate Professor*
D.Ed., Washington University
(Director, Whitaker Music Education Collaborative)

Sally Herman, Assistant Professor*
M.A., Webster University

Leonard Ott, Assistant Professor*
Ph.D., Michigan State University

William Richardson, Assistant Professor*
M.M., Ohio State University

Marvin Sparks, Assistant Professor*
M.M., Eastern Illinois University

W. Claude Baker, Composer in Residence
Ph.D., University of Rochester, Eastman School of Music

David Bruenger, Adjunct Assistant Professor
D.M.A., University of North Texas
(Director, Premiere Performance Concert Series)

Darwyn Apple, Lecturer (Violin)**
M.M.

Sandra Bouman, Lecturer (Voice)
M.F.A.

Katherine Brown, Lecturer (Voice)
M.M.

Robert Ceccarini, Lecturer (Trumpet)
Ph.D.

Jeffrey Collins, Lecturer (Saxophone)
M.M.

Kathryn Haggans, Adjunct Assistant Professor (Voice)
Ph.D.

Suzanne Harlamert, Lecturer (Cello)
M.M.

Maria Honigschnabel, Specialist (Piano)
M.M.

Amanda Kirkpatrick, Specialist (Piano)
M.M.

Carol Koch, Lecturer (Music Ed./Piano)
B.M.E.

Robert Lauver, Lecturer (French Horn)**
B.M.

Alvin McCall, Lecturer (Cello)**
D.M.A.

Inga Magid, Lecturer (Non-Western)
M.A.

James Meyer, Lecturer (Clarinet)**
M.A.

Jane Alien, Lecturer (Piano)

Alan Rosenkoetter, Lecturer (Guitar)
B.S.

Nancy Rubenstein, Adjunct Assistant Professor (Musicology)
Ph.D.

Christine Sasse, Lecturer (Violin)
M.M.

Janice Smith, Lecturer (Flute)**
B.M.E.

Sue Stubbs, Lecturer (Double Bass)
M.M.

Takaoki Sugitani, Lecturer (Violin)**

Sharon Tash, Specialist (Piano)
B.A.

Robert Tobler, Lecturer (Trombone)
M.A.

Tina Ward, Lecturer (Clarinet)**
M.A.

Catherine Warner, Lecturer (Flute)
M.M.E.

Carolyn White-Buckley, Lecturer (String Bass)**
B.M.

*members of Graduate Faculty

**member, Saint Louis Symphony Orchestra

Music faculty members have received recognition for distinguished achievements in conducting, composition, and performance. The faculty is also recognized for research in musicology and music education. Part-time applied music lecturers are all professional musicians.

General Information

Degrees and Areas of Concentration

The Department of Music offers programs of study leading to the B.M. degree in music education (and state teaching certification in grades K-12); the B.M. degree with an emphasis in performance; the B.M. degree with elective studies in business; and the B.A. degree in music.

Instruction in piano, organ, voice, and all band and orchestral instruments is given by full-time faculty and part-time professional musicians, many of whom are members of the Saint Louis Symphony Orchestra. Faculty recitals are regularly scheduled.

Music Minors Three minors in music are available: a minor in music; a minor in music education (choral/vocal, Grades K-9); and a minor in Jazz studies.

Facilities All of the department's facilities, classrooms, rehearsal rooms, studios, practice rooms, and listening labs are located in the Music Building.

Ensembles Thirteen performing ensembles are open to all by audition with credit optional:

40, University Chorus

41, The University Singers

50, University Orchestra

52, University Band

53, University Wind Ensemble

Music

- 54, Chamber Ensemble: a, brass; b, jazz combo;
c, percussion; d, strings; e, voice; f, woodwinds
55, Jazz Ensemble
56, Opera Workshop

Each year about 40 recitals and concerts are presented.

Undergraduate Studies

General Education Requirements

General education requirements apply to all majors, except students in the B.M. with elective studies in business and B.M. in music education degree programs who are not required to take a foreign language. Courses required for degree programs may not be taken on a satisfactory/unsatisfactory basis.

Students may complete any number of hours of applied music (private lesson) toward a degree. Non-music majors may complete no more than eight hours in music-performing organizations (Music 40, University Chorus; 41, University Singers; 50, University Orchestra; 52, University Band, et. seq.) toward graduation, including credit transferred. Courses in applied music (private lessons and performing organizations) do not fulfill the humanities general education requirement. Department courses which meet the non-Euro-American study requirement are Music 9, Non-Western Music, and Music 10, Non-Western Music II.

Degree Requirements

Admission to all music degree programs is by audition and interview to demonstrate musical aptitude and potential, moderate technical proficiency, and seriousness in selecting music as a four-year course of study. (In addition to the Applied Music audition, placement examinations in Music Theory and Music History must be taken to confirm students' prior experience in these areas.)

Auditions are scheduled from January to May for the Fall Semester; a limited number are held in December for the Winter Semester. All students in Applied Music must pass an examination to confirm their level of performance skills before faculty approval for enrollment in Music 244 is granted. This examination usually will be taken in lieu of the Applied Music jury for Music 145.

Evidence of sound musicianship, a close acquaintance with an appropriate portion of musical literature, and the ability to bring it to actual performance are required for graduation in all music degree programs. Students in the Bachelor of Music-Performance Emphasis fulfill this requirement with junior and senior recitals. Those in all other degree programs must satisfy the requirement by participating in three regularly scheduled student recitals during the last two semesters of applied music study, or by performing for a special jury of faculty members. The faculty may invite students who are not in the Bachelor of Music-Performance Emphasis program to give public senior recitals with the recommendation of the applied music instructor.

Music majors are required to participate in an approved ensemble (Symphonic Band, University Singers, University Chorus, or Orchestra) and to study one applied area progressively each semester, and to attend pedagogy and Literature seminars each semester of the degree program. (Music education majors are exempt from these requirements during the student teaching semester.) The following specific ensemble enrollments, depending upon the applied music area, are required:

Wind and percussion students—Symphonic Band; String students—University Orchestra; Voice students—University Singers; Keyboard and guitar students—any approved ensemble, but those in the Bachelor of Music in Music Education program must enroll in an ensemble compatible with the teaching certification they are pursuing. Instrumental students may be required to participate in additional ensembles to enhance their musical development.

Majors are required to appear in performance at the department's discretion and to attend a prescribed number of departmental recitals. Non-keyboard players are required to pass an exam in piano proficiency: Music 118, Intermediate Piano Proficiency, or equivalent for instrumentalists, or Music 120, Intermediate Piano Proficiency, or equivalent for vocalists.

In addition to fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the Bachelor of Arts in Music and Bachelor of Music degrees from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. The music department may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Core Curriculum

The following core courses are required for all music majors:

Music Theory

- 30A, Theory of Music I
- 30B, Aural Training I
- 31A, Theory of Music II
- 31B, Aural Training II
- 130A, Theory of Music III
- 130B, Aural Training III
- 131A, Theory of Music IV
- 131B, Aural Training IV
- 141, Orchestration

Piano Proficiency

- 14, Piano Proficiency
- 15, Piano Proficiency

Music

116, Piano Proficiency
118, Piano Proficiency

Music History and Literature

101, History of Western Music I
102, History of Western Music II
and at least one 300-level course.

Applied Music

44Z-347Z, Seminar in Pedagogy and Literature

In addition to the core curriculum, students must fulfill the requirements for the specific degree program or emphasis area as listed below:

Bachelor of Arts in Music

In addition to the required Core Curriculum, candidates must complete the following:

151, Conducting I
192, Senior Research
09, Non-Western Music I, or 10, Non-Western Music II

Applied Area 8 credit hours of private lessons

Ensemble Four hours maximum credit

Bachelor of Music in Music Education

In addition to the required Core Curriculum, candidates must complete the following:

Applied Area 7 credit hours of private lessons

Practicum

151, Conducting I
152, Conducting II
161, Elementary School Materials-Conducting Laboratory
162, Junior-Senior High School Materials Laboratory

Instrumental Certification 10 credit hours

25A, 26A, 27B, and 28B, Instrumental Techniques
123, Intermediate Vocal Techniques, or 44T, Applied Music Voice
124, Intermediate Vocal Techniques, or 45T, Applied Music-Voice

Vocal Certification

125, Singer's Diction: Italian and German
126, Singer's Diction: French, Latin and English
25A, 26A, 27B, or 28B, Instrumental Techniques
(2 credit hours required)
119, Intermediate Piano Proficiency
120, Intermediate Piano Proficiency
142, Choral Arranging

For students whose applied area is not Voice, the following courses are also required:

123, Intermediate Vocal Techniques
124, Intermediate Vocal Techniques
Ensemble Four hours maximum credit

Curriculum and Methods of Teaching

The following courses are required:

257, Curriculum and Methods of Teaching Elementary School Music
267, Philosophic and Practical Foundations of the Secondary Music Education Curriculum

Proficiency Exam Students working toward certification in choral/vocal or instrumental music K-12 or K-9 are required to pass a proficiency examination before admission to student teaching in music, usually before or during the sixth semester of their program.

Professional Education and Student Teaching

The following education courses are required:

ED FND 111, The School in Contemporary Society
ED PSY 312, The Psychology of Teaching and Learning
ELE ED 210, Elementary School Organization, Management, and Techniques of Teaching
SEC ED 213, Techniques of Secondary School Teaching
SEC ED 293, Student Teaching in Music Education, K-6
SEC ED 294, Student Teaching in Music Education, 7-12
SEC ED 313, The Psychology and Education of Exceptional Individuals

Bachelor of Music with an Emphasis in Performance

In addition to the required Core Curriculum, candidates must complete the following:

311, Analysis of Twentieth-Century Techniques
312, Tonal Counterpoint
151, Conducting I
152, Conducting II
192, Senior Research
119, Intermediate Piano Proficiency (voice majors only)
120, Intermediate Piano Proficiency (voice majors only)
09, Non-Western Music I, or 10, Non-Western Music II

Music History and Literature

An additional 300-level course is required.

Applied Area

12 credit hours of private lessons (junior and senior recitals required).

Ensemble Participation required as follows:

Large Group Four hours maximum credit
Chamber Ensemble/Accompanying Six hours
156, Piano Pedagogy (keyboard students only)

Foreign Language Candidates pursuing this emphasis area with an applied area in voice must complete two semesters of one foreign language selected from French, German, or Italian 1 and Italian 2.

Music

Bachelor of Music with Elective Studies in Business

In addition to the required Core Curriculum, candidates must complete the following:

Applied Area Eight hours of private lessons

Music History and Literature: An additional 300-level course is required.

09, Non-Western Music I, or
10, Non-Western Music II

Practicum

151, Conducting I

Ensemble Four hours maximum credit

Internship

292, Internship (replaces Music 192 in Core Curriculum)

English One of the following English courses is required:

210, Advanced Expository Writing
212, Business Writing
213, Technical Writing

Business Administration The following courses in business administration are required:

140, Fundamentals of Financial Accounting
145, Managerial Accounting
206, Basic Marketing
210, Management as a Behavioral Science I

Two courses selected from the following list must also be taken:

103, Introduction to Business Data Processing
156, Legal Environment of Business
204, Financial Management
256, Business Law
270, Management of Promotion
301, Buyer Behavior
309, Personnel Management
311, Management as a Behavioral Science II
312, Industrial and Labor Relations
347, Income Taxes

Note: The following courses fulfill general education requirements and are prerequisites to the required business administration courses:

Psych 3, General Psychology, or **Sociology 10**, Introduction to Sociology
Economics 51, Principles of Microeconomics

Curricula for Minors

Minor in Music

Candidates must complete the following courses (24 hours):

Music Theory

30A, Theory of Music I
31A, Theory of Music II

30B, Aural Training I
31B, Aural Training II

Music History and Literature

101, History of Western Music I
102, History of Western Music II

Applied Area Four credit hours of private lessons

Ensemble Two credit hours (four hours maximum credit)

Six additional credit hours to be chosen from courses such as the following:

130A, Theory of Music III
130B, Aural Training III
131A, Theory of Music IV
131B, Aural Training IV
141, Orchestration
116, Intermediate Piano Proficiency (Prerequisite: Music 15)
118, Intermediate Piano Proficiency

Any 300-level **Music History and Literature** course

Applied Music courses in sequence

Any **Ensemble** course

Music education methods courses and instrumental techniques courses may not be taken to complete this minor.

Non-keyboard players are required to pass an exam of piano proficiency (Music 15 or equivalent).

A GPA of 2.5 for all music hours is required to complete this minor.

Minor in Music Education (Choral/Vocal, Grades K-9)

The minor in music education is designed to provide a second classification area for students enrolled in other education programs that lead to initial teaching certification.

Candidates must complete the following courses (41 hours):

Music Theory

30A, Theory of Music I
31A, Theory of Music II
30B, Aural Training I
31B, Aural Training II

Music History and Literature

101, History of Western Music I
102, History of Western Music II

Music Education

*257, Curriculum and Methods of Teaching Elementary School Music
*267, Philosophic and Practical Foundations of the Secondary Music Education Curriculum
*269, Curriculum and Methods of Teaching Middle School/Junior High School General Music

Practicum

151, Conducting I

Music

161, Elementary School Materials: Conducting Laboratory
162, Junior-Senior High School Materials Laboratory

Ensemble

14/15, Piano Proficiency
40/41, Chorus or University Singers
116/118, Intermediate Piano Proficiency

Applied Music, Voice (at least two hours must be private rather than class voice)

- * Elementary education majors will omit Music 177 from their regular elementary program to take these courses. Also required, as applicable, is SEC ED 393, Student Teaching.

The student must receive at least a C in each music course and maintain a 2.5 GPA in all music courses (Chorus/Singers is not included in the GPA).

Minor in Jazz Studies Candidates must complete **29 credit hours** from the following:

Music Theory

30A, Theory of Music I
31A, Theory of Music II
32, Theory of Jazz
30B, Aural Training I
31B, Aural Training II

Music History and Literature

7, Introduction to Jazz
102, History of Western Music II
Applied Area Four credit hours of private lessons

Jazz Improvisation

20, Jazz Improvisation Laboratory (two credit hours/Music 20 repeated)

Piano Proficiency

14/15, Piano Proficiency
116, Intermediate Piano Proficiency
117, Jazz Keyboard Harmony

Ensemble Two credit hours minimum, to be selected from:

54b, Jazz Combo
54e, Voice
55, Jazz Ensemble

Career Outlook (Undergraduate)

A music degree builds the foundation for a career in professional performance, for teaching in a school or private studio or for serving as a church music director. A music degree may also prepare one for positions in the music industry (recording, publishing, radio programming, manufacturing, or music retail). A trained artistic mind can also be valuable in the fields of advertising, public relations, and consumer services.

A number of UM-St. Louis music graduates have been readily accepted into outstanding graduate programs, including our own. Many are pursuing successful careers

in music education, business and industry, or as professional performers.

Graduate Study

Master of Music Education

The Master of Music Education degree is designed to enable music specialists in grades K-12 to pursue continued professional growth in an emphasis area of their choice: Choral, General Music, Instrumental, or Music Technology.

Admission Requirements

Admission to the MME program will require written examinations in music education, music theory, sight singing/ear training and music history for advising purposes. Auditions in performance will complete the admission examinations. The submission of a video tape of the candidate teaching a primary, middle school, or secondary school class is also recommended for advising purposes.

Before the admission exams are taken, candidates for the program must have completed a Bachelor of Music in Music Education degree (or equivalent).

Total Number of Credits required for graduation: 32
Credit hours which must be earned in residence: 22

Required Courses and Options:

Each candidate will choose one of the following emphasis areas:

Choral Music Education
Instrumental Music Education
General Music Education
Music Education and Technology

The minimum 32 hour program includes the following requirements.

Major Area (9 credit hours)

481 Foundations of Music Education (3)
491 Music Education Research (3)
499 Master's Project in Music Education (3)

Advanced Methods (3 credits from the following)

451 Advanced Instrumental Methods (3)
461 Advanced Choral Methods (3)
471 General Music: A Model for Multi-Faceted Musical Learning (3)

Other Studies in Music (2 credit hours)

*201 Music Theory Review (NC)
*202 Music History Review (NC)
*203 Ear-Training/Sight Singing Review (NC)
444 Applied Music (1)
445 Applied Music (1)
* required if deficient

Music

Choose three of the following (9 credit hours)

- 401 Studies in Style and Performance (3)
- 402 Choral Literature (3)
- 403 Band Literature (3)
- 404 Orchestra Literature (3)
- 411 Scoring and Arranging (3)
- 421 Advanced Conducting (3)
- 475 Micro-Computer Applications in Music (3)
- 492 Psychology of Music (3)

Cognate in Education

Choose one curriculum course (3 credit hours)

- Sec Ed 415 The Secondary School Curriculum (3)
- Ele Ed 422 Curriculum Construction in Elem Schools (3)

Choose one other education course:

- Ed Rem 320 Classroom Testing and Measurement (3)
- Ed Fnd 421 Philosophy of Education (3)
- Sec Ed 425 Secondary School Supervision (3)
- Ele Ed 425 Elementary School Supervision (3)
- Ed Rem 330 Educational Statistics (3)
- Ed Rem 431 Educational Research Methods (3)

Electives

Choose one elective course (3 credit hours)

- 301 Marching Band Techniques (3)
- 475 Micro Computer Applications in Music (3)
- 476 Micro Computer-Assisted Instruction: Curriculum Development in Music (3)
- 477 Advanced Micro Computer Applications in Music (3)
- 401 Studies in Style and Performance (3)
- 402 Choral Literature (3)
- 403 Band Literature (3)
- 404 Orchestra Literature (3)
- 407 Techniques and Literature for the Jazz Ensemble (3)
- 411 Scoring and Arranging (3)
- 412 Advanced Composition Techniques (3)
- 413 Teaching Music Theory in the High School (3)
- 421 Advanced Conducting (3)
- 431 Advanced Chamber Ensemble (0)
- 446 Applied Music (1)
- 447 Applied Music (1)
- 451 Advanced Instrumental Methods (3)
- 452 Instrumental Music Administration (3)
- 461 Advanced Choral Methods (3)
- 462 Guitar in the Classroom (3)
- 465 Music Theater in the School (3)
- 471 General Music: A Model for Multi-Faceted Musical Learning (3)
- 472 Electronic Music Techniques for Teachers (3)
- 473 Individualizing Music Instruction (3)
- 474 Techniques of Group Keyboard Instruction (3)
- 482 School Music Administration and Supervision (3)
- 483 Contemporary Music Education (3)
- 484 Problems of Urban Music Education (3)
- 492 Psychology of Music (3)
- 495 Special Problems in Music Education (3)
- Ed Tec 340 Selection and Utilization Education Media (3)
- Ech Ed 412 Foundations of Early Childhood (3)
- Spc Ed 412 Psychology of Exceptional Children (3)

Sec Ed 414 Teaching the Gifted/Talented in the Secondary School (3)

Sec Ed 418 The Junior High/Middle School (3)

Sec Ed 427 Supervision of Clinical Experiences in Teacher Education (3)

Sec Ed 429 The Department Head (3)

Ed Rem 431 Educational Research Methods (3)

Career Outlook (Graduate)

Many graduate students in music education will already hold full-time music teaching positions. A graduate degree in music education allows for continued professional growth. Music specialists may refine their teaching expertise, add to their understanding and knowledge about music and educational processes, become more specialized in a specific emphasis area of music education (choral, instrumental, general music or music technology) or any combination of these professional growth areas.

Graduate level work in music education is often required to renew a teacher's certificate or to satisfy professional growth requirements specified by an employing school or school district or to advance to new positions within the field of music education.

Music

Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements: 1, 2, 6, 7, 9, 10, 19, 30A, 31A, 32, 101, 102, 103, 105, 108, 130A, 131A, 177, 192, 300, 321, 322, 323, 324, 325, 326, 327, 375, 400.

Applied Music

43A-T Secondary Applied Music (1)

Prerequisites: By audition and consent of department. Individual instruction in performance and literature of the designated instrument. May be repeated for credit. Not applicable to the applied music requirement for music major or music minor degrees.

44, 45, 144, 145, 244, 245, 344, 345, 346, 347

Applied Music (1-2)

Registration by audition and consent of department. Each Applied Music course is a prerequisite for the subsequent course in the sequence. Courses are offered in the following areas: a, bassoon; b, clarinet; c, classical guitar; d, euphonium; e, flute; f, French horn; g, harp; h, oboe; i, organ; j, percussion; k, piano; l, saxophone; m, trombone; n, trumpet; o, tuba; p, violin; q, viola; r, violoncello; s, string bass; t, voice. Applied Music registration requires concurrent large ensemble registration, and includes weekly Pedagogy and Literature seminars.

44Z, 45Z, 144Z, 145Z, 244Z, 245Z, 344Z, 345Z, 346Z, 347Z

Seminar in Pedagogy and Literature (0)

Prerequisites: Concurrent registration with each Applied Music course is required. Seminars are offered in the pedagogy and literature for all areas of Applied Music. May be taken on a satisfactory/unsatisfactory grading basis (S/U).

444 Applied Music I (1)

Prerequisite: 300-level applied music or consent of the department. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

445 Applied Music II (1)

Prerequisite: Music 444. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

446 Applied Music III (1)

Prerequisite: Music 445. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

447 Applied Music IV (1)

Prerequisite: Music 446. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

Ensemble Performance

40 University Chorus (1)

Prerequisite: Consent of instructor. Preparation and performance of choral literature.

41 The University Singers (1)

Prerequisite: Consent of instructor. The study and performance of music for vocal chamber ensemble.

50 University Orchestra (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of orchestral repertory.

52 University Band (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of music for the wind ensemble and band.

53 University Wind Ensemble (1)

Prerequisite: Consent of instructor. The study, preparation, and performance of music for wind ensemble and chamber band.

54 Chamber Ensemble (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of music for small ensembles: a, brass; b, jazz combo; c, percussion; d, strings; e, voice; f, woodwinds; g, accompanying.

55 Jazz Ensemble (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of jazz music for big band.

56 Opera Workshop (1)

Prerequisite: Consent of instructor. Instruction in movement, basic stage techniques, technical theater, repertory and performance techniques and preparation. May be repeated for credit.

60 Collegium Musicum (1)

Prerequisite: Consent of instructor. Performance of music for chamber ensemble with particular emphasis on the Renaissance and Baroque periods.

356 Advanced Opera Workshop (1)

Prerequisite: Consent of instructor. Instruction in movement, stage technique, technical theater, repertory, and performance based on advanced vocal skills. May be repeated for credit.

431 Advanced Chamber Ensemble (0)

Prerequisite: Graduate standing in music. Study and performance of traditional and nontraditional chamber literature.

449 Graduate Ensemble (1)

Prerequisite: Graduate standing in music or consent of department. Study, preparation, and performance of ensemble literature from the choral, orchestral, or band/wind ensemble repertory. May be repeated for a total of four hours of credit.

Music Education

177 An Introduction to Music for the Elementary School Teacher (3)

An introduction to the elements of music and the expressive nature of music. Includes application of fundamentals to appropriate literature and activities for use with children in

Music

a classroom setting. This course will not apply toward requirements for a music major.

257 Curriculum and Methods of Teaching Elementary School Music (3)

(Same as Ele Ed 277.) Prerequisites: Music 131 and Ed Fnd 111. For the music education major. A study of the elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources. This course must be completed in residence.

267 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)

(Same as Sec Ed 275.) Prerequisites: Music 131, Music 257/Ele Ed 277, and Ed Fnd 111. Concurrent registration in Music 268/Sed Ed 276 and Music 270/Sed Ed 278 or Music 271/Sec Ed 279. For the music education major. A study of the secondary school music program: curricular objectives, philosophy, and general administrative procedures common to all secondary music classes. This course must be completed in residence.

268 Curriculum and Methods of Teaching Instrumental Music I (2)

(Same as Sec Ed 276.) Prerequisites: Music 131, 145, 151, 161, Ed Fnd 111, two of the following: Music 25, 26, 27, 28. Concurrent registration in Music 257/Ele Ed 277. A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music education program. Topics include student recruitment the elementary band/orchestra, small group instruction, jazz ensemble, and marching band. This course must be completed in residence.

269 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)

(Same as Sec Ed 277.) Prerequisites: Music 131, Music 257/Ele Ed 277, and Ed Fnd 111. Concurrent registration in Music 267/Sec Ed 275 and Music 271/Sec Ed 279. For the music education major. A study of the middle school/junior high school general music program emphasizing a conceptually based curriculum: objectives, methodologies, materials, innovations, classroom organization, and management. This course must be completed in residence.

270 Curriculum and Methods of Teaching Instrumental Music II (2)

(Same as Sec Ed 278.) Prerequisites: Music 131, Music 152a, Music 162, Music 257/ELE Ed 277, Music 268/Sec Ed 276, Ed FND 111, three of the following: Music 25, Music 26, Music 27, Music 28. Concurrent registration in Music 267/Sec Ed 275. A continuation of Music 268/Sec Ed 276. Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation. This course must be completed in residence.

271 Curriculum and Methods of Teaching Secondary Choral Music (2)

(Same as Sec Ed 279.) Prerequisites: Music 131, Music 257/ELE Ed 277, and Ed FND 111. Concurrent registration in Music 267/Sec Ed 275 and Music 269/Sec Ed 277. For the music education major. A study of the secondary school

choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes. This course must be completed in residence.

300 Advanced Techniques in Music Education (1-2)

Prerequisite: A 200-level music education course or permission of the department. Intensive study for advanced music education students and music teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit.

301 Marching Band Techniques (3)

Prerequisite: Junior Standing. Techniques for organizing and training school marching bands. Content will include planning and charting shows, rehearsal problems, corps and traditional styles, and auxiliary units.

306 Advanced Workshop in Music Education (1-5)

Prerequisite: Junior Standing and consent of the instructor. An intensive variable-topic workshop in Music Education presenting knowledge and skills to supplement specific areas in existing courses.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

406 Graduate Workshop in Music Education (1-5)

Prerequisite: Graduate standing and consent of instructor. Intensive workshop in Music Education. Variable topics. To gain skills and knowledge in specific areas not readily available in existing courses.

407 Techniques and Literature for the Jazz Ensemble (3)

Prerequisite: Graduate standing in music. An examination of jazz music education. Includes methods, materials, improvisational techniques, and administration.

413 Teaching Music Theory in the High School (3)

Prerequisite: Graduate standing in music. A study of the course content and pedagogical techniques for high school music theory courses.

451 Advanced Instrumental Methods (3)

Prerequisite: Graduate standing in music. Development of objectives for instrumental programs and methods of achieving those objectives. Comprehensive musicianship through instrumental performance, analysis of instrumental literature, instrumental philosophies and methodologies, rehearsal organization, and recent research in instrumental music education will be discussed.

452 Instrumental Music Administration (3)

Prerequisite: Graduate standing in music. Study of the organizational problems of the instrumental program; library management; budgeting; awards and incentive systems; selection, care, and handling of uniforms and equipment; instrumental balance; seating plans; and operation of festivals and contests.

Music

461 Advanced Choral Methods (3)

Prerequisite: Graduate standing in music. Development of objectives for choral programs and methods of achieving those objectives. Comprehensive musicianship through choral performance, analysis of choral literature, the changing voice, choral philosophies and methodologies, rehearsal organization, and recent research in choral music education will be discussed.

462 Guitar in the Classroom (3)

Prerequisite: Graduate standing in music. A study of guitar instruction in grades 5-12 with a focus on curricular sequence that includes chords, strums and picking patterns essential for song accompaniment skill development. Current materials, suitable for upper elementary and secondary students will be explored.

465 Music Theater in the School (3)

Prerequisite: Graduate standing in music. Techniques appropriate for school musical productions. Aspects of production and planning, including makeup, staging, lighting, and costuming.

471 General Music: A Model for Multifaceted Musical Learning (3)

Prerequisite: Graduate standing in music. An exploration of the general music class as a learning laboratory model designed to actively engage the learner in a series of comprehensive music learning experiences. Emphasizes techniques and materials that will motivate the "nonperformance-oriented" student.

472 Electronic Music Techniques for Teachers (3)

Prerequisite: Graduate standing in music. Basic electronic music instruments, their operation and use as teaching tools. Materials and techniques suitable for use with students in both elementary and secondary school settings will be presented.

473 Individualizing Music Instruction (3)

Prerequisite: Graduate standing in music. The development of learning strategies, materials, and evaluation techniques suitable for better accommodating the varying interests, abilities, and learning styles of individual students in music classes.

475 Microcomputer Applications in Music Education (3)

(Same as ED 475.) Prerequisites: Graduate Standing in Music. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

476 Microcomputer-Assisted Instruction Curriculum Development in Music (3)

(Same as ED 476.) Prerequisites: Graduate Standing in Music. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major

CAI program for use in an elementary, secondary or postsecondary setting is required.

477 Advanced Microcomputer Applications in Music (3)

(Same as ED 477.) Prerequisite: Graduate Standing in Music. The study of complex microcomputer applications including music synthesis, MIDI, music-oriented graphics, voice and pitch recognition, administrative applications and computer-assisted instruction.

481 Foundations of Music Education (3)

Prerequisite: Graduate standing in music. A study of the historical, philosophical, and psychological foundations of music education. Includes principles necessary for development, implementation, and evaluation of the total school music program.

482 School Music Administration and Supervision (3)

Prerequisite: Graduate standing in music. Theory and practice of administration and supervision of school music programs.

483 Contemporary Music Education (3)

Prerequisite: Graduate standing in music. A study of recent trends and issues in music education.

484 Problems of Urban Music Education (3)

Prerequisite: Graduate standing in music. An analysis of current practices, problems, trends, and research involved in developing strategies for the improvement of music programs in inner-city schools.

491 Music Education Research (3)

Prerequisite: Graduate standing in music. Applications of various approaches in defining and analyzing research problems in music education. Historical, experimental, descriptive, and philosophical research will be included.

492 Psychology of Music (3)

Prerequisite: Graduate standing in music. A study of the effects of music on behavior. Tuning and temperament, psychoacoustics, measurement of musical behavior, aesthetic response to music, and functional music.

495 Special Problems in Music Education (1-3)

Prerequisite: Graduate standing in music. Selected problems to meet the needs of the individual student.

499 Master's Project in Music Education (3)

Prerequisite: Graduate standing in music. A project utilizing historical, experimental, philosophical, descriptive, or analytical research techniques. The project will include a written report.

Music History and Literature

1 Introduction to Music (3)

An historically-oriented study of art music, its styles, and forms from the Baroque period to the present day. This course will not apply toward requirements for a music major.

Music

2 Introduction to Symphonic Music (3)

Orchestral music from the Baroque period to the present time; concerto grosso and suite; program music; the symphony. This course will not apply toward requirements for a music major. This course is also offered for independent study through the UM-St. Louis Video Program.

6 Introduction to African-American Music (3)

A survey of the African-American musical heritage from its African origins through its role and development in twentieth-century American society. All genres will be discussed, including African-American composers who wrote in the European tradition. This course will not apply toward requirements for a music major or minor.

7 Introduction to Jazz (3)

A survey course which examines the musical, historical, and social aspects of the subject. This course will not count toward requirements for a music major.

9 Non-Western Music I (3)

The music of Oceania; folk and classical music and dance of East Asia, Tibet and Southeast Asia; the influence of Buddhism, Islam, and Western acculturation on the functions of music in these societies. This course fulfills the Cultural Diversity requirement.

10 Non-Western Music II (3)

Music of the African continent, West Asia, and South Asia; a survey of the tribal, folk, and classical music and performing arts of these cultures. This course fulfills the Cultural Diversity requirement.

101 History of Western Music I (3)

Prerequisite: Music 30 or consent of department. A general survey of the history of Western music. Includes the evolution and development of styles, forms, and their social setting.

102 History of Western Music II (3)

Prerequisite: Music 30 or consent of department. A continuation of Music 101.

103 Music in Religion (3)

Prerequisite: Sophomore standing or departmental consent. A survey of the role of music in the religious traditions of the East and West from earliest times to the present. The types of music in the various religious traditions and the effects of this music in society are examined.

105 Music as Propaganda (3)

A study of music as a tool of individuals or government and other authorities to teach, to persuade, to beguile a society in various periods and places of world history. Topics include Beethoven and the rise of democracy, nationalism in nineteenth-century Europe, music in Eastern and Western religions, official art in Marxist-socialist states, and protest songs of the Sixties.

108 Women in Music (3)

This course surveys the role of women in the development of music from antiquity to the present day. The course will explore the lives and contributions of women composers, performers, and conductors.

202 Music History Review (3)

Prerequisite: Consent of department. A review of the history of Western music. Includes a survey of styles in major periods of Western music. The credit may not be used to satisfy requirements for a music degree.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

321 Music of the Middle Ages (3)

Prerequisite: Music 101 or consent of department. A study of music and musical thought from the beginning of Christianity to 1450. Gregorian chant, polyphonic music, the *Ars Antiqua*, and the *Ars Nova*.

322 Music of the Renaissance (3)

Prerequisite: Music 101 or consent of department. A study of the theoretical and practical impact of humanism on music, musicians, and musical thought from 1450 to 1600. Sacred and secular music; the rise of an instrumental idiom.

323 Music of the Baroque (3)

Prerequisite: Music 101 or consent of department. A detailed study of music from 1600 to 1750. The rise of the new style, national styles in the seventeenth century, and the culmination of the Baroque period.

324 Music of the Classic Period (3)

Prerequisite: Music 102 or consent of department. A study of the growth of classical style; galant and expressive styles; Mozart, Haydn, and Beethoven.

325 Music of the Romantic Period (3)

Prerequisite: Music 102 or consent of department. Composers, forms, and styles in nineteenth-century music. The literary and social background of musical romanticism.

326 Music of the Twentieth Century (3)

Prerequisite: Music 102 or consent of department. A detailed study of trends in modern music and of influential composers; impressionism, serial composition, electronic music, and other recent techniques.

327 A History of Byzantine Music and Hymnography (3)

Prerequisite: Music 102 or consent of department. A study of the liturgical and secular music of the Byzantine Empire and post-Byzantine period during the Ottoman occupation; a historical investigation of the Oriental and Ancient Greek origins of the music along with an evolution of the types of music and poetical forms. A study of the types of notation and transcription analyses from the Medieval neumes into Western staff notation is included.

375 Musical Aesthetics (3)

Prerequisite: Music 101, or 102, or consent of instructor. (Same as Philosophy 375) Study of such issues as the nature of a musical work, musical expression and representation, interpretation, the conductor's role, the musical canon, audience reception.

Music

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

401 Studies in Style and Performance Practices (3)

Prerequisite: Graduate standing in music. Selected styles, forms, and composers from the various periods in the history of Western art music. Three or more periods or subperiods will be explored to reveal the continuity and contrast in music from the Middle Ages to the twentieth century.

Music Theory and Composition

3 Basic Musicianship (2)

Prerequisite: Music theory placement examination. An introduction to concepts and notational conventions essential to musical performance. Topics include pitch and time organization, and their appearance on the musical staff. No credit toward any degree.

19 Fundamentals of Music (3)

This course provides basic music vocabulary: scales, intervals, and chords, and systematic instruction in the melodic, rhythmic, and harmonic aspects of music. This course will not apply toward requirements for a music major.

30A Theory of Music I (3)

Prerequisite: Consent of the department. The basic materials of music and their use in analyzing and writing music. Concurrent registration in Music 30B is required for music majors and minors.

30B Aural Training I (1)

Prerequisite: Consent of the department. Systematic instruction in ear training and sight singing. Includes diatonic melodic and rhythmic dictation, chord quality recognition, sight singing of diatonic melodies, and the reading of units and divisions of units in simple and compound meters.

31A Theory of Music II (3)

Prerequisites: Music 30A and Music 30B or consent of department. The study of seventh chords, secondary dominants, and modulation; composition in small forms. Concurrent registration in Music 31B is required for music majors and minors.

31B Aural Training II (1)

Prerequisites: Music 30A and Music 30B or consent of department. The systematic instruction in ear training and sight singing begun in Music 30B is continued. Includes further diatonic melodic and rhythmic dictation, primary chord progressions, sight singing of diatonic melodies, and the reading of unit subdivisions in simple and compound meters.

32 Theory of Jazz (3)

Prerequisite: Music 31 or consent of department. This is a survey analysis of the tonal organization of mainstream jazz music as documented by standard performance

practice. Scale formation chordal structure and harmonic function will be examined.

71 Sight Singing I (1)

Rhythmic and tonal sight singing, based on Kodaly methodology. Recommended for music education majors. Will not substitute for music theory sequence.

72 Sight Singing II (1)

Prerequisite: Music 71. A continuation of Music 71.

130A Theory of Music III (3)

Prerequisites: Music 31A and Music 31B or consent of department. Study of chromaticism in eighteenth and nineteenth centuries; composition in simple part forms. Concurrent registration in Music 130B is required for music majors and minors.

130B Aural Training III (1)

Prerequisites: Music 31A and Music 31B or consent of department. Systematic instruction in ear training and sight singing of Music 31B is continued. Chromatic melodic dictation, rhythmic dictation continues, secondary and altered chords in progressions are introduced. Sight singing of chromatic, modulating, and modal melodies, and the reading of syncopated rhythmic patterns are included.

131A Theory of Music IV (3)

Prerequisites: Music 130A and 130B or consent of department. Study of late nineteenth- and early twentieth-century tonal harmony; analysis of large forms; composition in large forms. Concurrent enrollment in 131B is required for all music majors and minors.

131B Aural Training IV (1)

Prerequisites: Music 130A and 130B or consent of department. Systematic instruction in sight singing and advanced aural perceptions. Includes drill in recognition of formal events and key relationships, sight singing of twentieth-century melodies, and rhythmic drills in borrowed divisions and changing meters.

141 Orchestration (3)

Prerequisite: Music 131 or consent of department. Study of the instruments of the brass, woodwind, percussion, and string families; scoring, transcription, and arranging for various instrumental ensembles.

142 Choral Arranging (2)

Prerequisite: Music 131 or consent of department. Study of vocal ranges, characteristics and capabilities at various ages and scoring for choral ensembles comprised of singers in these varying stages of development.

143 Instrumentation and Scoring Technique (2)

Prerequisite: Music 131 or consent of department. Study of the modern orchestral instruments; scoring for various instrumental ensembles with emphasis on idiomatic technique and transcription from keyboard models. This course will not fulfill the music degree requirement for students with instrumental or keyboard emphases.

Music

201 Music Theory Review (3)

Prerequisite: Music 131 or consent of department. A review of techniques employed in the analysis and composition of tonal music. The credit may not be used to satisfy requirements for a music degree.

203 Ear Training and Sight Singing Review (1)

Rhythmic and tonal sight singing based on Kodaly methodology: melodic and harmonic ear training. Does not substitute for music theory sequence. The credit may not be used to satisfy the requirements for a music degree.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

311 Analysis of 20th Century Technique (2)

Prerequisite: Music 131 or consent of department. Study of compositional devices in tonal and atonal music of the twentieth century.

312 Tonal Counterpoint (2)

Prerequisite: Music 131 or consent of department. Study of tonal counterpoint with emphasis on the eighteenth-century style. Composition in two and three parts.

330 Seminar in Composition (2)

Prerequisite: Music 311 or consent of instructor. The study of composition in theory and practice.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

411 Scoring and Arranging (3)

Prerequisite: Graduate standing in music. Experience in scoring and arranging music for a variety of ensembles.

412 Advanced Composition Techniques (3)

Prerequisite: Graduate standing in music. Analysis and evaluation of student works with an emphasis on the further development of style and compositional technique.

Pedagogy

25A High Brass Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching trumpet and horn classes in the school setting.

25B Low Brass Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching trombone, euphonium, and tuba classes in the school setting.

26A Single Reed Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques

for teaching clarinet and saxophone classes in the school setting.

26B Double Reed and Flute Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching oboe, bassoon, and flute classes in the school setting.

27A High String Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching violin and viola in the school setting.

27B Low String Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching cello and bass classes in the school setting.

28A Percussion Instrument Techniques I (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching snare drum, tom-tom, bass drum, cymbals, and drum set in the school setting.

28B Percussion Instrument Techniques II (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching timpani, mallet instruments, and miscellaneous percussion instruments in the school setting.

123 Intermediate Vocal Techniques (1)

Prerequisite: Permission of department. Instruction for non-voice majors in the choral option of the music education curriculum.

124 Intermediate Vocal Techniques (1)

Prerequisite: Permission of department. Instruction for non-voice majors in the choral option of the music education curriculum.

156 Piano Pedagogy (2)

Prerequisite: Equivalent of Music 45k or permission of instructor. A study of methods, repertoire, and technical problems pertaining to private studio teaching for all levels of performance ability.

221 Pedagogy of Jazz Improvisation (1)

Prerequisites: Music 131 and permission of instructor. Study of the techniques, systems, and instructional materials used in teaching jazz improvisation.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

Music

474 Techniques of Group Keyboard Instruction (3)

Prerequisite: Graduate standing in music. A study of techniques, materials, and equipment appropriate for group keyboard instruction.

Practicum

12 Introduction to Modern Dance (2)

Study of the basic techniques of modern dance.

14, 15 Piano Proficiency (2)

Prerequisite: Permission of department. Group instruction for music majors who do not meet beginning keyboard requirements.

20 Jazz Improvisation Laboratory (1)

Prerequisite: Consent of instructor. The study and application of the theoretical, technical, and performance aspects of jazz improvisation. May be repeated for credit.

116, 118, 119, 120 Intermediate Piano Proficiency (1)

Prerequisite: Music 15 or permission of department. Continuation of piano proficiency study.

117 Jazz Keyboard Harmony (1)

Prerequisite: Applied Music 116 or consent of department. Group keyboard instruction in the application of chordal structures and harmonic functions commonly used in mainstream jazz performance.

125 Singer's Diction: Italian and German (1)

Prerequisite: Music 44 or Music 124. A study of Italian and German pronunciation using the International Phonetic Alphabet.

126 Singer's Diction: French, Latin and English (1)

Prerequisite: Music 44 or Music 124. A study of French, Latin and English pronunciation using the International Phonetic Alphabet.

151 Conducting I (2)

Prerequisite: Music 130, Concurrent registration in Music 161 required for Bachelor of Music in Music Education program. Techniques and problems in conducting.

152a Conducting II—Instrumental (2)

Prerequisite: Music 151. Concurrent registration in Music 162 required for Bachelor of Music in Music Education program. Advanced study of instrumental conducting and rehearsal techniques, score reading, and interpretation.

152b Conducting II—Choral (2)

Prerequisite: Music 151. Concurrent registration in Music 162 required for Bachelor of Music in Music Education program. Advanced study of choral conducting and rehearsal techniques, score reading, and interpretation.

153 Accompanying I (1)

Prerequisite: Consent of department. Accompanying and ensemble practices, including rehearsal techniques, for keyboard majors. Public performance of works studied is required.

154 Accompanying II (1)

Prerequisite: Consent of department. A continuation of Music 153.

155 Accompanying III (1)

Prerequisite: Consent of department. A continuation of Music 154.

161 Elementary School Materials: Conducting Laboratory (1)

Prerequisite: Music 130. Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

162 Junior-Senior High School Materials Laboratory (1)

Prerequisite: Music 131. Analysis and evaluation of selected instructional and concert materials for junior and senior high school performance groups.

192 Senior Research (2)

Prerequisite: Consent of department. Required of all senior music majors. Directed readings and research in an area mutually acceptable to the student and instructor.

292 Internship (1-3)

Prerequisites: Senior standing in bachelor of music business emphasis program and permission of the instructor. Supervised experience in the area of the student's career objective, such as music or instrument merchandising, arts management, mass communication, publishing, manufacturing or other, as available. May be repeated once for credit in different area.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, if topic is substantially different, but no more than 5 hours may be applied toward a degree.

402 Choral Literature (3)

Prerequisite: Graduate standing in music. Study of choral literature appropriate for ensembles from elementary to senior high school. Criteria for evaluating choral literature will be developed, and pedagogical implications of choral music as a means of developing comprehensive musicianship will be discussed.

403 Band Literature (3)

Prerequisite: Graduate standing in music. Study of band literature appropriate for soloists and ensembles from elementary to senior high school. Criteria for evaluating the literature will be developed, and related technical problems will be studied.

404 Orchestra Literature (3)

Prerequisite: Graduate standing in music. Study of orchestral literature appropriate for soloists and

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ensembles from elementary to senior high school. Criteria for evaluating the literature will be developed, and technical problems will be studied.

421 Advanced Conducting (3)

Prerequisite: Graduate standing in music. Conducting techniques, score reading, and interpretation of choral, orchestral, and band literature.

448 Graduate Applied Conducting (1-2)

Prerequisite: Music 421 and consent of the department. Private conducting study of the choral, orchestral, or band repertoire. Does not fulfill the applied music requirement for the Master of Music Education degree.

Philosophy

Faculty

Paul A. Roth, Professor*, Chairperson
Ph.D., University of Chicago
James F. Doyle, Professor Emeritus*
Ph.D., Yale University
Peter Fuss, Professor*
Ph.D., Harvard University
Robert M. Gordon, Professor*
Ph.D., Columbia University
Tommy L. Lott, Professor
Ph.D., University of California-Los Angeles
Ronald Munson, Professor*
Ph.D., Columbia University
John E. Clifford, Associate Professor*
Ph.D., University of California-Los Angeles
David A. Conway, Associate Professor*
Ph.D., Princeton University
Lawrence H. Davis, Associate Professor*
Ph.D., University of Michigan
Piers Rawling, Associate Professor*
Ph.D., University of California-Berkeley
Stephanie A. Ross, Associate Professor*
Ph.D., Harvard University
Sigurdur Kristinsson, Assistant Professor*
Ph.D., Cornell University
Thaddeus Metz, Assistant Professor*
Ph.D., Cornell University
Henry L. Shapiro, Assistant Professor*
Ph.D., Columbia University
Donald W. Mertz, Adjunct Assistant Professor
Ph.D., Saint Louis University
Robert Oakes, Adjunct Professor
Ph.D., University of Pennsylvania
David J. Griesediack, Senior Lecturer
M.A., Princeton University

*members of Graduate Faculty

Philosophy continues to keep alive the tradition begun by Socrates, Plato, and Aristotle of critically examining one's most cherished assumptions. Moreover, it deals with questions that are common to several areas of inquiry, such as art, ethics, the social sciences, the natural sciences, and the various professions. The study of philosophy also encourages logical precision, a heightened awareness of assumptions used in any discussion, and an attitude of both open-mindedness and responsible criticism toward new and unusual ideas. These skills are particularly useful for students planning careers in law, business, computer science, writing, or other fields requiring such disciplines of mind. For these reasons many students have found it useful to combine a major in another field with a major in philosophy. To accommodate such students, the department has a special program for double majors.

The philosophy faculty has an unusually wide range of research interests. Faculty members have written books and articles addressing not only the classical and traditional concerns of philosophy, but contemporary controversies in the fields of law, psychology, sociology, political theory, biology, medical ethics, theology, logic, and philosophy of history as well. For their research in some of these areas, members have been awarded a number of national

research grants, including fellowships from the American Council of Learned Societies and the National Endowment for the Humanities.

In keeping with this emphasis on diversity, the department is represented by scholars trained in widely different approaches to philosophy, such as the analytic tradition, Continental idealism and existentialism, Marxist dialectic, and Asian modes of thought.

General Information

Degrees and Areas of Concentration

The philosophy department offers three options leading to the B.A. degree in philosophy: one for students intending to enter graduate school in philosophy; another for students seeking a general liberal arts education as their ultimate academic objective or as preparation for professional degrees such as law; and the third for students taking a double major in philosophy and another discipline. Each option offers a balance between training in the techniques of logical analysis, study of philosophical classics, and examination of selected problems in philosophy. The department also offers a minor in philosophy for students wishing to pursue a particular interest in philosophy in an organized way.

Undergraduate Studies

General Education Requirements

Majors must meet the University and College general education requirements. Any course in philosophy will satisfy the humanities requirement. Philosophy 120, Asian Philosophy, also satisfies the College Cultural Diversity requirement. Majors may not count philosophy courses taken on a satisfactory/unsatisfactory basis toward the degree requirements.

Degree Requirements

Bachelor of Arts in Philosophy

Students must complete one of the following programs. At least 30, but not more than 45, hours are required for a major.

Option One Designed to prepare students for graduate work in philosophy, the program requires:

- 1) **Philosophy 160**, Formal Logic
- 2) **History of Philosophy**
Choose alternative a or b:
 - a. Two courses from any combination of:
Philosophy 101—107 sequence or
Philosophy 201—210 sequence
 - b. **Philosophy 10**, Western Philosophy I, and
Philosophy 11, Western Philosophy II,
and one course from
Philosophy 101—107 sequence
Philosophy 201—210 sequence.

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3) Normative Philosophy

One course from the following:
Philosophy 230, Social and Political Philosophy
Philosophy 235, Classical Ethical Theories
Philosophy 238, Recent Ethical Theory
Philosophy 269, The Marxist Heritage

4) One of the following courses:

Philosophy 240, Theories of Knowledge
Philosophy 245, Metaphysics

5) Philosophy and Other Disciplines

One course from the Philosophy 270-290 sequence.

6) Philosophy 391, Senior Seminar

When appropriate, **Philosophy 250**, Special Topics in Philosophy, may be used to satisfy the requirement of number 3, 4, or 5.

Students in this program should take Greek, Latin, French, or German to satisfy the foreign language requirement.

Option Two Less restrictive, this option is intended for general liberal arts students or students whose special interests, such as prelaw preparation, do not fall clearly into any one traditional academic department. Requirements include:

1) Philosophy 160, Formal Logic

2) History of Philosophy

Choose alternative a or b:

a. Two courses from any combination of:

Philosophy 101—107 sequence

Philosophy 201—210 sequence

b. **Philosophy 10**, Western Philosophy I, and **Philosophy 11**, Western Philosophy II, and one course from the following:

Philosophy 101—107 sequence

Philosophy 201—210 sequence

3) Philosophy 391, Senior Seminar

4) A total of twelve hours or more at the 200 level or above.

Option Three Open only to students seeking a double major, the option requires:

1) Philosophy 60, Logic and Language, or Philosophy 160, Formal Logic

2) History of Philosophy

Choose alternative a or b:

a. Two courses from the following:

Philosophy 101—107 sequence

Philosophy 201—210 sequence

b. **Philosophy 10**, Western Philosophy I, and **Philosophy 11**, Western Philosophy II, and one course from the following:

Philosophy 101—107 sequence

Philosophy 201—210 sequence

3) Philosophy 391, Senior Seminar

4) A total of nine hours or more at the 200 level or above.

Departmental Honors Majors with a 3.2 grade point average or higher in philosophy and overall may, with the department's consent, earn departmental honors by:

1) completing at least six hours, but not more than nine, of Philosophy 350, Special Readings;

2) submitting an acceptable thesis before the end of the senior year; and

3) passing an oral examination.

In such cases, the 30 hours required for the major will include the credit earned in Philosophy 350, Special Readings, for the senior thesis.

Related Area Requirements Majors are urged to acquire a familiarity with some other field above the introductory level.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. degree in philosophy from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. Transfer students planning to major in philosophy should consult the chairperson of the department as soon as possible in order to have their transcripts evaluated with regard to the above requirement.

Requirements for the Minor Fifteen hours of course work in philosophy are required. Philosophy 60 or Philosophy 160, and four other courses numbered above 100, including two numbered above 200.

Minors are encouraged, though not required, to take Philosophy 391, Senior Seminar.

A GPA of 2.0 or better is required in courses presented for the minor.

Prospective minors are encouraged to consult with members of the department for advice in planning an appropriate sequence of courses.

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Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements: 10, 11, 30, 50, 60, 85, 90, 101, 102, 103, 104, 105, 107, 120, 150, 151, 153, 154, 156, 160, 165, 174, 185, 201, 202, 205, 206, 207, 208, 210, 215, 230, 235, 238, 240, 245, 250, 260, 265, 269*, 270, 272, 274, 276, 278, 280, 282, 287, 290, 307, 310, 315, 330, 350, 353, 365, 369, 370, 374, 375, 378, 379, 380, 382, 385, 387, 391.

*Course may fulfill the [H] or Social Sciences [SS] breadth of study requirement.

10 Western Philosophy I: Antiquity to the Renaissance (3)
Lectures and discussions tracing the development of Western philosophy from its beginnings among the pre-Socratics through the Middle Ages and Renaissance. Philosophical ideas will be examined in the cultural and historical context: the Greek city-state, the rise of Christianity, etc.

11 Western Philosophy II: Descartes to the Present (3)
Lectures and discussions on the development of Western philosophy from Descartes (1596-1650) to the present. Philosophical ideas will be examined with an eye to their historical and cultural setting: the rise of modern science, the industrial revolution, the rise of capitalism, etc.

30 Approaches to Ethics (3)
A study and discussion of representative topics in moral philosophy such as moral skepticism, moral objectivity, theories of obligation and value, evaluation of social institutions, and the relation between morality and science. Traditional and contemporary writers will be considered.

50 Major Questions in Philosophy (3)
A study and discussion of representative topics in philosophy such as free will and determinism, concepts of mind and body, the basis of value judgments, knowledge and belief, and the possibility of constructing a world view.

60 Logic and Language (3)
An introduction to the language and logical structure of arguments, the principles of sound reasoning, and application of these principles in a variety of contexts.

85 Philosophy of Religion (3)
A philosophical investigation of such problems as the nature of religious faith and experience, the relation of faith and reason, alternative concepts of deity, and the problem of evil.

90 Freshman Seminar (3)
Prerequisites: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to twelve students.

101 Ancient Philosophy (3)
Freshmen admitted by consent of department. The principal philosophical doctrines of the ancient world, with special emphasis on the philosophies of Plato and Aristotle. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

102 Medieval Philosophy (3)
A critical study of the important philosophies of the period from Augustine to the Renaissance. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

103 Early Modern Philosophy (3)
Principal figures in the development of rationalism, empiricism and skepticism in early modern Europe, from Descartes through Hume. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

104 Kant and Nineteenth-Century Philosophy (3)
A study of Kant and such major nineteenth-century figures as Hegel and Nietzsche, Mill and Peirce. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

105 Twentieth-Century Philosophy (3)
Representative topics in contemporary philosophy, with readings selected from pragmatism, logical positivism, linguistic analysis, and existentialism. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

107 American Philosophy (3)
Prerequisite: Six hours of philosophy or consent of instructor. A study of selected American philosophers.

120 Asian Philosophy (3)
Critical study of selected philosophical classics of India and China. This course fulfills the Cultural Diversity requirement.

150 Philosophy and Current Issues (3)
A careful examination of such current social controversies as women's liberation, the ethics of abortion, public accountability of holders of high offices, and the subtler forms of racism and other prejudices. Although there is no formal prerequisite, it is recommended that students have taken, or be concurrently enrolled in, at least one other philosophy course.

151 Sexual Ethics (3)
A critical review of what philosophers, both classical and contemporary, have said about sexual experience and its place in our lives. Included will be such topics as sexual desire, sexual perversion, love and commitment, marriage and adultery. Larger questions might include the role of sexual experience in the good life, issues of sexual privacy, and the morality of laws which regulate sexual activity.

153 Philosophy and Feminism (3)
A critical survey of what various philosophers have said about issues of concern to the women's movement.

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Included will be accounts, both traditional and modern, of such topics as differences between the sexes, sexism in language, oppression, preferential treatment and affirmative action, abortion and rape, and the differences between sexism and racism.

154 Business Ethics (3)

A critical survey from the perspective of moral theory of businesses and business practices. Topics vary but usually include some of the following: whether the sole moral obligation of businesses is to make money; whether certain standard business practices, e.g., the creation of wants through advertising, are moral; whether businesses ought to be compelled, e.g., to protect the environment or participate in affirmative action programs.

156 Medical Ethics (3)

(Same as Gerontology 156.) An examination of ethical issues in medical practice and research and in public policies affecting health care. Topics include: abortion, euthanasia, medical experimentation, informed consent, and the right to health care.

160 Formal Logic (3)

An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

165 Inductive Logic (3)

An examination of the techniques for evaluating inferences which do not fit deductive frameworks. Examples will be drawn from at least the physical sciences, medicine, ethics, law, and everyday life.

174 Philosophy and Literature (3)

Critical reading and discussion of selected literary works in terms of the philosophical problems they present.

185 Topics in Philosophy of Religion (3)

Prerequisite: Philosophy 85 or Philosophy 50 or permission of instructor. A careful examination of a selected topic in philosophy of religion or of philosophical issues arising in a selected religion. The topic or religion to be considered will be announced prior to registration. This course may be repeated for credit on approval by the department.

201 Plato (3)

Prerequisite: Six hours of philosophy or consent of instructor. A study of selected Platonic dialogues.

202 Aristotle (3)

Prerequisite: Six hours of philosophy or consent of instructor. A selective study of Aristotle's major works.

205 The Rationalists (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of the philosophies of such major figures as Descartes, Spinoza, and Leibniz.

206 The British Empiricists (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of the philosophies of such major figures as Locke, Berkeley, and Hume.

207 Kant (3)

Prerequisite: Six hours of philosophy or consent of instructor. A systematic study of the Critique of Pure Reason.

208 Hegel (3)

Prerequisite: Six hours of philosophy or consent of instructor. A critical study of the writings and influence of Hegel.

210 Significant Figures in Philosophy (3)

Prerequisite: Six hours of philosophy or consent of instructor. A critical study of the work of an important philosopher. The philosopher to be considered will be announced prior to registration. This course may be repeated for credit on approval by the department.

215 Existentialism and Phenomenology (3)

A study of some major representatives of these schools from Kierkegaard to the present.

230 Social and Political Philosophy (3)

An analysis of some fundamental concepts and assumptions involved in the theory and practice of social and political organization.

235 Classical Ethical Theories (3)

Significant contributions to moral philosophy from Plato and Aristotle to Bentham and Mill.

238 Recent Ethical Theory (3)

Prerequisite: Six hours of philosophy or consent of instructor. A study of major contributions to twentieth-century ethics, including works by such writers as Moore, Dewey, Ross, Stevenson, Hare, and Rawls.

240 Theories of Knowledge (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of concepts and problems involved in the characterization of knowledge. Specific topics will vary, but will usually include knowledge, belief, skepticism, evidence, certainty, perception, truth, and necessity.

245 Metaphysics (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of selected metaphysical topics such as substance, universals, causality, necessity, space and time, free will, being, and identity.

250 Special Topics in Philosophy (3)

Prerequisite: Six hours of philosophy or consent of instructor. A critical study of classical and/or contemporary contributions to a selected topic in philosophy. The topic to be considered will be announced prior to registration. This course may be repeated for credit on approval by the department.

260 Advanced Formal Logic (3)

Prerequisite: Philosophy 160 or consent of instructor. Rigorous study of major developments in contemporary logic. Emphasis is given to theoretical problems and some attention is devoted to philosophical issues arising from logic.

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265 Logical Explorations (3)

Prerequisite: Philosophy 160. A variable content course in which techniques of modern logic are used to explore one or more of the following topics: modal logic, the logic of decision and action, value theory and decision analysis, induction and inductive logic, the logic of knowledge and belief, system construction, and contemporary logical theory. The topic will be announced prior to registration. This course may be repeated for credit on approval by the department.

269 The Marxist Heritage (3)

(Same as Political Science 269 and Interdisciplinary 269.) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

270 Philosophy of Language (3)

A study of the nature and structure of language and its relationship to selected philosophical problems. Included will be such topics as ordinary language philosophy, significant developments in twentieth-century linguistics, prospects for semantic theory, and a discussion of traditional problems of meaning, reference, and synonymy.

272 Philosophical Issues in Education (3)

A critical study and discussion of selected topics in education, including the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the functions of a university.

274 Philosophy of Art (3)

(Same as Art 274.) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

276 Philosophy of History (3)

Discussion and analysis of some philosophical problems raised by historical inquiry, such as subjectivity, relativism, the role of value judgments, and the nature of historical explanation.

278 Philosophy of Mind (3)

Prerequisite: Three hours of philosophy or consent of instructor. The nature of mind and its relation to brain, body, and the person or "self" as a whole. Examination of theories of the mental such as behaviorism and functionalism, and mental phenomena such as consciousness, desire, and the emotions.

280 Philosophy of Science (3)

An examination of logical and methodological problems related to the sciences, including the structure of scientific explanations, laws and theories; methods of concept formation; and confirmation and the problem of induction.

282 Philosophy of Social Science (3)

A detailed analysis of issues raised by the social sciences, including the logical characterization of explanations, predictions, laws, and theories; types of reductionism; objectivity and values; and the empirical basis of the social sciences.

287 Philosophy of Law (3)

An examination of typical problems raised by law, including the basis of legal obligations and rights, relations between law and morality, the logic of legal reasoning, and the justification for punishment.

290 Philosophical Issues in Other Disciplines (3)

Prerequisite: Consent of instructor. An examination of selected philosophical issues in a discipline other than philosophy. One or more such disciplines as history, political science, psychology, sociology, biology, physics, or mathematics will be chosen, and philosophical issues selected and announced prior to registration, usually in consultation with the other department concerned. This course is normally taught as a seminar and attempts to serve advanced students in other departments with or without previous background in philosophy.

307 Topics in American Philosophy (3)

Prerequisite: 9 hours of philosophy, graduate standing, or consent of instructor. Topics vary, but might include, for example, the fusion of moral and metaphysical perspectives in the thought of Jonathon Edwards; the distinctive contributions of the *Federalist Papers* to the classical republican tradition; C.S. Peirce's original critiques of rationalism and determinism; the core concepts of the twentieth century analytic tradition; feminism and deconstructionism in America.

310 Contemporary Philosophers (3)

Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Examination of the work of an important twentieth-century philosopher or philosophical movement. The philosopher or movement to be studied will be announced prior to registration. This course may be repeated for credit on approval by the department.

315 Ethics in Criminology and Criminal Justice (3)

(Same as Criminology and Criminal Justice 315.) Prerequisite: CCJ 110, 120, 130, 210, 220, Philosophy 153, 154, 156, 230, 235, 238, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

330 Topics in Ethical Theory (3)

Prerequisite: Philosophy 235, 238, nine hours of philosophy, or consent of instructor. Formulation and evaluation of major theories in normative ethics, metaethics, and axiology. Topics include: egoism, moral realism, act and rule utilitarianism, and varieties of naturalism and non-naturalism in ethics.

350 Special Readings (1-3)

Prerequisite: Written consent of instructor. Independent study through readings, reports, and conferences.

353 Feminist Ethical Theory (3)

Prerequisite: Philosophy 153, six hours of philosophy, or consent of instructor. Examines two classic 18th century statements of sympathy-based moral theory in the works of Adam Smith and David Hume. The course, then looks at a number of contemporary works that attempt to delineate a decisively feminist ethical theory, e.g., the work of Carol

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Gilligan, Nel Nodding and Virginia Held. The course explores as well differences among female, feminist, and lesbian ethical standpoints.

365 Theory of Decisions and Games (3)

Prerequisite: Six hours of Philosophy and junior standing, PolSci 401 (or the equivalent) or consent of instructor. (Same as PolSci 306). A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content.

369 Topics in Political Philosophy (3)

Prerequisite: Nine hours of philosophy, graduate standing, or consent of instructor. Critical examination of philosophical theories of democracy, individual autonomy, political community, social justice, and other selected issues in political philosophy.

370 Topics in Philosophy of Language (3)

Prerequisite: Philosophy 270, graduate standing, or consent of instructor. Intensive examination of selected problems encountered in developing philosophical accounts of truth, reference, propositional attitudes, and related concepts.

374 Seminar in Aesthetics (3)

Prerequisite: Philosophy 274, graduate standing, or consent of instructor. Selected topics, such as vision and representation, musical aesthetics, and recent theorists (e.g., Goodman, Dickie, Danto, Margolis). This course may be repeated for credit on approval by the department.

375 Musical Aesthetics (3)

(Same as Music Hist. & Lit. 375.) Prerequisite: Six hours of philosophy or consent of the instructor. Study of such issues as the nature of a musical work, musical expression and representation, interpretation, the conductor's role, the musical canon, audience reception.

378 Seminar in Philosophy and Psychology (3)

Prerequisite: Philosophy 278, graduate standing, or consent of instructor. An examination of selected topics at the interface of philosophical and psychological research. This course may be repeated for credit on approval by the department.

379 Philosophy of Cognitive Science (3)

Prerequisite: Philosophy 278, nine hours of philosophy, or consent of instructor. An exploration of the philosophical foundations and implications of cognitive science, a cooperative effort of philosophers, cognitive psychologists, brain scientists, computer scientists, and others to understand the relationship between the mind and the brain.

380 Seminar in Philosophy of Science (3)

Prerequisite: Philosophy 280, graduate standing, or

consent of instructor. Intensive study of selected problems in philosophy of science. This course may be repeated for credit on approval by the department.

382 Seminar in Philosophy of Social Science (3)

Prerequisite: Philosophy 282, graduate standing, or consent of instructor. An intensive examination of selected topics such as the nature of explanation in social science and the postmodernism debate (e.g., Habermas, Foucault, Clifford). This course may be repeated for credit on approval by the department.

385 Seminar in Philosophical Theology (3)

Prerequisite: Philosophy 185, nine hours of philosophy, or consent of instructor. An intensive study of problems arising out of traditional and contemporary philosophical theology.

387 Seminar in Philosophy of Law (3)

Prerequisite: Philosophy 287, graduate standing, or consent of instructor. An intensive study of recent philosophical debate about such issues as the authority of law, legal equality and justice, legal responsibility, self-determination and privacy, and legal punishment.

391 Senior Seminar (3)

Prerequisites: Senior standing; at least 12 hours of philosophy at the 100 level or above; or consent of instructor. Intensive study of a central philosophical problem. The course emphasizes the fundamentals of philosophical writing and scholarship. Students will write a major paper to be evaluated by two members of the Philosophy Department and the course instructor.

431 The Nature of Punishment (3)

(Same as CCJ 431.) Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

433 Philosophy of Law (3)

(Same as CCJ 433.) Prerequisite: Graduate standing or consent of instructor. Examination of origins of law and the basis for legal obligation. Specific consideration of the justification of punishment, morality and law, and legal reasoning.

455 Ethical and Legal Issues in Criminal Justice (3)

(Same as Criminology and Criminal Justice 455.) Prerequisite: Graduate standing or consent of instructor. Examination of the moral and legal aspects of the policies and practices of criminal justice agencies and agents. Issues may include treatment of offenders, the role of technology, and research and professional ethics.

485 Seminar in the Humanities (3)

A study of selected topics using works of more than one discipline in the humanities.

Physics

Faculty

Ian Brown, Research Professor of Physics and Chemistry
Ph.D., University of St. Andrews Scotland

Bernard J. Feldman, Professor*
Ph.D., Harvard University

Donald P. Ames, Adjunct Professor
Ph.D., University of Wisconsin

Ta-Pei Cheng, Professor*
Ph.D., Rockefeller University

Ricardo Flores, Associate Professor*
Ph.D., University of California-Santa Cruz

Phil Fraundorf, Associate Professor*
Ph.D., Washington University

Peter H. Handel, Professor*
Ph.D., University of Bucharest

Bob L. Henson, Professor*
Ph.D., Washington University

Lakshminarayanan Vasudevan, Adjunct Associate Professor
Ph.D., University of California-Berkeley

Daniel Leopold, Adjunct Associate Professor
Ph.D., Washington University

Mary Leopold, Adjunct Assistant Professor
Ph.D., Washington University

Jingye Liu, Adjunct Assistant Professor
Ph.D., Arizona State University

Jacob J. Leventhal, Curators' Professor*
Ph.D., University of Florida

Frank E. Moss, Professor*
Ph.D., University of Virginia

Richard D. Schwartz, Professor*; Chairperson
Ph.D., University of Washington

Haresh Sirirvardene, Adjunct Assistant Professor
Ph.D., University of Missouri-Rolla

Wilfred H. Sorrell, Associate Professor*
Ph.D., University of Wisconsin

Bruce A. Wilking, Professor*
Ph.D., University of Arizona

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The physics department offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the School of Education, the B.A. in physics with teacher certification and the B.S. in education with an emphasis in physics.

The department offers meritorious junior and senior students opportunities to participate in teaching and research to help prepare them for the independent effort required in industry or graduate school. The department's faculty members have a diversity of interests and are active in various experimental and theoretical research areas.

Graduate work leading to the master of science in physics is also offered. The M.S. in physics program combines a sound basis in the fundamental areas of classical and modern physics from both a theoretical and an applied perspective. The program is designed to enable students with undergraduate backgrounds in physics or other technical areas to further their professional development and

maintain and improve their technical development. The program is offered almost entirely in the evening to serve students who are employed locally. The department offers the Ph.D. degree in cooperation with the University of Missouri-Rolla physics department. Students must satisfy the UM-Rolla admission standards, and the UM-Rolla Qualifying Exam in Physics is required of UM-St. Louis Ph.D. students. However, all course work and dissertation research may be completed while the student is in residence at UM-St. Louis.

Undergraduate Studies

General Education Requirements

Majors must complete the University and College general education requirements. Any of the following courses may be used to satisfy the physical science requirement:

Astronomy: 1, 11, 12, 22, 50, 51, 121, 301, 322.

Atmospheric Science: 1.

Engineering: 10, 30, 124, 125, 126, 144, 145, 146, 147, 201, 202.

Geology: 1, 2, 53, 201, 290.

Physics: 1, 10, 11, 12, 50, 111, 112, 113, 170, 171, 172, 173, 200, 201, 202, 221, 223, 281, 282, 289, 301, 311, 312, 323, 325, 331, 335, 341, 343, 344, 350, 351, 353, 354, 356, 365, 370, 381, 390, 395.

Degree Requirements

All physics majors in all programs must complete the physics core curriculum. In addition to the core courses, each individual program has its own specific requirements.

Core Curriculum The following physics courses are required:

111, Mechanics and Heat

112, Electricity, Magnetism, and Optics

200, Survey of Theoretical Physics

221, Mechanics

223, Electricity and Magnetism

231, Introduction to Modern Physics I

Also required are:

Math 80, Analytic Geometry and Calculus I

Math 175, Analytic Geometry and Calculus II

Math 180, Analytic Geometry and Calculus III

Math 202, Introduction to Differential Equations

Chem 11, Introductory Chemistry I or equivalent

Computer Science 125, Introduction to Computer Science

Note Students are urged to begin the calculus sequence (Math 80, Analytic Geometry and Calculus I) as soon as possible to avoid delays in graduation.

Students with experience in digital computer programming may be excused from Computers Science 125.

Bachelor of Arts in Physics The B.A. program is tailored to students wishing to preserve the option for specialization in graduate school without sacrificing the advantages of a liberal arts education. In addition to the core curriculum, including the foreign language requirement, at least **three electives** at the 200 or 300 level must be completed. At least 31 hours of physics courses, but no more than 45 hours, are required.

Physics

Bachelor of Science in Physics The B.S. degree provides students with four options: general physics, astrophysics, engineering physics, or medical physics.

General Physics Option

This option may be elected by students desiring a greater concentration in physics and mathematics and is recommended for students wishing to enter graduate study in physics. At least 48 hours, but no more than 51, are required. In addition to the core curriculum, the following **physics** courses are required:

201, Elementary Electronics I
311, Advanced Physics Laboratory I
323, Modern Optics
325, Linear Analysis of Physical Systems
331, Introduction to Quantum Mechanics
341, Thermal and Statistical Physics

and three electives at the 200 or 300 level.

Also required are:

Math 245, Elementary Linear Algebra
Math 303, Applied Mathematics II
Chem 12, Introductory Chemistry II, or equivalent

and one elective in math or computer science.

Astrophysics Option

This option may be elected by students who have interests in the aerospace sciences or anticipate graduate studies in astrophysics. At least 47 hours, but not more than 51, must be taken. In addition to the core curriculum, the following courses are required:

Physics 323, Modern Optics
Physics 331, Introduction to Quantum Mechanics
Astronomy 50, Introduction to Astronomy I
Astronomy 51, Introduction to Astronomy II
Astronomy 301, Astrophysics
Astronomy 322, Observational Astronomy

and **two physics electives** at the 200 or 300 level. With permission of the astronomy adviser, there may be substitution of Astronomy 1, 11, or 12 for 50 or 51.

Also required are:

Math 303, Applied Mathematics I

and one additional elective in mathematics or computer science.

Engineering Physics Option

Students interested in careers in the research and development field of industry should consider this option. This program exposes the student to a basic engineering curriculum, as well as to areas of physics with industrial applications, such as electronics, modern optics, and linear analysis. At least 46 hours, but no more than 51, are required. In addition to the core curriculum, the following courses are required:

Engineering 30, Engineering Graphics
Engineering 124, Circuits I

Engineering 144, Statics
Engineering 145, Dynamics
Physics 201, Elementary Electronics I
Physics 323, Modern Optics
Physics 325, Linear Analysis of Physical Systems
Physics 341, Thermal and Statistical Physics

Also required are two additional courses in computer science or numerical analysis.

Medical Physics Option

This option is designed for students who are interested in careers in various medical fields or biophysics. This option provides a strong preparation in physics, mathematics, chemistry, and biology for students who intend to apply for admission to medical schools. At least 41 hours of physics and biology combined, but no more than 51, are required. In addition to the physics core curriculum, the following physics and biology courses are required:

Physics 201, Elementary Electronics
Biology 11, Introductory Biology I
Biology 12, Introductory Biology II

and two additional physics electives at the 200 or 300 level.

Also required are:

Chem 12, Introductory Chemistry II
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

Note: With approval of the Chairperson of Physics and Astronomy, students with strong mathematical preparations, who have already completed the Physics 11 and Physics 12 sequence in basic physics may substitute these courses for two required core courses Physics 111 and Physics 112, respectively. However, this is not the recommended route because Physics 111 and 112 give significantly better preparation for the required junior level physics core courses. It would be the individual student's responsibility to make up any resulting deficiencies.

B.S. degree in Secondary Education with an emphasis in science and certification endorsement in physics.

In addition to the general requirements for the B.S. degree in secondary education, students must complete the following:

Science Core Courses:

Philosophy 280, Philosophy of Science
Biology 11, Introductory Biology I
Biology 12, Introductory Biology II
Chemistry 11, Introductory Chemistry I
Chemistry 12, Introductory Chemistry II
Geology 1, General Geology
Meteorology 1, Elementary Meteorology
Biology 120, Environmental Biology or another environmental science
Physics 111, Physics: Mechanics and Heat
Physics 112, Physics: Electricity, Magnetism, and Optics

Physics

Physics Endorsement

Physics 200, Survey of Theoretical Physics

Physics 201, Elementary Electronics I

Physics 221, Mechanics

Physics 223, Electricity and Magnetism

Physics 231, Introduction to Modern Physics

Physics 311, Advanced Physics Laboratory I

Minor in Physics

Students may complete a minor in physics with the flexibility of emphasis on classical physics, modern physics, or a combination of the two areas. The following physics courses are required:

111, Mechanics and Heat

112, Electricity, Magnetism, and Optics

200, Survey of Theoretical Physics

and two additional emphasis courses chosen from the following physics courses:

201, Elementary Electronics

221, Mechanics

223, Electricity and Magnetism

231, Introduction to Modern Physics

A GPA of at least 2.0 is required in courses presented for a minor. It is required that a student complete a minimum of six hours of graded work in 100 level or above courses on the UM-St. Louis campus.

Graduate Studies

Admission Requirements

In addition to meeting the Graduate School general admission requirements, applicants must submit scores from the Graduate Record Exam (GRE) physics test. The department requires applicants to have adequate backgrounds in such areas as mechanics, thermodynamics, electromagnetism, optics, electronics, and modern physics. Students admitted to the program with deficiencies in these areas are required to take appropriate undergraduate courses. If necessary, a remedial program is determined in consultation with the department graduate studies director at the time of application for admission.

Graduate Degree Requirements

Master's

A student must complete 30 credit hours in graduate physics courses with at least 15 of these at the 400 level; of the latter 15, a maximum of three credit hours may be counted for thesis research. The writing of a thesis is optional. A comprehensive examination must be passed, which includes a defense of the thesis if the student has chosen to write one. A grade point average of 3.0 must be maintained during each academic year. The requirements must be fulfilled within six years from the time of admission. Two-thirds of required graduate credit must be taken in residence. No language requirement.

Doctorate

A minimum of 72 hours with satisfactory performance. Residency requirement of three years/six semesters (for

those with master's degree, two years/four semesters) at UM-St. Louis and/or cooperating UM-Rolla campus. Ph.D. qualifying exam, dissertation, dissertation exam administered in cooperation with UM-Rolla. Language requirement—pass examination or equivalent of one year collegiate level course work with grade of B or better; overall requirement of B grades or better. Thesis: Thesis may be written in absentia.

Special Equipment, Facilities, or Programs

The supporting facilities of the University of Missouri-St. Louis include a modern library with holdings in excess of 390,000 bound volumes, a microtext department containing 72,000 titles, and approximately 87,000 titles in the government documents section. Campus computing facilities include a Hitachi Data Systems EX31 and a network of DEC Micro VAX systems and VAX stations which the department shares with the chemistry department. The department maintains a SPA RC station 2 workstation for image processing. The physics department operates a machine shop and an electronics shop. In addition, the department maintains a library containing some of the most frequently used physics journals.

Typical Program:

First Semester

Physics: 400-level and 300-level course
Total: 6 hours

Second Semester

Physics: 400-level and 300-level course
Total: 6 hours

Third Semester

Physics: 400-level and 300-level course
Physics 490, Thesis Research or Seminar
Total: 9 hours

Fourth Semester

Physics: 400-level and 300-level course
Physics 490 Thesis Research or Seminar
Total: 9 hours

Career Outlook

Many of our students have been successful in subsequent graduate studies in astronomy and meteorology, as well as in physics. Our alumni have pursued graduate studies and earned doctorate degrees at institutions such as Cornell University, University of Wisconsin, Washington University, University of Chicago, and others. The many students who elected a career in industry are now working in a variety of settings for such firms as International Business Machines, Emerson Electric, Southwestern Bell, Hewlett-Packard, McDonnell-Douglas, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.

Physics

Course Descriptions

Prerequisites may be waived by consent of the department.

Courses in this section are grouped as follows: Astronomy; Atmospheric Science; Geology; and Physics.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements:

ASTRONOMY: 1, 11, 12, 22, 50, 51, 121, 301, 322.

ATMOSPHERIC SCIENCE: 1.

GEOLOGY: 1, 2, 53, 201, 290. PHYSICS: 1, 11, 12, 50, 111, 112, 113, 200, 201, 202, 221, 223, 231, 232, 281, 282, 289, 301, 311, 312, 323, 325, 331, 333, 335, 341, 343, 344, 350, 351, 353, 354, 356, 357, 365, 370, 381, 390, 395.

Astronomy

1 Cosmic Evolution/Introductory Astronomy (4)

Planets: A brief survey of their motions and properties. Stars: Observations, including stellar spectra and colors; stellar evolution, and star clusters. Galaxies: Structure and content of the Milky Way Galaxy, its relationship to other galaxies. Cosmology: The origin and evolution of the universe. Three lectures and two multimedia laboratories.

11 Planets and Life in the Universe (3)

Man's concept of the solar system from Stonehenge to Einstein; geology and meteorology of the planets of our solar system, with particular attention to results from the space program; exobiology—study of the possibilities of life on other worlds and the best method of communicating with it. Three lecture hours per week.

12 The Violent Universe and the New Astronomy (3)

A nontechnical course focusing on recent results which larger telescopes and the space program have made available. Pulsars, x-ray stars, and black holes; radio astronomy, our galaxy, and interstellar molecules; exploding galaxies and quasars; origin of the expanding universe. Three lecture hours and one observing session per week.

22 Practical Astronomy (2)

Prerequisite: Astronomy 1 or 11. Designed to acquaint students with observational astronomy: constellations, planets, stars, nebulae, and galaxies. Students will become familiar with operation of a telescope and its use in visual observation and photography. The basics of astronomical nomenclature and coordinates will also be emphasized. This course is primarily for nonscientists.

50 Introduction to Astronomy I (3)

Prerequisites: Math 30 and 35. A survey of the history of astronomy from the ancient times to the present. The motions of the planets and stars, real and apparent, tools of the astronomer. A study of our solar system, concentrating on results of the space program.

51 Introduction to Astronomy II (3)

Prerequisites: Math 30 and 35. A survey of astronomy and cosmology focusing on discoveries and phenomena

outside of the solar system: stars, galaxies, quasars, etc.

121 The Search for Extraterrestrial Life (3)

Prerequisite: Astronomy 1 or 11. Are we alone? The possibility of life in the universe in addition to our own will be explored. Our discussion of the chances for extraterrestrial life will be built around the current theories of chemical, biological, and cultural evolution which have led to our own technological civilization on Earth. Strategies for communication with extraterrestrial intelligence will be discussed.

301 Astrophysics (3)

Prerequisite: Physics 231 or consent of instructor. A moderately technical introduction to astrophysics. Topics will include: physics of stellar interiors and atmospheres; interpretation of stellar spectra; stellar evolution; radio astronomy; and cosmology.

322 Observational Astronomy (4)

Prerequisites: Astronomy 50, Astronomy 51, and Math 180 or consent of instructor. Tools of the astronomer: telescopes, spectroscopy, photoelectric photometry. Students will work on a number of projects which will enable them to develop expertise in obtaining, reducing, and analyzing astronomical observations. Student night observing will be an important part of the course. This course is primarily for persons who are astronomy or physics majors or who have some equivalent astronomical background.

Atmospheric Science

1 Elementary Meteorology (4)

Prerequisite: High school physics or chemistry. An elementary survey of atmospheric phenomena intended to fulfill the science requirement. Topics included are temperature, pressure, and moisture distributions in the atmosphere and dynamical effects such as radiation, stability, storms, and general circulation. Applications to weather forecasting. Three hours of lecture and two hours of laboratory per week.

Geology

1 General Geology (4)

Earth materials and processes, including geological aspects of the resource/energy problem. Laboratory involves identification of common rocks and minerals.

2 Historical Geology (4)

Prerequisite: Geology 1. Study of changes in geography, climate and life through geological time; origin of continents, ocean basins, and mountains in light of continental drift. Laboratory primarily involves description and identification of fossils.

53 Oceanography (3)

The atmospheric and ocean circulations; the chemistry and geology of the deep sea; and their effects on the distribution of marine organisms.

201 Stratigraphy and Sedimentation (3)

Prerequisites: Geology 1 and 2. Principles of stratigraphy,

Physics

with an introduction to sedimentary processes. The major sedimentary sequences of North America will be examined, with origins interpreted from a plate tectonics perspective.

290 Research (1-3)

Prerequisite: Consent of instructor. Independent geology research projects arranged between student and instructor. Hours arranged.

Physics

1 Foundations of Modern Physical Theory I (4)

Prerequisite: Satisfactory score on math placement test. An introduction to some of the major ideas, principles, and basic laws directing the development of contemporary physics. The course work consists of two general lectures each week in which the material is introduced, one discussion session, and one two-hour multimedia laboratory.

11 Basic Physics (4)

Prerequisite: Math 80 or 101 may be taken concurrently. A survey course specifically designed for students in health and life sciences covering such topics as classical mechanics, heat, sound, electricity, magnetism, light, and radiation. Will not fulfill the Physics 111 requirement for physics, chemistry, and engineering majors. Three hours of lecture and two hours of laboratory.

12 Basic Physics (4)

Prerequisite: Physics 11. Continuation of Physics 11.

50 Introduction to Physics (4)

Prerequisite: Math 30. A laboratory survey course which introduces students to the fields of mechanics, heat and thermodynamics, optics, electricity and magnetism, and modern physics at the pre-calculus level. A problem-solving course, recommended for science and engineering students who have no physics background or who desire additional preparation for Physics 111. Three hours of lecture and two hours of laboratory per week.

111 Physics: Mechanics and Heat (5)

Prerequisite: Math 80 or 101. Physics 1, or Chem 12, or equivalent is recommended. An introduction to the phenomena, concepts, and laws of mechanics and heat for physics majors and students in other departments. Three hours of lecture, one hour of discussion, and two hours of laboratory per week.

112 Physics: Electricity, Magnetism, and Optics (5)

Prerequisites: Physics 111, and Math 101 or 175. A phenomenological introduction to the concepts and laws of electricity and magnetism, electromagnetic waves, optics and electrical circuits for physics majors and students in other departments. Three hours of lecture, one hour of discussion, and two hours of laboratory per week.

113 Physics: The Structure of Matter (3)

Prerequisite: Physics 112. A phenomenological introduction to selected concepts and laws of physics as they are applied to the structure of matter. Elements of atomic, nuclear, and molecular physics will be discussed. Three hours of lecture plus one hour of discussion per week.

200 Survey of Theoretical Physics (3)

Prerequisites: Physics 112 and Math 180. Mathematical techniques specifically used in the study of mechanics, electricity, magnetism, and atomic physics are developed in the context of various physical problems. In particular, statics problems in electricity and magnetism are emphasized as applications of vector analysis, solutions of Laplace's equation, coordinate systems, and numerical techniques.

201 Elementary Electronics I (3)

(Same as Engineering 201.) Prerequisite: Physics 112. Primarily a laboratory study of characteristics of standard circuit elements, amplifier circuits, power supplies, operational amplifiers, digital and switching circuits, servo systems, shielding and noise problems, transducers, and oscilloscopes. Six hours of laboratory per week.

202 Elementary Electronics II (3)

(Same as Engineering 202.) Prerequisite: Physics 201. Continuation of Physics 201. Six hours of laboratory per week.

221 Mechanics (3)

Prerequisites: Physics 200 and Math 202. Math 202 may be taken concurrently. Advanced course covering rigid-body dynamics, damped and undamped oscillatory motion, with an introduction of Lagrange's equations and variational principles. Three hours of lecture and one hour of discussion per week.

223 Electricity and Magnetism (3)

Prerequisites: Physics 200 and Math 202 (Math 202 may be taken concurrently). Electromagnetic fields, including electrostatics, dielectric materials, solution to Laplace's equation, currents and magnetic fields, motion to charged particles, and introduction to electromagnetic waves. Three hours of lecture and one hour of discussion per week.

231 Introduction to Modern Physics I (3)

Prerequisite: Physics 111, 112, and Math 202 (may be taken concurrently) and Physics 200 strongly recommended. Photons and the wave nature of particles, wave mechanics, Schroedinger's equations, with applications to atomic physics; and radiation; the physics of solids; elementary particles; relativity; health physics. Three hours of lecture and one discussion section per week.

232 Introduction to Modern Physics II (3)

Prerequisite: Physics 231. Continuation of Physics 231.

280 Curriculum and Methods of Teaching Physical Sciences (3)

(Same as SEC ED 240.) Prerequisites: SEC ED 213 and a near-major in the subject matter. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

Physics

281 Directed Readings in Physics (1-5)

Prerequisite: Consent of instructor. A study of the literature of physics. A paper is required on an approved topic. Topics must be substantially different. Hours arranged.

282 History of Physics (3)

Prerequisite: Physics 1 or Astronomy 1. A study of the historical evolution of physics. Three hours of lecture per week.

283 Chemistry/Physics Teaching Intern Seminar (1)

(Same as Chemistry 283.) Prerequisite: Chem 280 or Physics 280. A seminar to accompany student teaching covering integration of physical science curricula and methods into the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290. One hour discussion per week.

289 Seminar (1)

Presentation of selected papers by students and faculty members at weekly meetings. May be taken twice for credit.

301 Introduction to Mathematical Physics (3)

Prerequisites: Sixteen hours of physics. A course covering mathematical techniques as applied to the equations of theoretical physics, calculus of variations, Green's functions; linear vector spaces, and integral equations. Three hours of lecture and one hour of discussion per week.

311 Advanced Physics Laboratory I (3)

Prerequisites: Advanced standing with at least nine completed hours of Physics at or above the 200 level. Physics majors are introduced to the experimental techniques used in research. A student will choose and do several special problems during the semester. Six hours of laboratory per week.

323 Modern Optics (3)

Prerequisite: Physics 223. A study of modern optics including diffraction theory, polarization, light propagation in solids, quantum optics, and coherence. Three hours of lecture and one discussion per week.

325 Linear Analysis of Physical Systems (3)

Prerequisites: Physics 201 and Math 202. Signals and systems, Fourier and Laplace analysis, transform methods, amplitude phase and delay, transfer functions and filters. Three hours of lecture and one hour of discussion per week.

331 Introduction to Quantum Mechanics (3)

Prerequisites: Physics 200 and 231. Photons and the wave nature of particles; wave mechanics, Schroedinger equation, and applications to single systems, atomic physics and spectroscopy; molecular physics, nuclear models and reactions, the physics of solids; elementary particles, relativity. Three hours of lecture and one discussion section per week.

333 Reflection Seismology (3)

Prerequisites: Physics 200 and Math 202. An introduction to the theory and application of seismic reflection

methods. The course will emphasize mathematical methods in elastic wave analysis.

335 Atomic and Nuclear Physics (3)

Prerequisite: Physics 331. Application of Schroedinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses, energy levels; alpha, beta, and gamma radiation, nuclear reactions, and models of the nucleus. Three hours of lecture and one hour of discussion per week.

341 Thermal and Statistical Physics (3)

Prerequisites: Math 180 and Physics 231. Introduction to statistical mechanics, laws of thermodynamics, kinetic theory. Three hours of lecture and one hour of discussion per week.

343 Selected Topics in Physics I (3)

Prerequisites: Physics 221, 223, 225, 231, 341, and Math 316 (Math 316 may be taken concurrently). Topics include special phenomena such as scattering of waves, thermal motion in gases, atmospheric disturbances treated by methods of advanced mechanics, electromagnetism, and quantum mechanics. Three hours of lecture and one hour of discussion per week.

344 Selected Topics in Physics II (3)

Prerequisite: Physics 343. Continuation of Physics 343. Three hours of lecture and one hour of discussion per week.

350 Computational Physics (3)

Prerequisites: Math 122, plus Physics 221, 223, and 231. Computer analysis in physics; solutions of eigenvalue problems; coupled differential equations; and writing of FORTRAN programs.

351 Elementary Solid State Physics (3)

Prerequisite: Physics 331. Theoretical and experimental aspects of solid state physics, including one-dimensional band theory of solids; electron emission from metals and semiconductors; electrical and thermal conductivity of solids. Three hours of lecture and one hour of discussion per week.

353 Physics of Fluids (3)

Prerequisites: Physics 221, 223, and 341, or consent of instructor. Topics from the theory of gases, liquids, or plasmas. Dynamical properties of one of these forms of matter will be developed with contemporary applications stressed.

354 Atmospheric Physics (3)

Prerequisite: Physics 341. Topics from dynamic and physical meteorology including the ionosphere. Application of thermodynamics, optics, radiation, and mechanics to atmospheric phenomena.

356 Quantum Optics (3)

Prerequisites: Physics 200 and 231, and Math 202. Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography.

Physics

357 Subatomic Physics (3)

Prerequisites: Physics 223, 231 and 331, may be taken concurrently. Introduction to nuclear and particle physics. Nuclear phenomenology and models; high energy particle accelerators and detectors; phenomenology of strong, electromagnetic and weak interactions; symmetry principles; quark compositions of strongly interacting baryons and mesons; gauge theories and the standard model of particle interactions; grand unification. Three hours of lecture and one hour of discussion per week.

365 Introduction to Plasma Physics (3)

Prerequisites: Physics 223 and 341. A study of the nonlinear collective interactions of ions, electrons, and neutral molecules with each other and with electric and magnetic fields. Topics include plasma confinement and stability, electrical discharges and ionization, kinetic theory of plasma transport, plasma waves and radiation, and controlled fusion. Solutions of the Boltzmann, Fokker-Planck, and Vlasov equations are discussed and methods of advanced electromagnetism and statistical physics are utilized. Three hours of lecture and one hour of discussion per week.

370 Relativity and Cosmology (3)

Prerequisites: Physics 221, 223, and 231. An introduction to Einstein's general theory of relativity. Topics will include special relativity in the formalism of Minkowski's four dimensional space-time, Principle of Equivalence, Riemannian geometry and tensor analysis, Einstein Field Equation and cosmology. Three hours of lecture and one hour of discussion per week.

381 Directed Readings in Physics (1-10)

Prerequisite: Consent of instructor. A study of special topics in physics for senior undergraduates or graduate students.

390 Research (1-10)

Prerequisite: Consent of department. Independent research projects arranged between student and instructor. Hours arranged.

395 Principles of Mathematical Physics (4)

Boundary value problems; Green's function techniques; and introduction to group theory with emphasis on representations of Lie Algebras.

400 Special Problems (1-5)

Prerequisites: Must have a faculty mentor and approval of the department chair. A study of special topics in physics for graduate students.

401 Special Topics (1-4)

Prerequisite: Consent of instructor. This course is designed to give the department an opportunity to test a new course.

404 Experimental Research Techniques (3)

Prerequisite: Graduate standing. Experiments in various fields of physics designed to stress techniques and experimental approach.

405 Theoretical Physics I (3)

Prerequisites: Physics 221 and 223 or equivalent. Newton's

laws applied to simple systems, central force problem, variational principles. Lagrangian and Hamiltonian formulations, electrostatics. Maxwell field operations, wave propagation.

406 Theoretical Physics II (3)

Prerequisites: Physics 231, 341, or equivalent, and Physics 405. Schroedinger equation and wave mechanical treatment of simple systems: perturbation theory; identical particles and spin. Laws of thermodynamics, canonical systems; thermodynamic potentials and Maxwell equations, open systems, and chemical potential. Clausius-Clapeyron equation.

407 Modern Physics (3)

Prerequisite: Physics 331. A study of some of the more important concepts of modern physics.

409 Theoretical Mechanics I (3)

Prerequisite: Physics 221. Classical mechanics, methods of Newton, Lagrange, and Hamilton, applied to motion of particles and rigid bodies, elasticity, and hydrodynamics.

410 Seminar (variable hours)

Prerequisite: Approval of department chair. Discussion of current topics.

411 Electrodynamics I (3)

Prerequisite: Physics 223. A rigorous development of the fundamentals of electromagnetic fields and waves. Electrostatics, magnetostatics, Maxwell's equations, Green's functions, boundary value problems, multipoles, and conservation laws.

413 Statistical Mechanics (3)

Prerequisites: Physics 331 and 341. A study of statistical ensembles; Maxwell-Boltzmann, Fermi-Dirac, and Einstein-Bose distribution laws, application to some simple physical systems.

415 Theoretical Mechanics II (3)

Prerequisite: Physics 409. Transformation theory of mechanics, Lagrange and Poisson brackets, Hamilton-Jacobi theory, introduction to the classical theory of fields.

417 Advanced Statistical Mechanics (3)

Prerequisite: Physics 413. A continuation of Physics 413. Further applications as to such topics as the imperfect gas, condensation and the critical region, magnetism, liquid state, and transport phenomena.

423 Electrodynamics II (3)

Prerequisite: Physics 411. A continuation of Physics 411. Applications of time-dependent Maxwell's equations to such topics as plasmas, wave guides, cavities, radiation: fields of simple systems and multipoles. Relativity: covariant formulation of Maxwell's equations and conservation laws, fields of uniformly moving and accelerated charges.

425 Plasma Physics (3)

Prerequisites: Physics 341 and 411. Fundamentals of kinetic theory, fluid equations, MHD equations, and applications;

Physics

wave propagation, shielding effect, diffusion stability, and charged particle trajectories.

435 Cloud Physics (3)

Prerequisites: Physics 223 and 341. A study of cloud microphysics and dynamics, atmospheric condensation and freezing nuclei, phase, precipitation mechanisms, aerosol scavenging, role of electrification, current dynamical models, and review of diagnostic techniques.

455 Theoretical Nuclear Physics (3)

Prerequisite: Physics 461. A study of the basic properties of nuclei, nuclear scattering and forces, nuclear reactions, and models.

461 Quantum Mechanics I (3)

Prerequisite: Physics 331. A study of the Schroedinger wave equation, operators and matrices, perturbation theory, collision, and scattering problems.

463 Quantum Mechanics II (3)

Prerequisite: Physics 461. Continuation of Physics 461 to include such topics as Pauli spin-operator theory, classification of atomic states, introduction to field quantization. Dirac electron theory.

465 Quantum Mechanics III (3)

Prerequisites: Physics 461 and 463. Topics chosen from such fields as: relativistic quantum mechanics, potential scattering, formal collision theory, group theoretical methods in quantum mechanics, electrodynamics.

467 Quantum Statistical Mechanics (3)

Prerequisites: Physics 413 and 463. Techniques for calculation of the partition function with examples drawn from interacting Fermi gas, interacting Bose gas, superconductors, and similar sources.

471 Atomic and Molecular Structure (3)

Prerequisite: Physics 461. Applications of quantum mechanics to the structure of atoms and molecules; perturbation and variational calculations, self-consistent fields, multiplets, angular momenta, Thomas-Fermi model, diatomic molecules, spectral intensities.

473 Atomic Collision Theory (3)

Prerequisite: Physics 471 or 463. Basic quantum mechanical concepts involved in atomic scattering theory. Topics include: elastic and inelastic collisions of electrons and ions with neutral atoms and molecules; collisions between heavy particles; curve crossing; photo-processes; and Coulomb wave functions.

475 Molecular Spectroscopy (3)

Prerequisite: Physics 461. Introduction to classical and quantum treatment of the vibrational and rotational structure and spectra of diatomic, linear triatomic, and simple polyatomic molecules; vibrational-rotational interactions, point group symmetry in simple infrared spectra analysis, calculations of vibrational frequencies, and normal coordinates of polyatomic atoms.

481 Physics of the Solid State (3)

Prerequisite: Physics 461. Crystal symmetry, point and space groups, lattice vibrations, phonons, one-electron model, Hartree-Fock approximation, elementary energy band theory, transport properties, the Boltzmann equation, introduction to superconductivity, semiconductors, and magnetism.

483 Selected Topics of the Solid State (3)

Prerequisite: Physics 481. Introduction to many-body perturbation theory, the use of Feynman diagrams. Green's functions, treatment of the electron-electron, phonon-phonon, and electron-phonon interactions, theory of magnetism, and theory of superconductivity.

485 Advanced Quantum Mechanics (3)

Prerequisite: Physics 465. Selected topics such as many-body problems field theory, S matrix theory and symmetries.

490 Research (variable hours)

Prerequisites: Must have a faculty mentor and approval of the department chair. Investigations of an advanced nature leading to the preparation of a thesis or dissertation.

493 Oral Examination

After completion of all other program requirements, oral examinations for on campus students may be processed during the first two weeks of an academic session or at any appropriate time for off-campus students upon enrollment in Physics 493 and payment of an oral examination fee. All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three semester hours for resident students.

495 Continuous Registration

Doctoral candidates who have completed all requirements for the degree except the dissertation, and are away from the campus, must continue to enroll for at least one hour of credit each registration period until the degree is completed. Failure to do so may invalidate the candidacy. Billing will be automatic as will registration upon payment.

Political Science

Faculty

Carol W. Kohfeld, Professor*; Chairperson
Ph.D., Washington University

Edwin H. Fedder, Professor Emeritus
Ph.D., American University

Werner F. Grunbaum, Professor Emeritus
Ph.D., University of Chicago

Kenneth F. Johnson, Professor Emeritus
Ph.D., University of California-Los Angeles

Eugene J. Meehan, Curators' Professor Emeritus
Ph.D., London School of Economics

E. Terrence Jones, Professor*
Ph.D., Georgetown University

Dennis R. Judd, Professor*
Ph.D., University of Illinois

Michael B. MacKuen, Professor*
Ph.D., University of Michigan

Timothy G. O'Rourke, Teresa M. Fischer Professor in
Citizenship Education and Political Science*
Ph.D., Duke University

J. Martin Rochester, Professor*
Ph.D., Syracuse University

Lyman T. Sargent, Professor*
Ph.D., University of Minnesota

J. Fred Springer, Professor*
Ph.D., University of California-Davis

Andrew Glassberg, Associate Professor*; Director of
MPPA Program
Ph.D., Yale University

Joel N. Glassman, Associate Professor*; Director, Center
for International Studies
Ph.D., University of Michigan

Barbara L. Graham, Associate Professor*
Ph.D., Washington University

Michele M. Hoyman, Associate Professor*
Ph.D., University of Michigan

Joyce M. Mushaben, Associate Professor*
Ph.D., Indiana University

David B. Robertson, Associate Professor*
Ph.D., Indiana University

Lana Stein, Associate Professor*
Ph.D., Michigan State University

Jean-Germain Gros, Assistant Professor
Ph.D., University of California-Berkeley

Ruth Iyob, Assistant Professor
Ph.D., University of California-Santa Barbara

Linda Kowalcky, Assistant Professor*
Ph.D., The Johns Hopkins University

Richard L. Pacelle, Jr., Associate Professor*
Ph.D., The Ohio State University

G. Eduardo Silva, Associate Professor*
Ph.D., University of California-San Diego

Kenneth P. Thomas, Assistant Professor*
Ph.D., University of Chicago

*members of Graduate Faculty

Political Science faculty are nationally-known scholars in their respective fields, dedicated to high-quality teaching and education. Department faculty members have received distinctions such as the Chancellor's Award for Excellence in Teaching, AMOCO Good Teaching Awards, the Burlington Northern Faculty Achievement Award, and

the Emerson Excellence in Teaching Award. They have received research grants from such prestigious agencies as the John F. Kennedy Library, the Ford Foundation, the MacArthur Foundation, the National Science Foundation, the German Marshall Fund, the United States Department of Education, the Fulbright Program, and the United States Institute for Peace. The faculty has published its research in more than 70 books and 350 articles in scholarly journals and is devoted to using its research findings to improve teaching.

In 1987 the Department of Political Science was designated as a Center of Eminence by the Board of Curators. This makes political science one of only two such programs on the St. Louis campus and ten in the entire University of Missouri system to be so designated. The department was selected because of its excellence in research and teaching and the potential for the department to achieve even greater national and international recognition in the 1990s.

The Greek word for "idiot" was used in ancient times to refer to one who took no interest in public affairs. In addition to helping students become more knowledgeable about politics and public policy, political science coursework provides rich opportunities for students to develop a variety of practical skills—such as information-gathering and processing, analysis, research, decision making and oral and written communication—that are transferable to many career paths and job settings following graduation.

General Information

Degrees and Areas of Concentration

The political science department offers undergraduate work leading to the B.A. degree in political science, B.S. degree in public administration, and, in cooperation with the School of Education, the B.S. in education with an emphasis in social studies. (See School of Education section in this Bulletin for details.) Minors in political science are available to students who are majoring in another discipline and who have a special interest in law, government, and politics.

Principal areas of concentration include urban politics, American political processes and behavior, international politics, comparative politics, public policy and administration, public law, and political theory. In many courses, emphasis is placed on the ways in which public policies are developed and administered. In addition to formal course work, internships are available in which the student can relate classroom learning to practical field experience.

The political science department also offers graduate courses leading to the M.A. and Ph.D. in political science. The M.A. program in political science offers advanced education for those seeking careers in government, business, community, or not-for-profit agencies. The principal foci of the 33-hour program are public administration and public policy analysis/evaluation in the local, state, national, and international areas.

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The flexibility of the general master's degree allows for individualized programs in urban politics, prelegal education, American national government, comparative politics, international relations, and political theory.

The Ph.D. in political science emphasizes theoretic, analytic, and substantive approaches to public policy. Core courses include research methods, normative and empirical theory, and policy processes and institutions. Doctoral candidates, in consultation with the faculty, develop a policy concentration, many of which are interdisciplinary. Internships, when appropriate, may be a component of many programs. As a research-oriented Ph.D., all successful doctoral candidates must complete a dissertation which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so that those employed outside the University can participate in the programs on a part-time basis.

Special Interdisciplinary Degree

The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the School of Business Administration in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see that section in this Bulletin.

Cooperative Programs

Political science students may also study overseas, or obtain a certificate in international studies, European studies, East Asian studies, Latin American studies, women's studies, or writing, in conjunction with their political science major. See Certificate Programs in this Bulletin and consult with the Center for International Studies.

Research in political science is encouraged for students at all levels. Assistance is available at UM-St. Louis' Public Policy Research Centers, the Center for International Studies, and the Office of Computing. The department's membership in the Inter-University Consortium for Political and Social Research provides access to a wide range of survey data on local-state-national, comparative, and international politics. In addition, extensive research opportunities are available within the metropolitan St. Louis area. Financial assistance is available for qualified students; details can be obtained from the department office.

Course Designations

The department has designated the following instructional areas for the political science student:

- Public Law
- American Politics
- Public Policy and Administration
- Comparative Politics
- Theory and Methodology
- International Relations

In addition to these areas, the department offers several ungrouped courses.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. Political science courses may be used to satisfy the social sciences requirement. The foreign language requirement for the B.A. degree may be satisfied in any language.

Departmental Honors

The department awards honors to students having a grade point average (GPA) of 3.2 in the major, an overall GPA of 3.2 (except in extraordinary circumstances), and successfully completed an honors thesis, project, or report.

Degree Requirements

Bachelor of Arts in Political Science

Students must take at least 36 hours, but no more than 45, of political science. Candidates must complete the following required courses in the core curriculum:

- PolSci 11**, Introduction to American Politics
- PolSci 12**, Introduction to Comparative Politics
- PolSci 201**, Fundamentals of Thinking About, Analyzing, and Discussing Politics
- PolSci 202**, Research Methods in Political Science
- PolSci 395**, Senior Seminar In Political Science

Majors are urged to take PS 11,12, 201 and 202 as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent coursework. PS 395 is intended as a capstone, integrative experience at the end of the program.

Students also must take at least one course in four of the following political science areas:

- Public Law
- American Politics
- Public Policy and Administration
- Theory and Methodology
- Comparative Politics
- International Relations

The courses that fall within each of these groups are listed below with course descriptions.

Students must take at least 18 hours of their political science course work in courses at the 200 or 300 level, not including Political Science 201 and 202. B.A. degree students may take a maximum of three hours of political science on a satisfactory/unsatisfactory basis; this can include any course except the required courses in the core curriculum.

Note: As early as possible, students should determine their educational objectives and consult with advisers regarding a plan of study. Depending on career and other interests, students may wish to concentrate their course work in one or two of the above-mentioned fields. (See Political Science Minors, which is suggestive of the tracks of courses that majors might wish to pursue in some

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depth.) The plan of study should include recommended electives in other departments to complement a student's political science course work. Students are encouraged to take at least one course in statistics or accounting.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. in Political Science from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. The political science department will require students not satisfying course prerequisites to receive permission of the instructor prior to enrollment.

Bachelor of Science in Public Administration

Majors must take at least 33, but no more than 45, hours in political science. The following political science core courses are required:

- 11, Introduction to American Politics
- 12, Introduction to Comparative Politics
- 140, Public Administration
- 242, Introduction to Public Policy
- 295, Public Affairs Internship
- 342, Public Personnel Management
- 344, Public Budgeting
- 395, Senior Seminar in Political Science

The following courses from other departments are required:

- BA 140, Fundamentals of Financial Accounting
- Econ 51, Principles of Microeconomics
- Econ 52, Principles of Macroeconomics

plus one of the following statistics courses:

- BA 131, Elementary Statistics
- CCJ 220, Statistical Analysis in Criminology and Criminal Justice
- Econ 265, Economic Statistics
- Sociology 220, Sociological Statistics

plus one of the following research methods courses:

- PolSci 202, Research Methods in Political Science
- PolSci 308, Program Evaluation
- CCJ 210, Research Methods in Criminology and Criminal Justice
- Sociology 230, Research Methods

(Completion of one of the statistics courses listed above is a prerequisite for any research methods course.)

plus establishment of computer literacy through one of the following:

- BA 103, Computers and Information Systems
- Extension Courses (Data Base, Lotus, Spreadsheet)
- Independent study supervised by a faculty member

Two of the following nine political science courses are required:

- 130, State Politics
 - 135, Introduction to Urban Politics
 - 228, The Federal Judicial System: Politics, Process, and Behavior
 - 230, The American Presidency
 - 231, Congressional Politics
 - 245, Urban Administration
 - 248, Environmental Politics
 - 340, Organizational Politics, or Sociology 336, Organizations and Environments
 - 351, Comparative Public Policy and Administration
- (A comparative politics area course may be used for this requirement by permission of BSPA coordinator.)

Satisfactory/Unsatisfactory Option

From the list of courses above, BSPA students may take a maximum of three hours on a satisfactory/unsatisfactory basis, except for the following (which may not be taken on a satisfactory/unsatisfactory basis): PS 11, 12, 140, 242, 295, 342, 344, and 395.

Area of Specialization: 12 hours required

Each major must specialize in some substantive or topical area within public administration. Possible areas of specialization include, but are not limited to, planning, budgeting, personnel, management, and evaluation/analysis. Courses designed to fulfill the specialization requirement must be selected in conjunction with the B.S. in Public Administration coordinator. These hours may be used in partial satisfactory of the general education requirement in social science.

Note: Students considering the B.S. in Public Administration should see a political science adviser as early as possible to plan their program.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.S. in Public Administration from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. The political science department will require students not satisfying course prerequisites to receive permission of the instructor prior to enrollment.

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Requirements for the Minors

A general minor in political science can be arranged, as well as specialized minors in eight different subfields of the discipline. Interested students should see a faculty adviser to plan a coherent program of study as a minor field.

Students must achieve a cumulative 2.0 GPA in the political science courses chosen to qualify for the minor. Students may count no more than three hours in political science taken on a satisfactory/unsatisfactory basis toward the minor. Students taking an internship (Political Science 295) may count no more than three hours of the internship toward the minor.

Minor in Political Science, General

Fifteen hours, chosen from among all political science courses.

Minor in American Politics

Fifteen hours, chosen from the following political science courses:

- 11, Introduction to American Politics
- 130, State Politics
- 135, Introduction to Urban Politics
- 165, American Political Thought
- 228, The Federal Judicial System: Politics, Process, and Behavior
- 230, The American Presidency
- 231, Congressional Politics
- 232, African Americans and the Political System
- 233, Introduction to Political Behavior
- 234, Politics and the Media
- 235, Political Parties and Elections
- 238, Women in U.S. Politics
- 240, Bureaucratic Politics
- 241, The Politics of Business Regulation
- 242, Introduction to Public Policy
- 282, United States Foreign Policy
- 295, Public Affairs Internship (when appropriate)
- 332, Studies in American Politics
- 333, Mock Constitutional Convention
- 390, Special Readings (when appropriate)

Minor in Comparative Politics

Political Science 12, Introduction to Comparative Politics, plus 12 hours from the following political science courses:

- 155, East Asian Politics
- 251, Comparative Politics of Europe
- 253, Political Systems of South America
- 254, Political Systems of Mexico, Central America, and the Caribbean
- 256, Russia and the New Republics
- 257, Women, Power and Public Policy
- 258, African Politics
- 351, Comparative Public Policy and Administration
- 355, Democratization in Comparative Perspective
- 359, Studies in Comparative Politics
- 390, Special Readings (when appropriate)

Minor in International Relations

Fifteen hours, chosen from the following political science courses:

- 80, Global Issues
- 85, Global Ecology
- 180, World Politics
- 282, United States Foreign Policy
- 283, International Political Economy
- 284, European International Relations
- 285, International Organizations and Global Problem-Solving
- 289, Middle Eastern Politics
- 295, Public Affairs Internship (when appropriate)
- 385, International Law
- 386, Studies in War and Peace
- 388, Studies in International Relations
- 390, Special Readings (when appropriate)

Minor in Political Theory

Fifteen hours, chosen from the following political science courses:

- 160, Contemporary Political Ideologies
- 165, American Political Thought
- 261, Ancient and Medieval Political Thought
- 262, Modern Political Thought
- 268, Feminist Political Theory
- 269, The Marxist Heritage
- 368, Studies in Political Theory
- 390, Special Readings (when appropriate)

Minor in Public Administration

Political Science 140, Public Administration, plus 12 hours chosen from the following political science courses:

- 240, Bureaucratic Politics
- 241, Politics of Business Regulation
- 242, Introduction to Public Policy
- 245, Urban Administration
- 295, Public Affairs Internship (when appropriate)
- 308, Program Evaluation
- 340, Organizational Politics
- 342, Public Personnel Management
- 343, Studies in Policy Formation
- 344, Public Budgeting
- 346, Urban Planning and Politics
- 349, Studies in Public Administration
- 351, Comparative Public Policy and Administration
- 390, Special Readings (when appropriate)

Minor in Public Law

Fifteen hours, chosen from the following political science courses:

- 20, Foundations of Law: An Introduction to Legal Studies
- 129, Women and the Law
- 226, Law and the Individual
- 228, The Federal Judicial System: Politics, Process, and Behavior
- 320, Constitutional Law
- 321, Civil Liberties
- 326, Judicial Decision-Making
- 329, Studies in Public Law
- 385, International Law
- 390, Special Readings (when appropriate)

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Minor in Public Policy

Political Science 242, Introduction to Public Policy, plus 12 hours chosen from the following political science courses:

- 130, State Politics
- 135, Introduction to Urban Politics
- 140, Public Administration
- 230, The American Presidency
- 241, The Politics of Business Regulation
- 245, Urban Administration
- 246, The Politics of Poverty and Welfare
- 248, Environmental Politics
- 257, Women, Power, and Public Policy
- 295, Public Affairs Internship (when appropriate)
- 308, Program Evaluation
- 344, Public Budgeting
- 346, Urban Planning and Politics
- 351, Comparative Public Policy and Administration
- 390, Special Readings (when appropriate)

Minor in Urban Politics

Political Science 135, Introduction to Urban Politics, plus 12 hours chosen from the following political science courses:

- 232, African-Americans and the Political System
- 245, Urban Administration
- 246, The Politics of Poverty and Welfare
- 295, Public Affairs Internship (when appropriate)
- 346, Urban Planning and Politics
- 390, Special Readings (when appropriate)

Graduate Studies

Master of Arts in Political Science

Admission Requirements For admission, a student should have a baccalaureate degree with a minimum grade point average of 2.75 and an undergraduate background in the social sciences. The Graduate Record Examination is required, and scores should be submitted at the time of application. Two letters of recommendation are also requested for each student applying to the program. Students who do not meet these requirements may be admitted upon approval of the department and the dean of the Graduate School. Application materials may be obtained from and should be returned to the office of the director of admissions. Deadlines are July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the summer term.

Degree Requirements

Beyond the general requirements of the Graduate School, the department requires a minimum of 27 semester hours of course work, of which 18 hours must be at the 400 level and 12 hours must be in core courses in political science, including:

- 401, Introduction to Policy Research

and three of the following political science courses:

- 410, Introduction to Policy Analysis
- 420, Proseminar in Public Law

- 430, Proseminar in American Politics
- 440, Proseminar in Public Policy Administration
- 450, Proseminar in Comparative Politics
- 460, Proseminar in Political Theory
- 470, Proseminar in Urban Politics
- 480, Proseminar in International Relations

Students can plan their degree program to reflect the following six emphasis areas:

- American Politics
- Comparative Politics
- International Politics
- Political Process and Behavior
- Public Administration and Public Policy
- Urban and Regional Politics

Students must also select one of the following exit projects: a six-hour thesis, a six-hour internship, or six hours of additional course work and an approved paper. Students will have a midprogram review at the end of 12-15 hours of course work, at which time they will discuss their academic performance and program with a faculty committee and determine the most appropriate exit project. Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project.

Ph.D. in Political Science

The doctoral program emphasizes theoretical, analytic, and substantive approaches to public policy analysis and administration. Students are provided an opportunity to link core skills in policy analysis and political science with substantive emphasis in specific policy areas. The program is designed to prepare precareer and midcareer students for advanced positions in policy research and administration, as well as for academic research and teaching.

Admission Requirements Admission and financial aid decisions are made on the basis of past academic record, intellectual ability, and career commitment and performance. Applications are accepted from students who have baccalaureate or graduate degrees. Past graduate work will be credited toward degree requirements as appropriate. Applicants must submit a) complete academic transcripts, b) three letters of recommendation, c) aptitude tests of the Graduate Record Examination and d) a statement of objectives for the course of study. Application materials may be obtained from and should be returned to the office of the director of admissions. Applications for Fall Semester should be submitted by February 15 and for Winter Semester by October 15.

Graduate Assistantships Stipends for teaching and research assistantships (nine month/20 hours per week) are awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

Degree Requirements

The department requires 60 credit hours beyond the baccalaureate degree for completion of the Ph.D. To ensure sufficient background for doctoral-level policy

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courses, students must demonstrate appropriate competence in computing and intermediate economics during their course of study. Course requirements are as follows:

Core courses (21 credit hours)

Twenty-one credit hours will be required in the areas of research methods, normative and empirical theory, and policy process and institutions. Contact the department for specific courses.

Additional Requirements (12 credit hours)

In addition, students will select a minimum of 12 credit hours in public policy, theory, or process.

Policy Concentration (15 credit hours)

Students, in consultation with the Program Director, will develop expertise in a substantive policy area. Policy concentrations (many interdisciplinary) include:

- American National Policy
- Urban Politics and Planning
- Comparative/International Policy
- Policy Analysis and Research
- Public Budgeting and Finance
- Labor and Employment
- Criminal Justice
- Social Welfare

Internship (six credit hours) optional.

The Ph.D. intern program offers an opportunity to gain first-hand experience in select research and administrative positions.

General Examination and Dissertation

Upon completion of course work, students are advanced to candidacy by successfully completing two general examinations, the first covering the fields of public policy institutions, processes and analysis, and the second covering the student's chosen subfield and area of policy concentration. The degree is awarded upon completion and defense of the Ph.D. dissertation.

Career Outlook

Bachelor of Arts, Bachelor of Science, and Master of Arts in Political Science

Political science graduates have done well in obtaining appropriate employment and in pursuing graduate education. Majors develop communications and decision-making skills, learn to analyze complex policy issues, both domestic and international in scope, and have a thorough understanding of government and politics. Political science is a particularly good undergraduate major for prelaw students. Many other majors pursue graduate education in business, education, public administration, public policy administration, journalism, and many other fields. Guides to careers in political science are available in the department office.

Ph.D. in Political Science

The Ph.D. in Political Science prepares students for three career areas: 1) government leadership and management positions at the local, state, and federal levels (both for new employees and in-service employees); 2) careers in the private sector, particularly positions in public affairs, policy research, and governmental relations departments of corporations, as well as consulting firms and nonprofit organizations; and 3) research and teaching careers in academic institutions.

Requests for further information about the M.A. or Ph.D. program should be sent to the Director of Graduate Studies, Department of Political Science, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121-4499.

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Course Descriptions

Courses in this section are grouped as follows: Ungrouped Courses; Public Law; American Politics; Public Policy and Administration; Comparative Politics; Theory and Methodology; International Relations; and Graduate Courses.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: UNGROUPED COURSES: 11, 12, 80, 99, 190, 201, 202, 280, 295, 390, 395. PUBLIC LAW: 20, 129, 226, 228, 320, 321, 326, 329. AMERICAN POLITICS: 130, 135, 230, 231, 232, 233, 234, 235, 238, 318, 332, 333. PUBLIC POLICY AND ADMINISTRATION: 45, 140, 240, 241, 242, 245, 246, 248, 340, 342, 343, 344, 346, 349, 394. COMPARATIVE POLITICS: 155, 251, 253, 254, 256, 257, 258, 351, 355, 359. THEORY AND METHODOLOGY: 160, 165, 261, 262, 268, 269*, 304, 306, 308, 368. INTERNATIONAL RELATIONS: 85, 180, 282, 283, 284, 285, 289, 385, 386, 388.

* Course may fulfill the Humanities [H] or Social Sciences [SS] breadth of study requirement.

Ungrouped Courses

11 Introduction to American Politics (3)

Introduction to basic concepts of government and politics with special reference to the United States, but including comparative material from other systems. Course fulfills the state requirement.

12 Introduction to Comparative Politics (3)

An introduction to basic political structures and processes with an emphasis on foreign political systems and comparative political analysis. The course will deal with democratic and nondemocratic political systems in developed and underdeveloped nations.

80 Global Issues (3)

A freshman- and sophomore-level course designed to introduce students to a range of global concerns, including population, hunger, trade, energy, and the environment. The worldwide implications of these and other problems will be considered, as well as their effects on local communities such as St. Louis.

99 The City (3)

(Same as CCJ 99, Sociology 99, and Interdisciplinary 99.) An interdisciplinary course. Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

190 Studies in Political Science (3)

Selected topics in political science.

201 Fundamentals of Thinking About, Analyzing, and Discussing Politics (3)

Prerequisites: PolSci 11 or 12, or consent of the instructor. This course is designed to introduce students to the range of questions and issues that define the political science discipline, and to help students develop the analytical, research, writing and other skills essential to becoming a knowledgeable observer of politics and engaging in political discourse. Among the topics addressed are: alternative perspectives and major controversies in studying political phenomena; the scope of the discipline and how it relates to other disciplines; key information and data sources and how to use them; principles and techniques of written argumentation and professional writing style; various methodological approaches (e.g., qualitative field research, quantitative or statistical analysis, historical research); and elements of research design.

202 Research Methods in Political Science (3)

Prerequisite: PolSci 11 or 12. An introduction to the use of quantitative techniques in the study of politics. Topics include research design and data measurement, collection, and statistical analysis. The course emphasizes hands-on skills and practical knowledge. It is recommended that students take PolSci 201 prior to 202.

280 Model United Nations (1-3)

Prerequisite: Consent of instructor. Students in this course will be members of the UM-St. Louis delegation to the Midwest Model United Nations, a "mock UN" roleplaying experience involving various universities representing UN member countries. Students are expected to develop knowledge about the UN and do research on a selected country and issue area (for example, terrorism or economic development). May be repeated up to a maximum of three credit hours.

295 Public Affairs Internship (1-6)

Prerequisites: Junior standing and consent of instructor. Independent study involving work with an appropriate public or private agency. A maximum of six credit hours may be earned.

390 Special Readings (1-10)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

395 Senior Seminar in Political Science (3)

Prerequisites: Senior standing and consent of instructor. Required for all political science majors in their last year of coursework, as an integrative, capstone experience. This course will revisit themes and questions central to the discipline of political science, including such concerns as the nature of power in society, the relationship between authority and legitimacy, the meaning of citizenship, and the definition of justice. A course project based on a critique of selected literature will require students to utilize the methodological, research, writing, and critical thinking skills acquired in previous political science coursework. This course is not available for graduate student credit.

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Group I: Public Law

20 Foundations of Law: An Introduction to Legal Studies (3)
(Same as CCJ 20). As a broad liberal arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

129 Women and the Law (3)
Legal position of women in the United States, emphasizing constitutional law, criminal law, domestic relations, and fair employment practice laws.

226 Law and the Individual
(Same as CCJ 226.) Prerequisite: PolSci 11, or 20, or consent of instructor. An examination of the formal and informal aspects and processes of the American judicial system and its effect on the individual. The course will cover criminal and civil law, public and private law, state and federal courts, and the processes by which disputes are transformed into legal actions. Topics include judicial selection and recruitment, plea bargaining, the impact and implementation of judicial decisions, the examination of a number of substantive areas of law like contracts and torts, and the role of courts in policymaking and dispute resolution. Course fulfills the state requirement.

228 The Federal Judicial System: Politics, Process, and Behavior (3)
Prerequisite: PolSci 11, or 20, or consent of instructor. The study of the federal courts as a political system. Analysis of organization, procedures, and norms of the Supreme Court and lower federal courts. Consideration of judicial recruitment, attitudes, and decision making as well as the impacts and limitations of judicial policy making.

320 Constitutional Law (3)
Prerequisite: PolSci 11, or 20, or consent of instructor. Study of leading American constitutional principles regarding legislative, executive, and judicial power, federalism, the commerce clause, and economic due process as they have evolved through the important decisions of the U.S. Supreme Court. Course fulfills the state requirement.

321 Civil Liberties (3)
Prerequisite: PolSci 11, or 20, or 320, or consent of instructor. Civil rights in the American constitutional context, emphasizing freedom of religion, freedom of expression, minority discrimination, and the rights of defendants. Course fulfills the state requirement.

326 Judicial Decision-Making (3)
Prerequisite: PolSci 11, or 20, or consent of instructor. The purpose of this course is to investigate the processes by which cases get to the U.S. Supreme Court, are accepted or denied, and are decided. The means for investigating this process will be a semester-long simulation. Students will assume the roles of the current justices of the Supreme

Court, the Solicitor General, and other litigants in the judicial system. Course fulfills the state requirement.

329 Studies in Public Law (3)
Prerequisite: PolSci 11, or 20, or consent of instructor. Selected topics in public law. May be repeated.

Group II: American Politics

130 State Politics (3)
Prerequisite: PolSci 11 or consent of instructor. An examination of contemporary state politics in the United States; social, economic, and political determinants of policies; federal-state-local relations; elections, interest groups, and participation; executive, legislative, and judicial institutions and policies, and their impact. Course fulfills the state requirement.

135 Introduction to Urban Politics (3)
Prerequisite: PolSci 11 or consent of instructor. Examination of structure and process of politics in the urban community, with emphasis on their relationships to community power structures. Course fulfills the state requirement.

230 The American Presidency (3)
Prerequisite: PolSci 11 or consent of instructor. Study of the constitutional, political, legislative, and administrative roles played by the American chief executive in the development of public policy. Course fulfills the state requirement.

231 Congressional Politics (3)
Prerequisite: PolSci 11 or consent of instructor. An examination of the Congress of the United States, its history and evolution, its contemporary politics, and its role in the national policy-making process. Topics include candidate recruitment, campaigns and elections, representation, committees, legislative leadership, roles and norms, voting alignments, lobbyists and interest groups, oversight of administration, and House-Senate comparisons. The role of Congress in foreign policy, economic policy, and social-welfare policy will be examined. Course satisfies the state requirement.

232 African Americans and the Political System (3)
Prerequisite: PolSci 11 or consent of instructor. Examination of the status of African Americans in the context of the American political system. The course will focus on a number of issues, including: attitudes of various publics toward racial concerns; nature of problems in specific policy areas (e.g., unemployment, school desegregation, housing, poverty); representation of African Americans in governmental institutions and the private sector; and the role of African American leadership and civil rights groups in the political process. Course fulfills the state requirement.

233 Introduction to Political Behavior (3)
Prerequisite: PolSci 11 or consent of instructor. An introduction to political behavior employing perspectives from both political psychology and political sociology. Subjects include political socialization, the character of public opinion, citizen participation, group dynamics, the social determination of reality, and the underlying bases of leadership and authority. Course fulfills the state requirement.

Political Science

234 Politics and the Media (3)

Prerequisite: PolSci 11 or consent of instructor. An analysis of the role the media play in shaping American political life. The first part of the course examines the organizational structures, the economic and psychic incentives, and the social and professional norms that define how television and newspapers report news about public affairs. The second part then considers the nature of a mass-communications society by looking at how reality is defined, the susceptibility of mass publics to persuasion and propaganda, the peculiar form of media election campaigns, and the manner in which the media link changes the basic character of a citizenry.

235 Political Parties and Elections (3)

Prerequisite: PolSci 11 or consent of instructor. An examination of the part played by parties and elections in American politics. Topics include the historical development of the party system, the organization and management of political parties and campaigns, contemporary changes in the nature of electoral politics, and the effects of elections on public policy. Course fulfills the state requirement.

238 Women in U.S. Politics (3)

Prerequisite: PolSci 11 or consent of instructor. This course focuses on the relationship between gender and organized politics in the United States. Topics to be addressed include the historical development of women's activism in politics, women as political candidates and elected officials, women's organizations in American politics, women and public policy, women's rights and issues, and women and political leadership. Throughout the class, emphasis will be placed not only on examining the role of women in politics, but also on understanding the role of gender in the construction and evaluation of political institutions, practices and public policies in the United States.

318 Social Choice in Political-Economic Systems (3)

Prerequisites: Two courses in Economics, Political Science, or Sociology. A study of the mechanisms of social choice from the standpoint of individuals and institutions maximizing their objectives. This area draws on work done by sociologists, political scientists, and economists.

332 Studies in American Politics (3)

Prerequisite: PolSci 11 or consent of instructor. Selected topics in American politics. May be repeated.

333 Mock Constitutional Convention (3)

Prerequisite: PolSci 11 or consent of instructor. An active exercise in political imagination. Students make proposals and bargain with each other to write a constitution for the United States in the 21st century. Students are encouraged to develop new views of what is a desirable society and to gain a richer appreciation of how practical politics are conducted. The course is designed for majors and nonmajors who enjoy political discussion and have a genuine interest in political life. Course fulfills the state requirement.

Group III: Public Policy and Administration

45 Introduction to Labor Studies (3)

(Same as Interdisciplinary 45). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and the media.

140 Public Administration (3)

Prerequisite: PolSci 11 or consent of instructor. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process. Course fulfills the state requirement.

240 Bureaucratic Politics (3)

Prerequisite: PolSci 11 or consent of instructor. Examination of the policy-making process within public organizations and the forces influencing the making of bureaucratic policy. Study of the role of the bureaucracy as one of several "actors" in the larger policy process. Course fulfills the state requirement.

241 Politics of Business Regulation (3)

Prerequisite: PolSci 11 or consent of instructor. This course will examine the role of governmental decision-making processes in regulatory policy, including congressional politics, presidential initiatives, administrative rulemaking, and society wide constraints. The impact of government regulation and alternative means for accomplishing regulatory goals (e.g., mandatory standards or incentive systems) will also be considered. Bureaucratic incentives and the role of the courts will be emphasized. Selected areas of regulation which may be covered include: equal employment policies, occupational health and safety policies, environmental policies, employment policies, and urban policies.

242 Introduction to Public Policy (3)

Prerequisite: PolSci 11 or consent of instructor. Study of differing approaches to understanding the public policy process. Course surveys the application of social science to public issues and problems. Course fulfills the state requirement.

245 Urban Administration (3)

Prerequisite: PolSci 11 or consent of instructor. Study of administrative machinery and practices of metropolitan government, how metropolitan areas organize themselves to provide services, how urban policies are made and implemented, how budgeting and personnel recruitment processes operate, and how these relate to urban policies. Course fulfills the state requirement.

246 The Politics of Poverty and Welfare (3)

Prerequisite: PolSci 11 or consent of instructor. An examination of the structure of income inequality in

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the U.S. and public policies designed to redistribute wealth and to treat poverty. The history of welfare programs, the growth of the welfare state, and attempts to cut social spending are closely examined.

248 Environmental Politics (3)

Prerequisite: PolSci 11 or consent of instructor. This course examines the process of environmental policy-making and key environmental issues. Topics include national and international policies toward air and water pollution, energy use, solid and toxic waste disposal, global warming, overpopulation, and wilderness and wildlife conservation.

340 Organizational Politics (3)

Prerequisite: PolSci 11, or 140, or consent of instructor. Examination of public sector organizations and the range of factors affecting their operation. Specific areas of attention will include theories of organization structure and management, decision theory, organizational/environment interactions, interorganizational relations, and theories of organizational change and development.

342 Public Personnel Management (3)

Prerequisite: PolSci 11, or 140, or consent of instructor. A study of personnel practices in the public sector, including recruitment, job development, labor relations, and administration of equal employment/affirmative action programs.

343 Studies in Policy Formation (3)

Prerequisite: Consent of instructor. Selected topics in policy formation. May be repeated.

344 Public Budgeting (3)

Prerequisite: PolSci 11 or consent of instructor. Budgeting is the study of "who gets what" and who pays for it. This course examines the administration and politics of federal, state, and local government budgets. Students gain experience in interpreting budget documents and making budget choices, using electronic and other resources.

346 Urban Planning and Politics (3)

Prerequisite: PolSci 11, or 140, or consent of instructor. Examination of the political processes of urban areas as they relate to the planning of services and facilities. Course fulfills the state requirement.

349 Studies in Public Administration (3)

Prerequisite: PolSci 11, or 140, or consent of instructor. Selected topics in public administration. May be repeated.

394 Leadership and Management in Nonprofit Organizations (3)

(Same as Public Policy Administration 394, Social Work 308, and Sociology 308.) Prerequisite: Junior standing. This course addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include:

- 1) the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations;
- 2) governance and management of NPOs;
- 3) resource mobilization and
- 4) program development management and evaluation.

Group IV: Comparative Politics

155 East Asian Politics (3)

An introduction to the study of the Chinese and Japanese political systems. Examination of the cultural context that has shaped the path of political development for both states. This course fulfills the Cultural Diversity requirement.

251 Comparative Politics of Europe (3)

Prerequisite: PolSci 12 or consent of instructor. Introduction to the major political systems of Europe. The course will emphasize political culture, political parties, interest groups, and political behavior. It will also focus on political institutions and policy making. While individual countries will be examined separately, the course will also emphasize comparison between systems.

253 Political Systems of South America (3)

Prerequisite: PolSci 12 or consent of instructor. An introduction to the study of the political systems of South America. Examination of the cultural context that has shaped the political, economic, and social development of states in the region. This course fulfills the Cultural Diversity requirement.

254 Political Systems of Mexico, Central America, and the Caribbean (3)

Prerequisite: PolSci 12 or consent of instructor. An introduction to the study of the political systems of Mexico, Central America, and the Caribbean. Examination of the cultural context that has shaped the political, economic, and social development of these countries. This course fulfills the Cultural Diversity requirement.

256 Russia and the New Republics (3)

Prerequisite: PolSci 12 or consent of instructor. Examination of political-economic conditions responsible for the creation, collapse, and reconstruction of the former Soviet Union, with emphasis on new elites and interest groups, problems of democratic transition, ethnic conflict and socio-economic reform.

257 Women, Power, and Public Policy (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. This course explores differences in the political roles assigned to women in both advanced industrial and underdeveloped states as a function of economic development and cultural factors. It focuses on the differences between policies made for women and policies made by women, assesses the importance of "empowerment" in redefining women's social-political rights, and compares the nature of "gender gaps" that exist in Europe and the U.S.

258 African Politics (3)

Prerequisite: PolSci 12 or consent of instructor. An introduction to the nature of societies, governments, and international relations in Africa. The course deals with

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forms of governance on the continent, regional groupings of states, and persistent conflicts within and among states. Problems of economic underdevelopment, food supplies, health and population trends, and cultural change are analyzed, along with the role of outside major power intervention. Fulfills the Cultural Diversity requirement.

351 Comparative Public Policy and Administration (3)
Prerequisite: PolSci 12 or consent of instructor. A comparative study of the characteristics of public administrators, their institutions and environments in Western democratic, developing nations, and communist political systems.

355 Democratization in Comparative Perspective (3)
Prerequisite: PolSci 12 or consent of instructor. This course explores the meaning of democracy and the nature of transitions to democracy, particularly the processes of political liberalization and democratization that follow the breakdown of authoritarian rule. Cases will be drawn from Latin America and other regions.

359 Studies in Comparative Politics (3)
Prerequisite: PolSci 12 or consent of instructor. Selected topics in comparative politics. May be repeated.

Group V: Theory and Methodology

160 Contemporary Political Ideologies (3)
An introduction to the major political ideologies of the world today. Emphasis is placed on democracy, feminism, Marxism, and nationalism.

165 American Political Thought (3)
History of political thought in the United States from colonial times to the present.

261 Ancient and Medieval Political Thought (3)
Study of political thought from Plato to Machiavelli.

262 Modern Political Thought (3)
Study of political thought from Machiavelli to the present.

268 Feminist Political Theory (3)
A study of the history of feminist political thought with an emphasis on contemporary concerns. Issues to be considered include the feminist theories of the state, gender and justice, and equality and difference.

269 The Marxist Heritage (3)
(Same as Philosophy 269 and Interdisciplinary 269.) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

304 Survey Research Practicum (3)
(Same as Econ 304 and Sociology 304.) Prerequisites: Junior standing and consent of the instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results.

306 Theory of Decisions and Games (3)
Prerequisite: Six hours of Philosophy and junior standing,

PolSci 401 (or the equivalent) or consent of instructor. (Same as Philosophy 365). A study of rational decision making, including games against nature, zero-sum games and social choices. Topics will include the following: expected utility maximization, the Prisoner's Dilemma, Nash equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content.

308 Program Evaluation (3)
Prerequisites: PolSci 11, or 140, and one of the following: PolSci 102, BA 131, Sociology 220, Criminology and Criminal Justice 220, or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

368 Studies in Political Theory (3)
Prerequisite: PolSci 11, or 12, or consent of instructor. Selected topics in political theory. May be repeated.

Group VI: International Relations

85 Global Ecology (3)
Prerequisite: Biology 001. Must be taken concurrently with Biology 130 for three hours biology credit and three hours of political science credit. A course team-taught by the Biology and Political Science departments, aimed particularly at elementary education majors. Combines natural science and social science perspectives in taking a global view of a variety of environmental concerns, such as air and water pollution, climate change, conservation of nonrenewable resources, and other issues. Examines the underlying scientific dimension, as well as the political-economic-social aspects of problem-solving at local, national, and international levels. Features labs and field trips in addition to lecture and discussion. Three hours of lecture, one hour and fifteen minutes discussion, and three and one-half hours laboratory per week.

180 World Politics (3)
An introduction to the field of international relations, covering such topics as nationalism, power, foreign policy-making, diplomacy, war, arms control and disarmament, interdependence, the regulation of conflict, and other aspects of politics among nations.

282 United States Foreign Policy (3)
Prerequisite: PolSci 11, or 12, or consent of instructor. Examination of the factors influencing the formation and the execution of United States foreign policy, with a focus on specific contemporary foreign policy issues.

283 International Political Economy (3)
Prerequisite: Introduction to international political economy. In particular, it will focus on the politics of international trade, finance, and investment. It will analyze the relationships between developed and developing countries, and it will assess the relative usefulness of alternative frameworks for studying international political economy.

Political Science

284 European International Relations (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. European international relations since World War II. Emphasis upon developments from the Cold War to Detente, emphasizing such concepts as containment, Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security.

285 International Organizations and Global Problem Solving (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. Introduction to the study of international organization. The course focuses on relationships between nation-states and "nonstate" actors (e.g., global intergovernmental organizations such as the United Nations, and nongovernmental organizations such as multinational corporations) in world politics and on the role of international institutions in such problem areas as economic development, management of resources, and control of violence across national boundaries.

289 Middle Eastern Politics (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. Survey of political movements, governments, and international conflicts in the Middle East. Islam, nationalism, ideologies, and economic systems will be studied. The effects of oil and the military will also be considered. Course fulfills the Cultural Diversity requirement.

385 International Law (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. Study of the international legal system, including the content and operation of the laws of war and peace, how law is created and enforced with regard to the oceans and other parts of the globe, and the relationship between international law and international politics.

386 Studies in War and Peace (3)

Prerequisites: Junior standing and PolSci 11, or 12, or consent of instructor. Exploration, development, and testing of theories about the causes and consequences of war, peace, and conflict among nations. A broad range of literature on war and peace will be reviewed and applied to crisis situations in the international system.

388 Studies in International Relations (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. Selected topics in international relations. May be repeated.

Graduate Courses

400 Analytic Perspectives in Political Science (3)

An introduction to the graduate study of political science. The course presents a number of analytic approaches to the scientific examination of a wide variety of political phenomena.

401 Introduction to Policy Research (3)

(Same as Public Policy Administration 401.) Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

402 Intermediate Techniques in Policy Research (3)

Prerequisites: Graduate standing and PolSci 401. Elementary distribution theory, statistical inference, and an introduction to multiple regression. Emphasis on practical applications.

403 Advanced Techniques in Policy Research (3)

Prerequisites: Graduate standing and PolSci 402. Selected topics in policy research emphasizing forecasting, modeling, and estimation.

404 Multi-Method Research Design (3)

Prerequisites: PolSci 403 or consent of instructor. Develops policy research skills that combine qualitative and quantitative social science tools and applies an appropriate mix of these tools to specific policy problems. Topics include alternative approaches to causal analysis, levels of analysis, triangulation from a variety of qualitative and quantitative research techniques, building contextual effects into multiple research projects, techniques for assessing alternative program theories and clarifying implicit assumptions, and meta-analysis of secondary data sources.

405 Directed Readings in Research Methods (1-10)

Independent study through readings, reports, research projects, and conferences.

410 Introduction to Policy Analysis (3)

(Same as Public Policy Administration 410.) Systematic development of a critical/analytic base for dealing with public policy.

411 Seminar in Policy Analysis (3)

Prerequisite: PolSci 410. Evaluation and criticism of contemporary public policies in selected areas.

414 Topics in Public Policy Analysis (3)

Intensive analysis of a specific public policy area such as housing, budgeting, integration, planning, metropolitan reorganization. Course may be repeated.

415 Directed Readings and Research in Public Policy (1-10)

(Same as Public Policy Administration 415.) Prerequisite: Consent of Instructor. Independent study through readings, reports, research projects, and conferences. May be repeated for credit, provided the subject matter is different.

417 Income and Pension Policy for the Aged (3)

Prerequisite: Graduate standing or consent of instructor. (Same as GER 417 and PPA 417.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

419 Cases in Public Policy Analysis (3)

(Same as Public Policy Administration 419.) Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning.

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420 Proseminar in Public Law (3)

Prerequisite: Graduate standing. Study of judicial systems and processes (judges, courts, litigants, and juries) and evaluation of legal policies (compliance, impact, and deterrence).

421 Seminar in Public Law (3)

Research problems and designs, models and approaches to the study of public law. May be repeated for credit when the subject matter is different.

422 Law, Courts, and Public Policy (3)

(Same as CCJ 435.) Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review, discrimination, affirmative action, urban planning, social welfare, intergovernmental relations, environmental law, freedom of information, and privacy concerns will be surveyed. The relationship between courts and the Constitution, courts and legislatures, and courts and the administrative process will be stressed.

425 Directed Readings and Research in Public Law (1-10)

Independent study through readings, reports, research projects, and conferences.

430 Proseminar in American Politics (3)

Study of individual and group political behavior, including socialization, participation, consensus formation, representation, and legislative and judicial behavior.

431 Seminar in American Politics (3)

Research problems and design in American political process and behavior. May be repeated for credit when the subject matter is different.

432 Intergovernmental Relations (3)

Prerequisite: Graduate standing. In the United States, nearly all domestic policy is implemented through an extremely complex intergovernmental system in which the federal government administers grants-in-aid or sets standards for states and localities that administer programs. This course will analyze this policy system by: (1) tracing the origins and evolution of American federalism; (2) analyzing the grants-in-aid system, especially the New Deal; (3) comparing the United States system with federal and unitary policy systems in other industrialized nations.

433 Elections, Public Opinion, and Public Policy (3)

Prerequisite: Graduate standing. This course provides an opportunity for graduate students to examine electoral politics and democratic governance. It includes an historical review of the dynamics of the American party system, paying particular attention to the ways that politicians translate social and economic change into the political system. It surveys the scientific community's understanding about mass political behavior, covering such topics as the nature of political beliefs, partisanship, political trust, tolerance, ideology, motives for participation, and so on. Then it gives particular attention to the instruments that seem to shape public opinion - the family, the social peer group, and the mass media. Finally, it presents analyses of the contemporary political system in terms of the links between citizen preferences, electoral outcomes, and the government's provision of public policies.

435 Directed Readings and Research in American Politics (1-10)

Independent study through readings, reports, research projects, and conferences.

440 Proseminar in Public Administration (3)

(Same as Public Policy Administration 440.) Examination of major approaches to analyzing public policies and their administration. Emphasis is on the effects of administrative organization and procedures on policy decisions and their impacts. Specific topics may include administrative accountability, intergovernmental relations, public-private interaction, implementation processes, bureaucratic expertise, the legal environment of public policy administration, and public service and merit issues.

441 Seminar in Public Administration (3)

Research problems and design in public administration. May be repeated for credit when the subject matter is different.

442 The Policy Process (3)

Prerequisite: Graduate standing. The course will require a major research project using federal documents and other primary sources of information about the United States policy process. Topics will include the sources of public policy; the policy agenda; policy design, legitimation, and implementation.

443 Health Care Policy (3)

(Same as Public Policy Administration 443 and Gerontology 443.) Prerequisite: Graduate standing and consent of instructor. Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444 Seminar in Public Policy and Aging (3)

(Same as Public Policy Administration 444 and Gerontology 444.) Prerequisite: Consent of instructor. The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

445 Directed Readings and Research in Public Administration (1-10)

Independent study through readings, reports, research projects, and conferences.

446 Selected Topics in Health Care Policy (3)

(Same as Public Policy Administration 446 and Sociology 446.) Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

447 Seminar in Public Policy (3)

Prerequisite: Graduate Standing. Research seminar aimed at producing a substantial research project in the areas of

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public policy processes and outcomes. The seminar may focus on specific policy processes such as agenda-setting, policy formulation, or policy adoption, or it may focus on the politics of specific policy areas such as environmental programs, social legislation or regulation. May be repeated for credit when the subject matter is different.

448 Political Economy and Public Policy (3)

Prerequisite: Graduate standing. This course examines political economy in its contemporary manifestations as public choice and as the study of the ways in which institutional power shapes economic policies and performance. The course explores the origins and major concepts of political economy, the institutions of economic policy-making and economic policies in the U.S. It emphasizes the consequences of budget constraints, inflation, unemployment, and sectoral decline on the design and administration of public programs at all levels of government.

449 Human Resources in the Public Sector (3)

(Same as Public Policy Administration 449.) Prerequisite: Public Policy Administration 460 or consent of instructor. This course presents an overview of personnel and labor relations in the public sector. The course has particular emphasis on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

450 Proseminar in Comparative Politics (3)

Classification and topology of political systems; structural-functional analysis; political culture, ideology, affiliation and participation; decision-making processes; political roles; organization of authority.

451 Seminar in Comparative Politics (3)

Research problems and design in comparative politics. May be repeated for credit when the subject matter is different.

452 Public Policy of Conservation and Sustainable Development (3)

(Same as Biology 445.) Prerequisites: Graduate standing in Political Science or Biology and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of environmental policymaking in developing and developed economies.

455 Directed Readings and Research in Comparative Politics (1-10)

Independent study through readings, reports, research projects, and conferences.

457 Seminar in East Asian Politics (3)

Prerequisite: Graduate standing or consent of instructor. Study of concepts and research on the political culture, ideology, groups, political processes and institutions, and policy outcomes in the Chinese and/or Japanese political systems.

458 Seminar in European Politics (3)

Prerequisite: Graduate standing or consent of instructor. Study of national political cultures, ideologies, regional security issues, national as well as supranational political institutions, and policy processes in Europe, with emphasis on post Cold-War developments.

459 Seminar in Latin American Politics (3)

Prerequisite: Graduate standing or consent of instructor. This course focuses on the twin issues of economic and political change in Latin America. It explores shifts from open free-market models and provides tools to assess recent transitions from authoritarianism to democracy. Country cases include Mexico, Brazil, Argentina, Chile. Two Central American countries, El Salvador and Nicaragua plus Cuba also will receive attention.

460 Proseminar in Political Theory (3)

Study of concepts and problems in normative political theory.

461 Seminar in Political Theory (3)

Research problems and design in political theory. May be repeated for credit when the subject matter is different.

462 Political Theory and Public Policy (3)

This course covers the ideological and ethical context of public policy and public policy analysis. Special attention is given to the way in which different contexts produce both different public policy and different ways of understanding public policy. Questions addressed include accountability, professionalism, freedom, justice, equality, and, in general, ethical issues faced by both the policy maker and the policy analyst.

465 Directed Readings and Research in Political Theory (1-10)

Independent study through readings, reports, research projects, and conferences.

470 Proseminar in Urban Politics (3)

Examination of the relationships among the social, economic, and political systems of urban areas. Urban political structure, patterns of influence, political participation, and communication and political change. Special attention to problems of access to and control of urban political systems.

471 Seminar in Urban Politics (3)

Research problems and design in urban and regional politics. May be repeated for credit when the subject matter is different.

475 Directed Readings and Research in Urban Politics (1-10)

Independent study through readings, reports, and conferences.

Political Science

480 Proseminar in International Relations (3)

Examination of various approaches to the study of international politics and foreign policy, focusing on studies of conflict, decision making, international political economy, and related topics. Included are realist, idealist, and Marxist perspectives.

481 Seminar in International Relations (3)

Research problems and design in international politics. May be repeated for credit when the subject matter is different.

482 International Political Economy (3)

Prerequisite: Graduate standing. This course will examine the theoretical and policy issues of international political economy. In particular, it will focus on the politics of international trade, finance and investment. It will also analyze the themes of interdependence, hegemony, and dependency, as well as consider relations between developed and developing countries. Finally, the relative usefulness of liberal, Realist and Marxist approaches to the study of international political economy will be weighed.

485 Directed Readings and Research in International Relations (1-10)

Independent study through readings, reports, research projects, and conferences.

488 Studies in International Relations (1-6)

Prerequisite: Graduate standing. Selected topics in international studies. May be repeated for credit provided the topic of the course is different each time.

494 Thesis Research (1-10)

Arranged.

495 Internship (1-6)

(Same as Public Policy Administration 495.) Independent study involving work with an appropriate public or private agency.

Psychology

Faculty

Gary K. Burger, Professor*; Chairperson
Ph.D., Loyola University

Robert J. Calsyn, Professor*; Director of Gerontology
Ph.D., Northwestern University

Edmund S. Howe, Professor Emeritus
Ph.D., University of London

Arthur L. Irion, Professor Emeritus
Ph.D., University of Iowa

Alan G. Krasnoff, Professor Emeritus
Ph.D., University of Texas

Miles L. Patterson, Professor*;
Ph.D., Northwestern University

Patricia A. Resick, Professor*;
Director, Center for Trauma Recovery
Ph.D., University of Georgia

Suzanna M. Rose, Professor*
Ph.D., University of Pittsburgh

Jayne E. Stake, Professor*;
Director, Doctoral Program in Clinical
Psychology Emphasis Area
Ph.D., Arizona State University

George T. Taylor, Professor*;
Director, Doctoral Program in Experimental
Psychology Emphasis Area
Ph.D., University of New Mexico

Fred J. Thumin, Professor*+
Ph.D., Washington University

Brian Vandenberg, Professor*
Ph.D., University of Rochester

James T. Walker, Professor Emeritus
Ph.D., University of Colorado

Dominic J. Zerbolio, Jr., Professor*
Ph.D., Michigan State University

James A. Breaugh, Professor*+
Ph.D., Ohio State University

Michael Harris, Associate Professor*+
Ph.D., University of Illinois-Chicago

Robert N. Harris, Clinical Associate Professor*
Ph.D., University of Kansas

Therese M. Macan, Associate Professor*
Director, Doctoral Program in Industrial/Organizational
Psychology Emphasis Area
Ph.D., Rice University

Samuel J. Marwit, Associate Professor*
Ph.D., State University of New York at Buffalo

Paul W. Paese, Associate Professor*;
Ph.D., University of Illinois

Vetta L. Sanders Thompson, Associate Professor*
Ph.D., Duke University

Mark E. Tubbs, Associate Professor*
Ph.D., University of Houston

Denny C. LeCompte, Assistant Professor*
Ph.D., Rice University

Donald D. Lisenby, Assistant Professor*;
Associate Chairperson
Ph.D., Washington University

Ann M. Steffen, Assistant Professor*
Ph.D., Indiana University

Allan G. Barclay, Adjunct Professor
Ph.D., Washington University

Carl Greenberg, Adjunct Professor
Ph.D., Wayne State University

Larry O'Leary, Adjunct Associate Professor
Ph.D., Saint Louis University

David E. Smith, Adjunct Associate Professor
Ph.D., Colorado State University

Jeffrey N. Wherry, Adjunct Associate Professor;
Director, Kathy J. Weinman Children's Advocacy Centre
Ph.D., University of Southern Mississippi

Alene S. Becker, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Ruth Davies, Adjunct Assistant Professor
Ph.D., Washington University

Timothy J. Jovick, Adjunct Assistant Professor
Ph.D., St. Louis University

Lee Konzak, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Gary A. Morse, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Dean L. Rosen, Adjunct Assistant Professor
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Michael J. Schneider, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Sandra K. Seigel, Adjunct Assistant Professor
Ph.D., St. Louis University

Mary K. Suszko, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Michael Trusty, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

James H. Wallhermfachtel, Adjunct Assistant Professor
Ph.D., St. Louis University

Audrey T. F. Wiener, Adjunct Assistant Professor
Ph.D., St. Louis University

* members of Graduate Faculty

+ Primary appointment in the School of Business
Administration

General Information

Degrees and Areas of Concentration The psychology department offers work leading to the B.A. degree in psychology. In conjunction with course work in the department, students have the opportunity to do research in a wide variety of areas, including animal and human learning, physiological, industrial-organizational, cognitive processes, personality-social, developmental, clinical, and community psychology. Students should consult with their adviser in selecting a program of study. However, the department offers a number of focused areas of study as an aid to students in selecting courses. These include developmental psychology, community mental health, and industrial/organizational psychology.

The department also offers a terminal M.A., as well as a Ph.D. in psychology. The emphasis areas within the Ph.D. program are clinical psychology, experimental psychology, and industrial/organizational psychology.

Facilities Among the department's physical facilities are an environmental chamber; comparative, social, and human experimental laboratories; and a wide range of research equipment, including portable videotaping systems. The department also has an electronics technician.

Psychology

Minor in Psychology The department offers a minor in psychology to students with a special interest in this field but who wish to major in another discipline.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. Courses in psychology may be used to meet the social sciences requirement. Majors may not take psychology courses on a satisfactory/unsatisfactory basis.

Undergraduate Psychology Office

Advisers in the Undergraduate Psychology Office (Room 108 Stadler Hall; 516-6676) are available to answer questions regarding career options in psychology, as well as provide specific information on degree requirements. The advisers can process all necessary materials for registration and graduation.

Degree Requirements

Bachelor of Arts in Psychology

At least 32, but no more than 45, hours must be completed in courses taught by or cross-listed with the psychology department. Candidates must have a cumulative grade point average of 2.0 or better in the major. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the major. The following core curriculum is required:

Psych 3, General Psychology
Psych 201, Psychological Statistics
Psych 219, Research Methods

Note Students must take Mathematics 30, College Algebra, or the equivalent, before taking Psychology 201, Psychological Statistics. Psychology 201 is a prerequisite for Psychology 219.

In addition to the core curriculum, at least 22 additional credit hours in psychology must be taken. At least **three** of these courses totaling a minimum of nine hours must be at the 300 level. Multiple enrollments in Psychology 390, Directed Studies, count as no more than one 300-level course. No more than six hours of independent study courses (Psychology 295, Selected Projects in Field Placement, and Psychology 390, Directed Studies) may be counted toward the 32-hour minimum needed for graduation.

Majors must meet the University general education requirements and the requirements of the School or College from which they expect to receive their degree. After fulfilling general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. in Psychology from courses which the appropriate department has evaluated as being of university-level quality from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history,

mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, social work, sociology, business, education, engineering, astronomy, geology and interdisciplinary.

Graduate School Preparation This program is designed for students planning to pursue doctoral studies in psychology. In addition to the core curriculum, students are advised to take Psych 361, History and Systems of Psychology, and at least one laboratory course in psychology.

Students intending to pursue graduate programs in clinical psychology should, in addition, take courses from the following group:

160, Social Psychology
211, Physiological Psychology
212, Principles of Learning
216, Personality Theory
245, Abnormal Psychology
270, Child Psychology
271, Adolescent Psychology
272, Adult Development and Aging

Students are also encouraged to become involved in independent research (**Psych 390**, Directed Studies).

Developmental Psychology This focus area is ideal for double majors in education and psychology and for psychology majors with a general interest in the area of development. In addition to the core curriculum, students are advised to take at least five of the following psychology courses with at least two at the 300 level:

216, Personality Theory
268, Human Growth and Behavior
270, Child Psychology
271, Adolescent Psychology
272, Adult Development and Aging
295, Selected Projects in Field Placement
305, Cognitive Development
306, Social Development
340, Clinical Problems of Childhood
349, Human Learning and Memory
356, Thinking and Cognition
373, Psychology of Aging
376, Mental Health and Aging

Community Mental Health Designed for students interested in counseling and community programs. This focus area is especially suitable for double majors in another social science, particularly in social work and sociology. In addition to the core curriculum, students are advised to take at least **five** of the following courses in **psychology**, with at least two at the **300 level**:

160, Social Psychology
161, Helping Relationships
162, Applied Skills
225, Behavior Modification
232, Psychology of Victims
235, Community Psychology
245, Abnormal Psychology

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256, Environmental Psychology
 295, Selected Projects in Field Placement
 340, Clinical Problems of Childhood
 346, Introduction to Clinical Psychology
 365, Psychological Tests and Measurements
 376, Mental Health and Aging

Industrial-Organizational This focus area is designed for students interested in human resource management, performance assessment, personnel training, organizational behavior, and related fields. This area would be suitable for psychology majors pursuing either a double major or a minor in business administration. In addition to the core curriculum, students are advised to take the following five psychology courses and at least two at the 300 level.

160, Social Psychology
 222, Group Processes in Organizations
 318, Industrial and Organizational Psychology
 320, Personnel Assessment
 365, Psychological Tests and Measurement

Students interested in this area might also wish to consider one or two of the following courses which are offered outside the psychology department:

BA 210, Management as a Behavioral Science I
 BA 311, Management as a Behavioral Science II
 BA 312, Industrial and Labor Relations
 BA 319, Employee Training and Development
 Sociology 304, Survey Research Practicum

Requirements for the Minor

Candidates must take a minimum of 15 hours in courses taught by or cross-listed with the psychology department, including at least six hours at the 300 level.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Graduate Studies

Admission Requirements

In addition to meeting the general admission requirements of the Graduate School, applicants should have completed undergraduate courses in general psychology, psychological statistics, and research methods. Each doctoral program has additional admission requirements specific to the emphasis area.

Teaching Assistantships Stipends for teaching assistantships are available for the doctoral program only. Out-of-state tuition fees are waived for teaching assistants.

Applications Each emphasis area has its own deadline for completed applications. They are as follows:

Ph.D. in Psychology:

Clinical Psychology—January 1
 Industrial/Organizational Psychology—February 1

Experimental Psychology—February 1
 M.A. in General Psychology—February 1

Master of Arts in Psychology

The University of Missouri-St. Louis offers a flexible program of studies leading to the Master of Arts degree in general psychology. Course work is possible, depending upon student demand, in several areas of experimental and applied psychology (e.g., psychobiology and animal behavior; human learning, memory, and cognition; personnel and industrial and organizational psychology, and social psychology). The M.A. degree does not constitute a license to practice in Missouri or elsewhere as a professional psychologist. The M.A. program does not offer course work in either counseling or clinical psychology.

There is no thesis or language requirement. Part-time or full-time enrollment is permissible. The M.A. degree is a terminal degree and is separate from the Ph.D. program in psychology.

The M.A. in psychology requires a total of 32 semester hours of course work. Students must take the following set of quantitative courses:

Psych 421, Quantitative Methods I, and
 Psych 422, Quantitative Methods II

Two courses from the following:

Psych 405, Personality
 Psych 412, Social Psychology
 Psych 461, Learning
 Psych 467, Conceptual Systems
 Psych 468, Cognitive Processes

Elective courses will constitute the remaining hours needed for the degree. All programs of study for M.A. students require the approval of a member of the departmental M.A. advisory committee.

Ph.D. in Psychology

The doctoral program is organized around courses and directed research experience that emphasize the scientific approach to the study of psychology. Courses in the areas of quantitative methods, design and methodology, personality, motivation, social psychology, learning, and cognition are focal in the program.

Emphasis Areas

There are three distinct emphasis areas within the Ph.D. program. Each emphasis area has its own specific course and research requirements. Handouts describing these requirements are available from the department on request. The following briefly describes each emphasis area.

Clinical Psychology The clinical psychology emphasis area is accredited by the American Psychological Association and is patterned upon the scientist-practitioner model of clinical training. The clinical psychology program requires five years

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of full-time participation. Part-time students are not considered for admission. Through the medium of courses, practicum, and research experiences, this emphasis area prepares clinical psychologists for careers in research, teaching, and clinical practice.

Students in the clinical psychology program participate for three years in the psychology department's Community Psychological Service. This facility provides psychological services to the public and consultation to outside agencies. Students also receive clinical experience in practicum settings in the community and during a full-time year-long internship. Research requirements include an initial independent research project, a major critical review of research in a specialty area, and a dissertation.

General Experimental Psychology The general experimental emphasis area provides opportunities for study and research in the areas of social psychology and behavioral neuroscience. Part-time or full-time enrollment is possible.

Industrial-Organizational Psychology The Industrial-organizational psychology emphasis area is offered in cooperation with selected faculty from the School of Business to prepare students for careers in industry or academia. This emphasis provides "industrial" training in areas such as personnel selection, training, and test development/validation, as well as "organizational" training in areas such as work motivation, leadership, and group processes. Research and other training experiences in various settings are also incorporated.

Clinical Psychology Respecialization—Advanced Graduate Certificate Program

This program is designed for graduates of accredited doctoral programs in psychology who wish to receive training in the specialty field of clinical psychology. Respecialization students are trained within the context of the UM-St. Louis Clinical Psychology Doctoral Program, which is accredited by the American Psychological Association. The program provides an integrated sequence of training experiences, including didactic course work and practicum placements. Core graduate-level psychology educational requirements not completed elsewhere are also included in the respecialization student's course of study.

Career Outlook

The undergraduate major in psychology can lead to further training at the graduate level, function as a major within a general liberal arts degree, or offer some degree of specialization in such areas as developmental psychology, industrial/organizational psychology, and community mental health. Job opportunities with a bachelor's degree include working in business, social welfare, and probation and parole. For more career information see an adviser in the Undergraduate Psychology Office (Room 108 Stadler). To function specifically as a psychologist, a graduate degree is required, and students with such an interest should plan for this additional training.

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Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 3, 140, 160, 161, 162, 200, 201, 211, 212, 213, 215, 216, 219, 220, 222, 225, 230, 232, 235, 240, 245, 256, 268, 269, 270, 271, 272, 280, 295, 300, 301, 302, 305, 306, 310, 311, 312, 314, 318, 320, 340, 346, 349, 356, 357, 361, 365, 370, 373, 374, 375, 376, 390, 392.

The following course fulfills the Natural Science and Mathematics [SM] breadth of study requirements: 140.

3 General Psychology (3)

A broad introductory survey of the general principles of human behavior.

140 Female Sexuality (3)

(Same as Biology 140.) Prerequisites: Psych 3, or Biology 1, or its equivalent. This course will present a biological-psychological orientation toward the study of female sexuality. Topics include: sexual anatomy, hormonal influences on sexual behavior, psychosexual development, sexual attraction and relationships, sexual response and dysfunction, menstruation, pregnancy, menopause, reproductive health issues, and social issues in sexuality.

160 Social Psychology (3)

(Same as Sociology 160.) Prerequisite: Psych 3 or Sociology 10. Study of interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

161 Helping Relationships (3)

Prerequisites: Psych 3 and consent of instructor. Exploration of the basic elements contributing to effective helping skills. Course assignments include keeping a journal, writing papers, and a final exam. Readings, discussion, and guided experiences will be used to instill active listening and communication skills. Ethics of helping relationships will be emphasized.

162 Applied Skills (3)

Prerequisites: Psych 161 and consent of instructor. Builds upon Psych 161. Provides advanced readings and supervised experiences in helping relationships. Course assignments include readings, discussion, preparation of tapes for supervision, and a term paper. Designed for students interested in learning more about the psychological functioning of themselves and others. The course is also focused on increasing awareness of the dynamics of helping relationships.

200 Drugs and Behavior (3)

Prerequisites: Psych 3 and three other hours in psychology or biology. The course is designed to provide an introduction to the relationship between drugs and behavior. The emphasis will be on psychoactive drugs, alcohol, nicotine, as well as drug-like substances produced naturally in the body.

201 Psychological Statistics (4)

Prerequisites: Psych 3 and Math 30, or equivalents. (With laboratory.) Statistical methods in psychological measurement

and analysis of psychological data. Frequency distribution analysis, sampling, test of significance, and correlation methods.

211 Physiological Psychology (3)

Prerequisites: Psych 3 or equivalent and Biology 1. A survey of the major areas of physiological psychology with an emphasis on their historical development.

212 Principles of Learning (3)

Prerequisite: Psych 3. A consideration of critical findings in learning.

213 Principles of Perception (3)

Prerequisite: Psych 3. Sensory and perceptual processes in human experience and behavior.

215 The Social Behavior of Animals (3)

Prerequisites: Two semesters of psychology and/or biology. An introduction to the social organization of a variety of different animal forms. The emphasis will be on nonhuman primates and other mammals through the social behavior of species of insects, fish, and birds. Aggression, sexual behavior, affiliation, maternal reactions, and the ontogeny of behavior are the primary areas to be studied. The orientation will be from both an ethologist's and animal psychologist's perspective.

216 Personality Theory (3)

Prerequisite: Nine hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems.

219 Research Methods (3)

(With laboratory.) Prerequisite: Psych 201. Research methods and analysis techniques used in psychological inquiry. Special emphasis placed on the logic of research design. Includes laboratory study of, and analysis of, selected methods.

222 Group Processes in Organizations (3)

Prerequisite: Psych 3 or BA 210. Topics include theory, research, and practice in coordination, conflict, and decision making in groups and organizations, as well as the role of influence, power, and leadership effectiveness in understanding interpersonal and group relations.

225 Behavior Modification (3)

Prerequisite: Nine hours of psychology or consent of instructor. Methods, applications, and ethics of the use of behavior theory (primarily Skinner's operant conditioning) to the control of human behavior in a variety of settings including mental institutions, grade schools, universities, individual treatment, and communal living.

230 Psychology of Women (3)

Prerequisite: Psych 3. Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women.

232 Psychology of Victims (3)

Prerequisite: Psych 3. A review of the effects of crime,

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violence, natural disasters, and other traumas on psychological functioning. Prevention and therapy techniques will also be discussed.

235 Community Psychology (3)

Prerequisite: Psych 3. The analysis of psychological problems in terms of the social and situational forces that produce them. Community psychology analyzes the situational problems in living. Epidemiology of mental illness; group, family, and crisis intervention; mental health-care delivery; program evaluation and demonstration project research; role of psychologist as consultant and change agent; and utilization of nonprofessional manpower.

245 Abnormal Psychology (3)

Prerequisite: Psych 3. Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders.

256 Environmental Psychology (3)

Prerequisite: Psych 160 or Sociology 160. Analysis of environmental influences on behavior and man's influence, in turn, on the environment. Topics will include a consideration of both individual processes relating to the environment (such as the perception, evaluation, and adaptation to the environment) and social processes relating to the environment (such as privacy, territoriality, and crowding).

268 Human Growth and Behavior (3)

Prerequisite: Psych 3. A survey of development over the life span, with an emphasis on the developmental tasks and hazards of each period.

270 Child Psychology (3)

Prerequisite: Psych 3. Principles of biological, behavioral, and personality development from conception to puberty.

271 Adolescent Psychology (3)

Prerequisite: Psychology 3. Principles of biological, behavioral, and personality development from puberty to maturity.

272 Adult Development and Aging (3)

(Same as Gerontology 272.) Prerequisite: Psych 3. Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

280 The Psychology of Death and Dying (3)

(Same as Gerontology 280.) Prerequisite: Psych 3. This course will address the psychological aspects of death and dying for both adults and children. The psychological reactions of terminally ill patients and their families will also be examined, and therapeutic interventions will be discussed.

295 Selected Projects in Field Placement (3)

Prerequisites: Junior standing, fifteen hours of psychology, and departmental approval. Selected options in field work placement experiences in various local agencies with training and supervision by faculty. May be repeated once for credit.

300 Neuropsychology and Behavior (3)

Prerequisites: Psych 200 plus 6 additional hours of Psychology. The course is designed for advanced undergraduate

students interested in a career in psychopharmacology or related fields in the health sciences. Emphasis will be on (1) underlying neural processes, (2) traditional laboratory methods as they have been adapted to the study of drugs, and (3) the unique contributions made by psychopharmacologists to both areas.

301 Advanced Statistics and Experimental Design (3)

Prerequisites: Twelve hours of psychology, including Psych 201. Statistical methods which are particularly useful in psychological research and the design of experiments appropriate to these methods.

302 Computers in Psychology (3)

Prerequisites: Nine hours of psychology including Psych 201 and junior or senior standing. The course is organized around computer applications in the behavioral sciences for the Macintosh machine. The goals for the course include familiarization with (1) MAC environment to prepare the student for the explosion of computer applications now and in the future, (2) the hardware and software products available for the working psychologist, and (3) the software programs of choice in the field through hands-on, individual use of the MAC. Some modest level of computer (MAC, PC, or mainframe) experience is recommended.

305 Cognitive Development (3)

Prerequisites: Junior standing and Psych 270, or consent of instructor. Data and theory concerned with development of perceptual, language, and symbolic abilities in infants and young children, including discussion of deprivation and enrichment of cognitive development.

306 Social Development (3)

Prerequisites: Junior standing and Psych 270, or consent of instructor. Data and theory concerned with development of social behavior in infants and young children. Discussion will include the formation and interruption of attachment, the effects of social isolation, sex-role development, identification, and development of moral judgments in children.

310 Motivation Theory (3)

Prerequisites: Junior standing and twelve hours of psychology, or consent of instructor. Survey of current theoretical material in the area of motivation.

311 Psychology of Nonverbal Behavior (3)

Prerequisite: Psych 160 or Sociology 160. Psychological perspective on the role of nonverbal behavior in social settings. Primary concerns of the course will include an analysis of (a) functions of nonverbal behavior (e.g., communication, intimacy exchange, control), (b) factors influencing nonverbal expression (e.g., culture, personality, relationships), and (c) various theoretical views on nonverbal behavior and communication. Applications to various problems and settings in everyday life will also be pursued.

312 Social Cognition (3)

Prerequisites: Psych 160 or Sociology 160. Research and theory on the role of cognitive processes in social behavior. Topics include attitudes and attitude change, social

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inference, schemas, and cognitive links to behavior and affect.

314 Physiological Psychology (3)

(With laboratory.) Prerequisites: Psych 219, Biology 1, and Biology 3, or consent of instructor. The biological and physiological correlates of behavior. Special emphasis placed on the neural and endocrine systems.

318 Industrial and Organizational Psychology (3)

(Same as BA 318.) Prerequisites: Bus 210 and Math 105 or Psych 201. This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance appraisal, training, leadership, motivation, job satisfaction, and organizational design.

320 Personnel Assessment (3)

Prerequisite: Psych 318 or BA 309. This course will provide an in-depth study of several topics in the area of personnel psychology. Consideration will be given to issues such as assessment centers, employment interviewing, personnel appraisal, employment test validity, and legal issues relevant to personnel assessment.

340 Clinical Problems of Childhood (3)

Prerequisites: A total of twelve hours of psychology including Psych 3 and Psych 270. This course will address the clinical disorders and difficulties of children and the treatment of these disorders. Topics that will be addressed include autism, childhood schizophrenia, behavior disorders, drug abuse, enuresis, encopresis, and childhood co-compulsive and phobic reactions. Treatments designed for specific use with children, including behavioral, drug, and community mental health approaches will be addressed.

346 Introduction to Clinical Psychology (3)

Prerequisites: Nine hours of psychology, including Psych 216 or Psych 245. A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment.

349 Human Learning and Memory (3)

Prerequisites: Nine hours of psychology or consent of instructor. A survey of contemporary research, theory, and facts pertaining to the acquisition, retention, and forgetting of information.

356 Thinking and Cognition (3)

Prerequisites: Nine hours of psychology or consent of instructor. An introduction to modern analytical approaches to the psychology of thinking: problem solving, reasoning, categorizing, judgment, attention, and consciousness. Particular attention is paid to the mental structures and operations involved in the encoding, abstraction, representation, transformation, and retrieval of knowledge.

357 Psychology of Learning (3)

(With laboratory.) Prerequisite: Psych 219. Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected problems.

361 History and Systems of Psychology (3)

Prerequisites: At least fifteen hours of psychology. The course should be taken no sooner than the winter term of the junior year. Historical antecedents of contemporary psychology, including a survey of systems and schools of psychology.

365 Psychological Tests and Measurements (3)

(With laboratory.) Prerequisites: Psych 201 and Psych 219, or consent of instructor. Survey of psychological testing and principles of test construction and evaluation. Laboratory experience in construction, administration, and interpretation of selected tests.

373 Psychology of Aging (3)

(Same as Gerontology 373.) Prerequisite: Nine hours of psychology or consent of instructor. This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.

374 Introduction to Clinical Neuropsychology (3)

Prerequisite: Nine hours of psychology. A survey of neuropsychological findings concerning relationships between brain and behavior. Topics will include brain function, neuroanatomy, neurological syndromes, and methods of neuropsychological assessment.

375 The Social Psychology of Disabilities (3)

Prerequisite: Sociology 160 or Psych 160 or consent of instructor. (Same as Sociology 375.) A social psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

376 Mental Health and Aging (3)

(Same as Gerontology 376.) Prerequisites: Consent of instructor plus one of the following: Psych 272, Psych 373, or graduate standing. A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and on treatment approaches for elders.

390 Directed Studies (1-5)

Prerequisite: Consent of instructor. Directed reading and research. May be repeated for a maximum total of ten hours.

392 Selected Topics in Psychology (1-3)

Prerequisites: Twelve hours of psychology and consent of instructor. A seminar of selected issues and methods in psychology. May be repeated once for credit.

403 Psychopathology (3)

Prerequisite: Admission to Clinical Psychology program or permission of instructor. A critical examination of the clinical-experimental literature on psychopathology. Etiologies of cognitive/affective functions and dysfunctions are explored, and implications for therapeutic intervention are considered.

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404 Introduction to Clinical Assessment I (3)

Prerequisite: Admission to Clinical Psychology program. Fundamentals of clinical assessment with emphasis on interviewing and the measurement of cognitive functioning.

405 Personality (3)

Prerequisite: Admission to Clinical Psychology program or permission of instructor. Current theories and research in personality. Major psychodynamic, trait, phenomenological, cognitive, and social learning approaches are covered, with a focus on personality structure and individual differences, personality processes and dynamics, development, psychopathology, and change.

406 Introduction to Clinical Assessment II (3)

Prerequisite: Psych 404. Theory and techniques of personality assessment with emphasis on projective personality tests.

407 Psychopharmacology (3)

Prerequisite: 12 units of graduate-level psychology courses and consent of instructor. An examination of the effects of drugs on the brain and on behavior. Primary emphasis is on those drugs used in the treatment of affective disorders, schizophrenia, and anxiety.

410 Women and Mental Health (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will focus on contemporary research on the psychology of women pertaining to mental health issues. Etiology and treatment of disorders disproportionately affecting women will be emphasized.

412 Social Psychology (3)

Prerequisite: Consent of instructor. A review of key areas in contemporary theory and research in social psychology.

418 Seminar In Human Sexuality (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Review of theory and research in human sexuality from physiological, psychological, and social perspectives. Implications for the assessment and treatment of sexual dysfunction are considered.

419 Existential Issues in Clinical Psychology (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will review existential thought in psychology and its application to understanding clinical problems and treatment. Particular attention will be given to how psychotherapy can be understood within an existential framework that focuses on the issues of death, freedom, responsibility, and isolation.

421 Quantitative Methods I (4)

(With laboratory.) A comprehensive study of the use of analysis of variance procedures in analyzing data. Topics include completely randomized designs, randomized blocks, factorial designs, and the analysis of covariance.

422 Quantitative Methods II (4)

(With laboratory.) A comprehensive study of the use of

multivariate statistics in data analysis. Topics include multiple regression, canonical correlation, factor analysis, discriminant analysis, and the multivariate analysis of variance.

429 Psychometric Theory (3)

Prerequisite: Consent of instructor. A consideration of test reliability, validity, and construction from the standpoint of modern psychometric theory and a survey of unidimensional and multidimensional scaling procedures.

431 First Year Clinical Supervision (3)

Prerequisite: Admission to Clinical Psychology program. Supervised experience in clinical practice for first year students in clinical psychology program.

432 Clerkship I (1)

Prerequisites: Admittance to Clinical Psychology program. Supervised experience in a clinical placement.

433 Clerkship II (1)

Prerequisites: Psych 432. Supervised experience in a clinical placement.

434 Seminar: Introduction to Psychotherapy (3)

Prerequisite: Admittance to Clinical Psychology program, Psych 404 and 406 or equivalent. This course considers theories of personal change and their practical application in psychotherapy. Topics include the development of the therapist-client relationship, case management, process and outcome research, and ethical principles for the psychotherapist.

435 Clerkship III (1)

Prerequisites: Psych 432 and 433. Supervised experience in a clinical placement.

436 Practicum: Introduction to Psychotherapy I (3)

Prerequisites: Psych 431 or the equivalent. Supervised experience in clinical practice.

437 Practicum: Introduction to Psychotherapy II (3)

Prerequisite: Psych 436. Continuation of Psych 436.

438 Third Year Clinical Supervision (1-3)

Prerequisite: Psych 437. Advanced training in psychological assessment and intervention for third-year students in clinical psychology program.

439 Summer Supervision (1)

Prerequisites: Psych 430 and 431. Supervised experience in clinical practice at all graduate year levels during the summer months. Can be repeated for credit.

440 Principles of Family Therapy (3)

Prerequisite: Psych 434. Survey of research and theory underlying models of family interaction. Practical application of specific techniques to the family system is emphasized.

441 Seminar: Cognitive and Behavior Theories (3)

Prerequisite: Admission to Clinical Psychology program or permission of instructor. A course on cognitive and behavioral theories and their applications to clinical

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populations. Emphasis is on a critical review of research on cognitive and behavioral therapy procedures.

442 Seminar: Cognitive and Behavior Therapy (3)

Prerequisites: Admittance to doctoral program in Clinical Psychology and Psych 441. The practice of behavior therapy. Students will learn to implement behavioral assessment and therapy strategies in clinical settings.

443 Advanced Clinical Supervision (1-3)

Prerequisite: Psych 438. Advanced training in psychological assessment and intervention for fourth-year students in clinical psychology program.

444 Clinical Geropsychology (3)

Prerequisite: Graduate Standing or consent of instructor. This course examines major predictors of psychosocial functioning in older adults. The emphasis is on assessment and research methods appropriate to studying developmental issues in late life. Topics include interpersonal relationships, mental health, and a critique of interventions designed to increase life satisfaction.

445 Seminar: Community Psychology (2)

Critical examination of principles and application of preventive intervention in social systems and community mental-health programming.

446 Principles of Group Psychotherapy (3)

Prerequisite: Psych 432 or 434. Investigation of the models and principles of group intervention techniques.

447 Topics in Social Psychology (3)

Focused and in-depth analysis of contemporary problems in social psychology. One or more specific topic areas will be covered in a given semester. May be taken twice for credit.

448 Multicultural Issues in Clinical Psychology (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. A survey of theoretical perspectives utilized in the treatment of various cultural groups. Their relationship to and implications for the treatment of members of various cultural groups will be explored. Strategies and ethical concerns in diagnosis, test interpretation, and treatment are considered.

449 Research Methods in Applied Psychology (3)

Prerequisite: One graduate course in statistics. This course focuses on the basics of conducting research in applied psychology. Topics include: philosophy of science; reliability and validity; experimental, quasi-experimental, and nonexperimental designs; power; and meta-analysis.

450 Clinical Internship I (1)

Prerequisite: Consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

451 Clinical Internship II (1)

Prerequisites: Psych 450 and consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

452 Survey of Industrial/Organizational Psychology (3)

A review of theoretical, practical, and legal issues faced by personnel specialists. Topics covered include personnel selection and testing, performance appraisal and criteria development, leadership, motivation, job design, and job satisfaction.

454 Seminar: Personnel Psychology (3)

An analysis of theories and research in personnel and industrial psychology. Topics include testing, assessment centers, performance appraisal, and interviewing.

455 Seminar: Organizational Psychology (3)

An analysis of theories and research in organizational psychology. Topics include theories of motivation, leadership, job design, group process decision making, organizational effectiveness, and the relation between organizations and their environment.

456 Seminar: Employment Interviewing (3)

A survey of the theory, research, and technology of employment interviewing. Topics include selection interviewing and job analysis interviewing.

457 Seminar: Special Topics in Industrial Psychology (3)

A seminar of selected issues and methods in personnel psychology.

458 Seminar: Special Topics in Organizational Psychology (3)

A seminar of selected issues and methods in organizational psychology.

459 Practicum in Industrial/ Organizational Psychology (1-4)

Supervised experience in personnel or human resource management.

461 Seminar: Learning (3)

A critical examination of contemporary problems in learning.

462 Seminar: Motivation (3)

A critical examination of contemporary problems in motivation.

464 Seminar: Perception (3)

A critical examination of contemporary problems in perception.

465 Seminar: Physiological Psychology (3)

A critical examination of contemporary problems in physiological psychology.

466 Seminar: Developmental Psychology (3)

A critical examination of contemporary problems in developmental psychology.

467 Seminar: Conceptual Systems (3)

A critical examination of the evolution of contemporary theory in psychology.

468 Seminar: Cognitive Processes (3)

A critical examination of contemporary problems in cognitive processes.

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469 Seminar: Animal Behavior (3)

A critical examination of contemporary problems in animal behavior.

470 Seminar: Behavior Genetics (2)

A critical examination of contemporary problems in behavior genetics.

471 Seminar: Comparative Psychology (3)

A critical examination of contemporary problems in comparative psychology.

472 Special Topics in Psychology (3)

A seminar of selected issues and methods in psychology.

474 Clinical Research in Applied Settings (3)

Prerequisite: Psychology 421 and 422. This course provides information on the design and implementation of research in applied settings (e.g., human service agencies). Topics include program evaluation, consultation models, risk factor analysis, presentation and health promotion, and quality control.

475 Introduction to Evaluation Research Methods (3)

(Same as Sociology 475, Public Policy Administration 475, and CCJ 475.) Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

476 Seminar in Clinical Child Psychology (3)

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Introduction to principles, theory, and methods of study in the field of clinical child psychology. Emotional and behavioral dysfunctions are considered from developmental and socialization perspectives.

477 Principles of Child Psychotherapy (3)

Prerequisites: Psych 434 and 476. The course will focus on treatments for children with clinical problems. Play therapy, family therapy, and behavioral therapy techniques will be reviewed. Special attention will be given to differentiating when to use each modality, as well as how they can be effectively combined.

478 Directed Research in Industrial/Organizational Psychology (1-4)

Independent study of an issue in industrial/organizational psychology through the application of research techniques.

479 Directed Readings in Industrial/Organizational Psychology (1-4)

Independent literature review of a topic in industrial/organizational psychology.

480 Research Methods in Clinical Psychology (3)

Prerequisite: Psychology 421 or equivalent. An overview of research methods that are appropriate for clinical and other nonlaboratory settings.

481 Principles of Scientific Inquiry (3)

Problems in the logic of inquiry and understanding in science.

482 Ethics for Psychologists (1)

Prerequisite: Admittance to doctoral program in Clinical Psychology. A study of ethical standards as they relate to teaching, research, and professional practice.

483 Directed Research (1-10)

484 Directed Readings (1-10)

485 Research Team I (2)

Prerequisite: Admittance to doctoral program in Clinical Psychology. Group supervision of beginning research leading to the Independent Research Project.

486 Research Team II (1)

Prerequisite: Completion of Independent Research Project or Third Year standing in doctoral program in clinical psychology. Group supervision of advanced research leading to the dissertation proposal.

491 M.A. Thesis Research (1-10)

492 Ph.D. Thesis Research (1-10)

494 Integrative Research Seminar in Gerontology (3)

(Same as Gerontology 494.) Prerequisite: A graduate level research methods course (e.g., PPA 401) This seminar requires students to critically examine research in gerontology in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation; and qualitative methods.

495 Practicum in Gerontology (3)

(Same as Gerontology 495.) Prerequisite: Consent of instructor. This course provides supervised work experience in an agency that serves the elderly.

496 Gerontology Colloquium (1)

(Same as Gerontology 496.) Presentation of current topics in gerontology by faculty and invited speakers. May be repeated for a total of three credits.

Social Work

Faculty

Lois Pierce, Associate Professor*
Ph.D., Washington University
Muriel Pumphrey, Professor Emeritus*
D.S.W., Columbia University
Norman Flax, Associate Professor*
Ph.D., St. Louis University
Joan Hashimi, Chairperson, Associate Professor*
Ph.D., Washington University
Uma Segal, Associate Professor*
Ph.D., Washington University
Margaret Sherraden, Associate Professor*
Ph.D., Washington University
Beverly Spurløder, Lecturer
M.S.W., Washington University
Roosevelt Wright Jr., Professor
Ph.D., University of Wisconsin at Madison

* members of Graduate Faculty

The social work faculty reflects a cross section of the social work profession. Many specialties are represented, including child welfare, gerontology, community organization, and health care policy. The faculty, in addition to maintaining high standards of teaching, provides many hours of community service and practice to the numerous social service agencies in St. Louis. Research is also an integral part of the faculty's activities and many papers are presented by our faculty at local, national, and international meetings.

General Information

Degrees and Areas of Concentration The Department of Social Work offers courses leading to a Bachelor of Social Work degree (B.S.W.) and a Graduate Certificate in Gerontological Social Work. The B.S.W. program is fully accredited by the Council on Social Work Education. The faculty stresses the scientific and applied aspects of social work. Professional social work education enables students to integrate the knowledge, values, and skills of the profession into competent practice. Throughout, the contribution of arts and sciences toward a well-rounded liberal arts education is emphasized. A minor in social work is also offered.

The department's approach is reflected in an emphasis on the development of theoretical and methodological tools. There is a strong emphasis on practice, with community and social agency field work as important parts of the program. Many faculty members are engaged in research on urban-related issues and work with various urban agencies, particularly in the areas of health care, family violence, social welfare, gerontology, and education.

Social work majors should obtain a copy of the Student Handbook. Students must set up an appointment with the practicum coordinator one semester prior to enrolling in the practicum and attend a series of prepracticum classes.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements, except that proficiency in a foreign language is not required.

Courses required for the B.S.W. degree may not be taken on a satisfactory/unsatisfactory basis except Social Work 320 and Social Work 321.

Degree Requirements

Students entering UM-St. Louis as freshman should indicate a pre-social work major. Transfer students must apply to the Social Work program when they apply to the university. Admission to the program is conditional upon the successful completion of all necessary requirements.

Requirements for Admission to the Social Work Program

1. Junior Standing
2. Submission of:
 - a. Application for admission to social work program
 - b. Transcript of all university work
 - c. Two letters of reference: one from a college or university professor and one other, preferably from a work or volunteer experience supervisor.
3. Completion of Social Work 100, 150, and 151 or their equivalents or completion of an AA in Human Services.
4. Completion with a "C-" or better of all courses listed as prerequisites for Social Work 210, 280 and 285.
5. Applicants may be asked to meet with the social work admissions committee.

Bachelor of Social Work Students completing this degree may enter beginning positions as social workers or choose to enter professional schools of social work, working toward eventual careers in supervision, administration, research, and other specialized areas of practice. Candidates for this degree program must complete the **core requirements** including the following social work courses:
100, Introduction to Social Service
150, Social Welfare as a Social Institution
151, Social Welfare as a Social Institution Laboratory
210, Introduction to Interventive Strategies
280, Human Behavior in the Social Environment
285, Social Issues and Social Policy Development
300, Interventive Strategies for Social Work with Individuals, Families, and Groups
305, Interventive Strategies for Social Work with Organizations and Communities
320 and **321**, Supervised Field Experience in Social Work I and II
320a and **321a**, Integrative Field Experience Seminar I and II

A minimum of 34 hours and a maximum of 50 hours may be taken in social work. A minimum of 36 hours is required in related area departments.

Evaluation of social work transfer credits will be done by a social work adviser on an individual basis.

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Related Area Requirements

The following courses, or their alternatives, are required:

Biology 1, General Biology, or
Biology 11, Introductory Biology I
Econ 40, Introduction to the American Economy
PolSci 11, Introduction to American Politics
Psych 3, General Psychology
Sociology 10, Introduction to Sociology
Sociology/Psych 160, Social Psychology
Sociology 220, Sociological Statistics

Either

Sociology 230, Research Methods and
Sociology 231, Research Methods Lab or
Social Work 330, Research Design in Social Work

and one additional biology course from the following:

110, Human Biology
113, Human Physiology and Anatomy
115, Human Heredity and Evolution
120, Environmental Biology
140, Female Sexuality

At least nine additional hours must be taken in social work, sociology, political science, psychology, anthropology, criminology and criminal justice, or economics at the 100 level or above. Hours taken in social work will apply toward the maximum of 50 hours that may be taken in social work courses.

After fulfilling the general education and specific major degree requirements, students are to take the remaining 29 hours required to complete the Bachelor of Social Work degree from courses, which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary. The social work department may require students to pass a placement test in order to enroll in the next level course, provided this test or its equivalent is administered to all students seeking to enroll in that course.

Social work majors must have a cumulative grade point average of 2.5 or better in all course work specifically required for the major, with satisfactory grades in practicum.

Note Taking Anthropology, biological sciences, and Spanish courses is strongly recommended by graduate social work schools.

Requirements for the Minor in Social Work

Candidates must complete the following social work courses:

100, Introduction to Social Service
150, Social Welfare as a Social Institution
210, Interventive Strategies in Social Work Practice
285, Social Issues and Social Policy Development

and one course at the 200 level or above.

Graduate Certificate in Gerontological Social Work

The Graduate Certificate in Gerontological Social Work is a program designed for students who wish to pursue advanced study in social work practice with the elderly. While the program draws from several disciplines, the focus is on practice and/or administration in gerontological settings. The program can be taken by itself or in conjunction with the pursuit of a graduate degree in another field.

Admission Requirements

Program applicants must have the following:

- 1) baccalaureate degree;
- 2) a 2.75 grade point average (students with exceptions should contact the director of the Gerontology program);
- 3) official transcripts of all previous undergraduate/graduate work;
- 4) three letters of recommendation.

Certificate Requirements

Eighteen credit hours are required to complete the certificate. Students must complete 15 hours of required core courses and three hours of gerontology electives at the 300 level or above.

Required Core Courses

Social Work 316, Clinical Gerontology
Psych 373, Psychology of Aging, or **Sociology 361**, Social Gerontology
PolSci 444 (or **Public Policy Administration 444**), Public Policy and Aging
Social Work 330, Research Design in Social Work
Social Work 491, Professional Leadership Practice

Career Outlook

The bachelor of social work program is designed to prepare persons for employment in social welfare agencies, schools, hospitals, correctional institutions, or day care, geriatric, or rehabilitation centers. Individuals currently working in social welfare settings can improve their skills or increase their opportunities for job advancement.

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Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 100, 150, 210, 265, 275, 280, 285, 290, 312, 314, 316, 322, 350, 390.

100 Introduction to the Social Services (3)

Prerequisite: Sociology 10 or Psychology 3. Examination of the network of social programs and services presently operating in modern urban communities and the various roles and functions performed by the helping professions. Students will be introduced to basic values, skills, and training involved in a helping relationship, as well as the characteristics of both clients seeking help and of professionals and paraprofessionals engaged in the helping process.

150 Social Welfare as a Social Institution (3)

Prerequisite: Social Work 100 or consent of instructor. A study of the: 1) development of social welfare services and the philosophy underlying the present practices and systems; 2) present social welfare programs with particular emphasis given to public income-maintenance provisions; 3) special welfare needs of blacks, elderly, women, Hispanic and Native Americans; and 4) the development of social work as a profession. This course may be taken by non-social work majors.

151 Social Welfare as a Social Institution Laboratory (1)

Prerequisites: Simultaneous with Social Work 150. The lab session will be used for field trips to social agencies. This course is required for all Social Work majors.

210 Introduction to Interventive Strategies for Social Work Practice (3)

Prerequisites: Social Work 150, Sociology 10 and Psychology 03, or permission of instructor. A presentation of basic knowledge, skills, and theory used for entry-level professional practice, such as problem assessment, interviewing skills, crisis intervention, and referral procedures. The course objectives also will be to teach students how to help clients negotiate systems effectively, and to use resources, services, and opportunities.

265 Human Sexuality (3)

Prerequisite: Social Work 280, Biology 110, or consent of instructor. This course will provide knowledge about physical, psychophysiological, and legal aspects of human sexuality. The range of human sexual behavior and sexual dysfunctions will be discussed. This course will also help students learn how to help clients recognize and express their concerns in sexual matters, recognize limits of their own intervention skills, and make appropriate referrals.

275 Stress and Stress Management (3)

Prerequisite: Social Work 280 or Psychology 268. This course will explore the causes of stress, with special emphasis given to stressors on the job; linkage between stress and mental and physical disorders; and stress management techniques such as cognitive restructuring, environmental change, progressive relaxation, and biofeedback.

280 Human Behavior in the Social Environment (3)

Prerequisite: Biology 1 and Sociology 160 or Psych 160 or permission of instructor. This course will focus on the normative stages in the life span, specifically how human development is affected by the physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social, and community systems.

285 Social Issues and Social Policy Development (3)

Prerequisites: Social Work 150, PolSci 11, and Econ 40. The identification of issues concerning governmental provisions to meet contemporary social needs, with analysis of the principles and values underlying alternative solutions. A study of the processes by which citizen opinions and public policies evolve and are implemented in areas such as income maintenance, crime and delinquency, employment, family and child welfare, and public mental health.

290 Selected Topics in Social Work Practice (3)

Prerequisite: Social Work 210 or Social Work 285, or consent of instructor. A course examining special topics in social work practice. Relative theories, strategies, and skills will be presented for topics selected. Course may be taken more than once for credit as different topics are offered.

300 Interventive Strategies for Social Work with Individuals, Families, and Groups (3)

Prerequisites: Social Work 210, and Social Work 280. This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in Social Work 210. It builds on the generalized helping model, incorporating specialized skills for working with specific groups of clients (e.g., children, aged, mentally ill, and physically handicapped), with families and small groups.

305 Interventive Strategies for Social Work with Organizations and Communities (3)

Prerequisites: Social Work 285 taken prior to or concurrently, senior standing. Continuation of basic practice skills with emphasis given to analysis and intervention at the organization and community levels. Includes assessment of available services, organization of client groups, efforts to modify resources for a client group unable to intervene effectively on its own behalf. Also emphasis on helping the practitioner evaluate the impact of intervention.

308 Leadership and Management in Nonprofit Organizations (3)

(Same as Public Policy Administration 394, PolSci 394, Sociology 308.) Prerequisite: Junior standing. This course addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: (1) the dynamics,

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functions and membership structure of NPOs, especially staff-board and other volunteer relations; (2) governance and management of NPOs; (3) resource mobilization; and (4) program development management and evaluation.

312 Women's Social Issues (3)

Prerequisite: Social Work 280. This course will help students become more sensitive to the social and welfare concerns of women. The discussions will include work and pension concerns, welfare benefits, family responsibilities (in the new dual career family), family violence, and special health and mental health service needs. Emphasis will be placed on integrating a knowledge base of women's needs with professional social work practice.

314 Social Work with Culturally Diverse Populations (3)

Prerequisite: Sociology 10. Focuses on increasing knowledge, understanding, and skills for working with diverse groups in US society. Emphasis is placed on economically disadvantaged and oppressed groups, including racial/ethnic minority groups, immigrants, and other vulnerable populations. The objective of the course is to increase knowledge for effective culturally-sensitive practice.

316 Clinical Gerontology (3)

(Same as Gerontology 316.) Prerequisite: Social Work 280 or Psych 268. This course includes: 1) an examination of the social, economic, health, and psychological problems specific to an older adult population; 2) consideration of special needs of the frail elderly, to include problems in long-term care; and 3) the special practice skills (individual, group) needed for intervention with older adults.

320 Supervised Field Experience in Social Work I (4)

Prerequisites: Social Work 300 must be taken prior to or concurrently, Social Work 320a must be taken concurrently, consent of instructor. This course provides students practice experience in social service agencies. Students work at the agencies approximately 20 hours per week. The purpose of this experience is to familiarize students with agency operations. Selection of the agency is based on student education needs.

320a Integrative Field Experience Seminar I (2)

Prerequisites: Consent of instructor and concurrent registration in Social Work 320. This seminar provides an opportunity for students to integrate previous course work with their experience in social work agencies. Classroom discussion will emphasize direct practice issues.

321 Supervised Field Experience in Social Work II (4)

Prerequisites: Social Work 320, Social Work 320a, and consent of instructor. This is a continuation of agency practice experience. Students work at the agency approximately 20 hours per week and may continue at the same agency as Social Work 320 or change agencies with the consent of the instructor.

321a Integrative Field Experience Seminar II (2)

Prerequisites: Consent of instructor and concurrent registration in Social Work 321. This seminar is a continuation of Social Work 320a. Classroom discussion will emphasize administration and community organization issues.

322 Child Welfare Practicum Seminar (3)

Prerequisites: Social Work 320 and consent of instructor. This seminar allows students to integrate previous course work with their experience in child welfare agencies. Classroom discussion will emphasize core competencies needed for child welfare practice.

330 Research Design in Social Work (3)

Prerequisite: Satisfaction of Math Proficiency requirement and Sociology 220. Students explore research concepts and procedures (hypothesis testing, sampling, measurement, and design) emphasizing issues in social work research. Students learn to collect, analyze and present data.

350 Special Study (1-10)

Prerequisite: Consent of instructor. Independent study through advanced readings in method and philosophy on a topic of particular interest, or field research in an agency.

390 Seminar in Social Work Issues (1-3)

Prerequisite: Consent of instructor. A variable-credit course examining current and future considerations in designing and implementing social work service and delivery arrangements. Issues will be selected according to interests of the class. Course may be taken more than once for credit as different topics are offered.

391-A Management Issues in Non-Profit Organizations: Staff Management Issues (1)

(Same as Public Policy Administration 391-A) Prerequisite: Junior Standing. This course addresses issues involved in managing staff in non-profit organizations. The course will cover the following topics:

- Fundamentals of staff supervision: balancing supervisory processes with counseling and coaching;
- Effective internal communications and decision making: including planning and leading meetings, cultural diversity, and creative conflict management,
- Preparing, hiring and coaching people to work in stressful environments.

391-B Management Issues in Non-Profit Organizations: Legal Issues in Governing and Non-Profit Organizations (1)

(Same as Public Policy Administration 391-B) Prerequisite: Junior Standing. This course addresses legal issues involved in managing and governing non-profit organizations. The course will cover the following topics:

- The Board as steward of the organization
- Director and officer liability
- Tax laws concerning charitable giving
- Legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees)

391-C Management Issues in Non-Profit Organizations: Financial Issues (1)

(Same as Public Policy Administration 391-C) Prerequisite: Junior Standing. This course addresses financial issues involved in governing and managing non-profit organizations. The course will cover the following topics:

- Cash flow analysis
- Budgeting

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- Cost accounting (determining costs for programs and services)
- Understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

396 American Philanthropy and Non-Profit Resources Development (3)

(Same as Public Policy Administration 396). This course addresses the history, philosophy, roles, and scope of philanthropy in the United States, including its role in the non-profit, voluntary sector of democratic society. It further examines the contemporary philanthropic landscape, giving special attention to the economic, political, and social/cultural forces which impact philanthropy and charitable giving, both by institutions and individuals. The course also studies the effective planning and management of development programs within a non-profit organization.

420 Medical Social Work (3)

This course is for new health care professionals presently at work in health care settings or for upper level undergraduate students interested in medical social work. The course will include: major changes in health care legislation, advances in medical technology (those aspects important to the medical social worker), an overview of the organization of the health care system, and social work roles and tasks in health care settings.

Sociology

Faculty

William P. Darby, Professor; Dean, Joint Engineering Program

Ph.D., Carnegie Mellon University

K. Peter Etzkorn, Professor*; Chairperson

Ph.D., Princeton University

Jerome Himelhoch, Professor Emeritus*

Ph.D., Columbia University

George J. McCall, Professor*

Ph.D., Harvard University

Herman W Smith, Professor*

Ph.D., Northwestern University

Harry H. Bash, Associate Professor Emeritus*

Ph.D., University of Pennsylvania

Sarah L. Boggs, Associate Professor Emeritus*

Ph.D., Washington University

Kay Young McChesney, Assistant Professor*

Ph.D., University of Southern California

Nancy M. Shields, Assistant Professor*; Associate Dean,

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

Ph.D., Southern Illinois University-Carbondale

Chikako Usui, Assistant Professor*

Ph.D., Stanford University

Sheryline Zebroski, Assistant Professor*

Ph.D., State University of New York at Stony Brook

Frances Hoffmann, Associate Professor*; Director,

UM-St. Louis Institute for Women's and Gender Studies

Ph.D., University of Oregon, Eugene, Oregon

Robert Keel, Lecturer

AbD., Washington University

Edith Graber, Adjunct Professor

Ph.D., University of Denver

Patsy West, Adjunct Associate Professor

Ph.D., St. Louis University

Gretchen Arnold, Adjunct Assistant Professor

Ph.D., Boston University

Susan Tuteur, Adjunct Assistant Professor

Ph.D., University of Chicago

Adinah Raskas, Lecturer

M.A., St. Louis University

Miranda Duncan, Lecturer

LL.B., University of California-Berkeley

*members of Graduate Faculty

The faculty prides itself on its commitments to high standards of teaching and sound scholarly research. Systematic course evaluations by students each semester are taken seriously, and individual faculty have been singled out as nominees and recipients of University Excellence in Teaching Awards. The ongoing scholarly research of the faculty is reflected in the department's upper-level and graduate courses, as well as in the numerous publication credits of faculty in journals and books or presentations at national and international meetings.

General Information

Degrees and Areas of Concentration

The sociology department offers courses leading to the B.A. in sociology, the B.S. in sociology; in cooperation with the School of Education, the B.A. in sociology with teacher certification; in cooperation with the School of Business Administration, the B.A. in sociology with a business option; and cooperative minor or certificate programs in American Studies, Black Studies, Legal Studies, Urban Studies, Religious Studies, Women's & Gender Studies, and International Studies.

The sociology department is accredited by the American Sociological Association. Students completing the B.A. or B.S. degree in sociology are well-prepared for graduate study in sociology or careers in industry, health and social services, urban, intergroup, political or community issues.

Since the sociology department also offers work leading to the M.A. degree in sociology (see below), opportunities are available for graduate-level instruction to selected undergraduate students. The graduate emphasis areas include (1) demography and population; (2) social problems and social change; (3) social and family networks; and (4) applied analysis, measurement, and program evaluation. Undergraduate students with exceptional records at UM-St. Louis are encouraged to enroll in graduate-level classes in the last year of their undergraduate program. Graduate credit for such course work is given only in the student's last undergraduate semester and each course must be approved in advance by the Graduate School on the recommendation of the department.

In addition to a balanced program of basic undergraduate to advanced graduate courses, the department provides a range of opportunities for students to develop concrete research design and data analysis skills. Focused topics courses, specialized research methods seminars, and internship placements are offered in support of this goal and are typically designed around the ongoing research interests of department faculty. Currently, faculty are investigating such areas as homelessness, industrial competitiveness, racial and ethnic conflict, international business, popular culture, and mental illness. The department provides students with opportunities for intensive direction and guidance from faculty. Students and faculty working in particular subject areas consult freely with members working in other areas.

Research interests of sociology faculty extend beyond the department into a wide variety of joint projects with faculty in other departments and programs, including Criminology and Criminal Justice, Engineering, Political Science, Women's & Gender Studies, Gerontology, Public Policy Administration, the Bush Center for Law, Social Change and Conflict Resolution, the Center for International Studies, and the Dispute Resolution Program. The department currently includes nine full-time and six part-time members.

A minor in sociology is available to students majoring in related areas.

Sociology

Department Awards

The department offers several annual awards to outstanding students on the basis of merit.

The **Ray Collins Alumni Award** is given annually by the Sociology Alumni Association to the top graduating senior. The awardee is selected by the faculty on the basis of GPA, and the award consists of first-year membership dues in the Sociology Alumni Association and a cash award.

Honors Program Student Association Awards are given annually to exceptional seniors and graduate students. The awards include student affiliate memberships in the Honors Program Student Association of the American Sociological Association to aid the establishment of a network of colleagues who are at similar points in their career development.

The **Alumni Agent Scholarship** and the **Sociology Alumni Scholarship** are given to deserving junior or senior sociology majors annually. The awardees are selected by the faculty on the basis of merit, and the scholarships consist of a stipend for books and educational materials.

A series of undergraduate awards are given to outstanding students. The Freshman Sociology Award is given to the outstanding freshman student in lower-division sociology course work; the Outstanding Junior Sociology Major Award is given to the outstanding junior sociology major; the Outstanding Sociology Minor Award is presented to the graduating student with the most outstanding minor GPA record; and the Outstanding Sociological Statistics and Methods Award is given to the junior sociology major with the best overall record in Sociology 220, 230, and 231. This award carries tuition remission for a three-credit hour Sociology 350, Independent Study, to act as an undergraduate course assistantship for Sociology 220, 230, and 231.

Department Honors The sociology department will award Department Honors to those B.A. and B.S. degree candidates in sociology with an overall grade point average of 3.2 or better. They must also successfully complete an independent study through Sociology 350, Special Study.

Undergraduate Studies

General Education Requirements

Students must satisfy the University and College general education requirements. Courses in sociology may be used to meet the social science requirement. The foreign language requirement for the B.A. degree may be satisfied in any language. Not more than 10 hours of junior college transfer credit may be applied toward the combined minimum of required credit hours for the B.A. (31 credit hours) or B.S. (37 credit hours) major. No course in which a grade below a "C" is received will count toward satisfying the core requirement.

Satisfactory/Unsatisfactory Restrictions Sociology majors may not take courses counting toward their major requirements on a satisfactory/unsatisfactory basis.

Degree Requirements

Bachelor of Arts in Sociology

In addition to specific Baccalaureate Degree Requirements of the College of Arts and Sciences, candidates must complete 31 hours of sociology course credit including the following required core courses:

Sociology 10, Introduction to Sociology
Sociology 210, Sociological Theory
Sociology 220, Sociological Statistics, or **Math 31**, Elementary Statistical Methods, or
Math 102, Finite Mathematics I
Sociology 230, Research Methods
Sociology 231, Laboratory in Research Methods

Note Students planning to continue their studies in graduate school are urged to meet the statistics requirement by taking Sociology 220 rather than one of the optional mathematics courses.

Beyond these **core courses**, B.A. sociology majors are required to take at least 18 additional hours of sociology courses, selected according to career objectives, of which **at least six hours** are at the **300 level** (other than Sociology 350, Special Study). No more than three hours in sociology below the 100 level can count toward this 18-hour requirement.

Applied training through one or more practicum courses may be used as part of the requirements for the major.

A minimum of 2.0 average must be maintained for all sociology courses.

After fulfilling the general education and specific major degree requirements, students are to take the remaining 49 hours required to complete the B.A. degree from courses which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and inter-disciplinary.

Bachelor of Science in Sociology

In addition to specific Baccalaureate Degree Requirements of the College of Arts and Sciences, Bachelor of Science in Sociology candidates must complete a total of 37 hours of sociology course credit, including the following **core courses**:

Sociology 10, Introduction to Sociology
Sociology 210, Sociological Theory
Sociology 220, Sociological Statistics
Sociology 230, Research Methods
Sociology 231, Laboratory in Research Methods

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and six credit hours from **sociology** research courses such as

Sociology 298, Practicum in Field and Laboratory Research
Sociology 304, Survey Research Practicum
Sociology 330, Field Research in Criminology
Sociology 331, Qualitative Methods in Social Research
Sociology 346, Demographic Techniques
Sociology 370, Selected Topics in Techniques of Sociological Research

Six additional **sociology** courses (18 hours), chosen with the concurrence of the student's faculty adviser from offerings of the department's focused areas of study, are required for the B.S. degree in sociology, including a minimum of two courses (six hours) at the 300 level (exclusive of Sociology 350, Special Study).

Related Area Requirements for the B.S. Degree in Sociology

Students must complete five courses in related fields, drawn from at least four of the following nine areas:

1) Computer Science:

Computer Science 122, Computers and Programming
Computer Science 125, Introduction to Computer Science

2) Economics

Econ 40, Introduction to the American Economy
Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics

3) Mathematics:

Math 80, Analytic Geometry and Calculus I
Math 175, Analytic Geometry and Calculus II
Math 180, Analytic Geometry and Calculus III
Math 202, Introduction to Differential Equations

4) Philosophy

Philosophy 60, Logic and Language
Philosophy 160, Formal Logic
Philosophy 260, Advanced Formal Logic
Philosophy 280, Philosophy of Science
Philosophy 282, Philosophy of Social Science

5) Political Science:

PolSci 11, Introduction to American Politics
PolSci 135, Introduction to Urban Politics

6) Probability and Statistics:

Statistics 232, Applied Statistics II
Statistics 320, Mathematical Statistics II
Statistics 321, Mathematical Statistics III

7) Psychology

Psych 3, General Psychology
Psych 160, Social Psychology
Psych 256, Environmental Psychology

8) Public Administration:

PolSci 140, Public Administration

PolSci 240, Bureaucratic Politics
PolSci 245, Urban Administration
PolSci 346, Urban Planning and Politics

9) International Studies:

Anthropology 25, World Cultures
Comm 332, Intercultural Communication
Econ 238, Comparative Economic Systems
Geography 102, World Regions
PolSci 180, World Politics

Courses in other Departments or Division may be applied to these requirements with written consent of the student's faculty adviser.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.S. degree from courses which the appropriate department has evaluated as being of university-level quality, from one or more of the following areas or their university-quality equivalents at other institutions: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and inter-disciplinary.

Also required are:

Econ 40, Introduction to the American Economy
Psych 3, General Psychology
PolSci 11, Introduction to American Politics

one of the following philosophy courses:

Philosophy 60, Logic and Language
Philosophy 282, Philosophy of Social Science

and one of the following political science courses:

PolSci 140, Public Administration
PolSci 240, Bureaucratic Politics
PolSci 245, Urban Administration
PolSci 343, Studies of Policy Formation

Practicum courses in other departments may be applied to the required six hours of research courses with the written consent of the student's faculty adviser.

Combined Degree: Bachelor of Science in Civil Engineering and Bachelor of Science in Sociology

Students pursuing the combined degree are simultaneously enrolled in the College of Arts and Sciences and the Joint Undergraduate Engineering Program. They have an engineering faculty advisor as well as a faculty advisor in the Department of Sociology.

Degree Requirements

A program of 159 semester hours is required for the Bachelor of Science in Civil Engineering and the Bachelor of Science in Sociology. Earned alone the Bachelor of Science in Engineering requires a minimum of 137

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semester hours. Because of the overlap in required course work for the two curricula, the combined degree program, including the BS in Sociology, require only 22 additional semester hours.

For Additional Information See the section on the Joint Undergraduate Engineering Program in this Bulletin or contact:

Dr. Nancy Shields
Assistant Professor of Sociology and Associate Dean of
the Joint Undergraduate Engineering Program
228 Benton Hall

or

Department of Sociology
707 Tower
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121-4499.

B.A. or B.S. in Sociology with Teacher Certification

Students must complete the B.A. or B.S. in sociology requirements, as well as the requirements for teacher certification. (See the School of Education section of this Bulletin.)

B.A. or B.S. in Sociology with an Interest in Business

The following courses are suggested for students seeking careers in sales, market research, and so forth. In addition to the B.A. or B.S. in sociology requirements, the following core courses are suggested:

Econ 51, Principles of Microeconomics
Sociology 220, Sociological Statistics
Sociology 346, Demographic Techniques
BA 140, Fundamentals of Financial Accounting

Students may then choose to complete one of the following three sets of courses:

- 1) **Marketing Management**
BA 206, Basic Marketing
BA 275, Marketing Intelligence
BA 303, Industrial marketing
- 2) **Financial Management**
BA 204, Financial Management
BA 334, Investments
BA 350, Financial Policies
- 3) **Accounting**
BA 145, Managerial Accounting
BA 340, Intermediate Accounting I
BA 345, Cost Accounting

Focused Areas of Study

For those students who wish to focus on one area of sociological study, one of the following areas is suggested.

Urban Problems

Sociology 040, Social Problems
Sociology 099, The City
Sociology 202, Urban Sociology
Sociology 312, Sociology of Wealth and Poverty
Sociology 314, Social Change
Sociology 316, Power, Ideology and Social Movements
Sociology 342, World Population and Ecology
Sociology 344, Problems of Urban Community
Sociology 380, Selected Topics in Social Policy

Minorities and Power

Sociology 100, Women in Contemporary Society
Sociology 105, Group Prejudice and Minority Identity
Sociology 202, Urban Sociology
Sociology 312, Sociology of Wealth and Poverty
Sociology 316, Power, Ideology, and Social Movements
Sociology 360, Sociology of Minority Groups

Deviance, Conformity, and Social Control

Sociology 75, Crime and Punishment
Sociology 99, The City
Sociology 164, Criminological Theory
Sociology 175, Women, Crime and Society
Sociology 180, Alcohol, Drugs, and Society
Sociology 200, Sociology of Deviant Behavior
Sociology 214, Juvenile Delinquency and Youth Crimes
Sociology 300, Communities and Crime
Sociology 320, Forms of Criminal Behavior
Sociology 325, Gender, Crime, and Justice
Sociology 326, Criminology
Sociology 328, Institutions and the Control of Crime and Delinquency
Sociology 340, Race, Crime, and Justice

Social Psychology: The Individual and Society

Sociology 102, Sex Roles in Contemporary Society
Sociology 160, Social Psychology
Sociology 240, Selected Topics in Micro-Sociology
Sociology 260, Social Interaction in Small Groups
Sociology 270, Socialization
Sociology 361, Social Gerontology
Sociology 377, Personality and Culture
Sociology 378, Selected Topics in Social Psychology
Sociology 380, Selected Topics in Social Policy

Organizational Dynamics: Conflict and Consensus

Sociology 218, Social Choice in Political-Economic Systems
Sociology 224, Marriage and the Family
Sociology 234, Political Sociology
Sociology 241, Selected Topics in Macro-Sociology
Sociology 264, Sociology of Religion
Sociology 268, Sociology of Conflict
Sociology 278, Sociology of Law
Sociology 286, Society, Arts, and Popular Culture
Sociology 336, Organizations and Environments
Sociology 338, Sociology of Health
Sociology 354, Sociology of Business and Work Settings

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Sociology 356, Sociology of Education

Applied Analysis and Measurement

Sociology 205, Introduction to Models in the Social Sciences

Sociology 240, Selected Topics in Micro-sociology

Sociology 298, Practicum in Field and Laboratory Research

Sociology 304, Survey Research Practicum

Sociology 330, Field Research in Criminology

Sociology 331, Qualitative Methods in Social Research

Sociology 342, World Population and Ecology

Sociology 346, Demographic Techniques

Sociology 370, Selected Topics in Techniques of Sociological Research

Sociology 394, Methods in Theory Construction

Requirements for the Minor

Students must apply for the minor in sociology. Candidates must complete at least 15 hours of departmental course work in sociology, of which at least six hours must be at the 300 level (other than Sociology 350, Special Study). No course in which a grade below "C" is received will count toward a minor.

Candidates who anticipate that their background in sociology may play a substantial role in their career plans are strongly encouraged to take some or all of the **core requirements**.

Candidates must have a cumulative grade point average of 2.0 or better in all courses pertaining to the minor. Department courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Graduate Studies

Curriculum

The department offers a flexible program of studies leading to the Master of Arts degree in sociology with a general orientation toward Urban Problems and Social Change. Course work combines intensive examination of the core areas of sociology with acquisition of the analytical skills of sociological investigation. A variety of career options are available to the Master's-level graduate, including program evaluation and research; field or case work related to community issues; administrative roles in social agencies and planning organizations; or doctoral studies in sociology or related fields.

The curriculum is designed to serve the needs of full-time students, as well as working students who are able to engage only in part-time studies. This design allows pre-career and mid-career students to prepare for employment in education, service agencies, community organizations, government agencies, or businesses. The curriculum also invites students to take advantage of the University's urban setting through integration of selected work experiences with practicum courses and academic seminars under faculty guidance. The curriculum emphasizes theoretical, analytic, and substantive approaches to urban-related problem solving.

Admission Requirements

Individuals with at least the equivalent of the department's B.A. or B.S. degree in sociology may be admitted to the Graduate School as candidates for the M.A. degree. Students with bachelor's degrees in fields other than sociology may be admitted to pursue graduate sociology studies under the condition that they make up core deficiencies prior to graduate work.

In addition to meeting the general admission requirements of the Graduate School, a student should ordinarily have

- 1) a baccalaureate degree with a minimum grade point average of 3.00;
- 2) at least 15 hours in the social sciences, of which 12 should be in upper-level courses;
- 3) three letters of recommendation from persons qualified to judge the candidate's potential for success in the program; and
- 4) a statement describing the applicant's interest in graduate study in sociology.

Students who do not meet these requirements may be provisionally admitted upon approval of the department and the dean of the Graduate School. Admission and financial aid decisions are made on the basis of past academic record, program performance, and career commitment. Students wishing to continue regular employment outside the University may enroll on a part-time basis. Requests for further information about the program should be sent to the:

Director of Graduate Studies
Department of Sociology
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121-4499

Students admitted to the program are assigned a graduate adviser from whom they should obtain a copy of the *Graduate Student Handbook* and with whom they should consult periodically on academic and career considerations.

Students meeting departmental M.A. degree requirements may be admitted to the coordinated Ph.D. program with the sociology departments of the University of Missouri at Columbia and Kansas City.

Degree Requirements

Master of Arts in Sociology Each student shall prepare an adviser-approved course of study during the first semester of enrollment. Candidates for the M.A. degree shall complete a minimum of 30 hours of approved study, at least 21 of which must be taken in courses offered by the department.

Core Curriculum

Sociology 400, Proseminar in Sociology

Sociology 402, Advanced Quantitative Techniques

Sociology 404, Advanced Methodology

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The sociology department participates in a joint quantitative techniques and methodology series of courses with the other social sciences which can be substituted for the above.

Concentration The department offers opportunities for intensive work in one of the several research areas of department faculty members, which allows the flexibility for comprehensive and coherent exposure to the methods and insights of the discipline. Matriculating students are encouraged to plan, with their advisers, a coherent program of studies consistent with their career interests.

Exit Requirements A student's program must include one of the following exit projects: a six-hour internship (Sociology 480, Individual Study) or a six-hour preparatory sequence and an approved paper (Sociology 490, Supervised Research, and Sociology 495, Sociological Reporting). Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

Career Outlook

The undergraduate major in sociology can lead to further training at the graduate level. Job opportunities include working in business, government, social welfare, and probation and parole. Majors learn to analyze complex social and urban issues and to develop a thorough understanding of the workings of major social institutions. Sociology is a particularly good major for prelaw, pre-M.B.A., and pre-M.S.W. students. For more career information, see a sociology adviser.

To function specifically as a sociologist, a graduate degree in the discipline is required, and students with such an interest should plan for this additional training. The M.A. in Sociology prepares students with skills suitable for the career areas of 1) administrative and supervisory positions at the local, state, and federal level; 2) private sector positions in evaluation and policy research, marketing, consulting, and nonprofit organizations; and high school level sociology teaching for persons with a teaching certificate.

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Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 10, 40, 75, 99, 100, 102, 105, 160, 164, 175, 180, 200, 202, 205, 210, 214, 220, 224, 230, 231, 234, 240, 241, 245, 260, 264, 268, 270, 278, 280, 286, 290a, 290b, 290c, 298, 300, 304, 308, 310, 312, 314, 316, 320, 325, 326, 328, 330, 331, 336, 338, 340, 342, 344, 346, 350, 352, 354, 356, 360, 361, 370, 375, 377, 378, 380, 394.

10 Introduction to Sociology (3)

An introduction to sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

40 Social Problems (3)

Conditions defined by society as social problems, as well as potential solutions, are examined from various sociological perspectives. Emphasis is given to problem issues prevalent in metropolitan settings. Analyses focus on victims and beneficiaries of both problem conditions and alternative solutions.

75 Crime and Punishment (3)

(Same as Criminology and Criminal Justice 75 and Interdisciplinary 75.) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

99 The City (3)

(Same as Criminology and Criminal Justice 99, Political Science 99, and Interdisciplinary 99.) Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is for freshmen and sophomores. It is open to juniors and seniors with the consent of instructor.

100 Women in Contemporary Society (3)

Prerequisite: Sociology 10 or Interdisciplinary 50 or consent of instructor. An introduction to the sociological analysis of the status of women in society, including their work, family, and political roles. Socialization, education, and the women's movement will also be considered, as these affect the position and participation of women in a variety of social arenas.

102 Sex Roles in Contemporary Society (3)

Prerequisite: Sociology 10 or Interdisciplinary 50 or consent of instructor. The study of social processes through which sex roles are developed and acquired; the impact of gender and sex roles on personal identity and social conduct; the relationship between sex roles and social inequality; and individual and social consequences of changing sex roles in contemporary society.

105 Group Prejudice and Minority Identity (3)

Prerequisite: Psychology 3 or Sociology 10 or consent of instructor. The psychological and sociological study of determinants of identity formation and transformation among minority groups.

160 Social Psychology (3)

(Same as Psych 160.) Prerequisite: Sociology 10 or Psych 3. Study of the interaction between the individuals and their social environment. Examination of basic principles, concepts, and methods.

164 Criminological Theory (3)

(Same as Criminology and Criminal Justice 164.) Prerequisites: Sociology 10 and Criminology and Criminal Justice 10 or consent of instructor. An introduction to explanations of criminal behavior and societal reactions to crime which bear upon the administration of justice. Includes historical and contemporary approaches.

175 Women, Crime, and Society (3)

Prerequisite: Sociology 10 or consent of instructor. Topics include social origins of laws relating to women; quantitative and qualitative views of women's criminality; theories of women's criminality; women as crime victims; treatment of women in the correctional process; and women personnel within the criminal justice structure.

180 Alcohol, Drugs, and Society (3)

(Same as Criminology and Criminal Justice 180.) Prerequisite: Sociology 10 or Psych 3. This course examines the medical, legal, and social aspects of alcohol and drug use. Medical aspects considered include treatment approaches and the role of physicians in controlling such behavior. In the legal realm, past and present alcohol and drug laws are explored. Cultural and social influences on alcohol and drug use are discussed.

200 Sociology of Deviant Behavior (3)

Prerequisite: Sociology 10 or consent of instructor. Theories of the nature, causes, and control of deviance as a social phenomenon. Application of theories to specific substantive areas, such as mental disorder, delinquency, drug abuse, suicide, unconventional sexuality, and physical disability.

202 Urban Sociology (3)

Prerequisite: Sociology 10 or consent of instructor. Urbanization as a world phenomenon; urban social and ecological structures and changing life styles; the decision-making processes in urban problem-solving.

205 Introduction to Models in the Social Sciences (3)

Prerequisite: Sociology 10 or Anthro 11 or PolSci 11 or consent of instructor. The course will focus on explaining social and cultural behavior. Elementary models of decision making, exchange, and adaptation will be covered. Computer processing of data to test empirical hypotheses will be introduced.

210 Sociological Theory (3)

Prerequisite: Sociology 10 or consent of instructor. The nature of sociological theory. An investigation of theory from Comte through contemporary developments. Contributions made by theorists in related disciplines.

214 Juvenile Delinquency and Youth Crimes (3)

Prerequisite: Three hours of 100-level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention.

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220 Sociological Statistics (3)

Prerequisites: Sociology 10 and satisfaction of mathematics proficiency requirement. Issues and techniques of statistical analyses relevant to quantitative sociological research, e.g., elementary probability, measurements of central tendency and dispersion, measures of relationships including linear regression and correlation, inferential statistics.

224 Marriage and the Family (3)

(Same as Nursing 224.) Prerequisite: Sociology 10 or consent of instructor. The study of patterns of close relationships, and how these relationships are influenced by larger social forces. Topics include: love, dating, mate selection, cohabitation, alternative lifestyles, working families, parenting, single mothers, families in crisis, domestic violence, and divorce. Universal and variable aspects of family organization, family role systems, and changes in family social structure.

230 Research Methods (3)

Prerequisites: Sociology 10 and satisfaction of mathematics proficiency requirement and Sociology 220 or consent of instructor. Research planning and interpretation, principles of research design, measurement, and sampling. Techniques for the collection, analysis, and presentation of data.

231 Laboratory in Research Methods (1)

Prerequisite: Must be taken concurrently with Sociology 230. Laboratory course to accompany Sociology 230. The course will include practical experience in the conduct of research. Required for the B.A. in sociology.

234 Political Sociology (3)

Prerequisite: Sociology 10 or PolSci 11 or consent of instructor. The analysis of power as a social phenomenon. The processes of legitimizing power and instituting authoritative structures. Stabilizing of social control and social integration at various levels of social and political organization.

240 Selected Topics in Micro-sociology (1-3)

Prerequisite: Sociology 10 or consent of instructor. Examination of a specific sociological topic that focuses on small groups and interpersonal relations. May be taken more than once for credit provided the topic of the course is different each time.

241 Selected Topics in Macro-sociology (1-3)

Prerequisite: Sociology 10 or consent of instructor. Examination of a specific topic that focuses on large-scale social systems and the structural relationships among social organizations and institutions. May be taken more than once for credit provided the topic of the course is different each time.

245 Sociology of South Africa (3)

Prerequisite: Sociology 10 or consent of instructor. An analysis of South African society as a sociocultural system, with attention to its demographic, ecological, and social structures; its distinctive social institutions and life styles; and the social dynamics of modernization, urbanization, and ethnicity. This course satisfies the Cultural Diversity requirement.

260 Social Interaction in Small Groups (3)

Prerequisite: Sociology 160 or Psych 160 or consent of instructor. Analysis of human interaction with emphases on group problem solving, group structure, and group process.

264 The Sociology of Religion (3)

Prerequisite: Sociology 10 or consent of instructor. Religion as a universal social institution, its development, forms, and influence in the world, including Western and Eastern religions. Sociological analysis of the effects of religion upon the individual and societies. Religion, its roles in social change, and contemporary trends.

268 The Sociology of Conflict (3)

Prerequisite: Sociology 10 or consent of instructor. The conditions under which social conflicts arise, develop, and are terminated (or in some cases resolved) are examined. The functions of different levels of conflict are studied to determine the potential effects and outcomes of planned intervention.

270 Socialization (3)

Prerequisite: Sociology 10 or consent of instructor. Analysis of the structural and social psychological aspects of roles and the self as a product of social interaction.

278 Sociology of Law (3)

Prerequisite: Sociology 10 or consent of instructor. A study of law and society with emphasis on the sociological analysis of specific problems of legal doctrines and legal institutions. The law is examined as an instrument of social control through study of the courts, the legal profession, the police, and various social institutions. Consideration is given to law as an instrument of social change.

280 Society and Technology (3)

Prerequisite: Sociology 10 or consent of instructor. Technology in industrial and post-industrial societies. The social shaping of technological systems. The role of technology in social change.

286 Society, Arts, and Popular Culture (3)

(Same as Anthro 286.) Prerequisite: Sociology 10 or Anthro 11. The relationship of artists, writers, and musicians; their traditions and modes of artistic expression to variant social structures and institutions; and social pressures and rewards.

290a, 290b, 290c Undergraduate Seminar in Sociological Issues (3)

Prerequisites: Sociology 10 and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by other undergraduate courses. May be taken up to three times for nine hours of credit, provided the subject matter is different each time the seminar is taken.

298 Practicum in Field and Laboratory Research (1-3)

Prerequisites: Sociology 220 and Sociology 230, or consent of instructor. Intensive field or laboratory research to be taken subsequent to, or concurrent with, a specific substantive course. May be taken twice for credit.

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Note: Any 300-level course taken for major elective credit requires prior completion of two of the following: Sociology 210, Sociology 220, or Sociology 230.

300 Communities and Crime (3)

(Same as Criminology and Criminal Justice 300.) Prerequisite: Criminology and Criminal Justice 110, 120, 130, 210, 220, or consent of instructor. Analysis of the sources, consequences, and control of crime within communities. Emphasis on social and ecological theories of crime and on population instability, family structure, and the concentration of poverty as causes of crime. Community crime prevention efforts are also addressed.

304 Survey Research Practicum (3)

(Same as Econ 304 and PolSci 304.) Prerequisites: Junior standing, Sociology 220, Sociology 230, and consent of instructor. The execution of a sample survey, including establishing study objectives, sampling, questionnaire construction, interviewing, coding, data analysis, and presentation of results. May be taken more than once for credit provided the course topic is different each time.

308 Leadership and Management in Nonprofit Organizations (3)

(Same as Social Work 308, PolSci 394, and Public Policy Administration 394.) Prerequisite: Junior standing. This course addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include:

- 1) the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations
- 2) governance and management of NPOs
- 3) resource mobilizations and
- 4) program development management and evaluation.

310 Selected Topics in Sociological Theory (1-3)

Prerequisite: Sociology 210. Focused examination of selected issues, the contributions of individual theorists, and methodological implications in the study of sociological theory. May be taken twice for credit.

312 Sociology of Wealth and Poverty (3)

Prerequisites: Sociology 10 and junior standing or consent of instructor. Theory and research on social stratification and inequality in contemporary societies.

314 Social Change (3)

Prerequisites: Sociology 10 and junior standing, or consent of instructor. Theories of social change applied to the analysis of small and large social systems, including the planning of change and projecting of alternative futures.

316 Power, Ideology, and Social Movements (3)

Prerequisite: Sociology 10 and Junior Standing or consent of instructor. Effect of events and social processes on thought and action in the twentieth century. Social

functions of ideologies as expressed in movements and formal and informal organizations seeking social change.

320 Forms of Criminal Behavior (3)

(Same as Criminology and Criminal Justice 320.) Prerequisite: Criminology and Criminal Justice 110, 120, 130, 210, 220, or consent of instructor. Examination of major types of criminal behavior including violent, property, public order, and organizational offenses. Emphasis on theories of, and responses to, these crimes.

325 Gender, Crime, and Justice (3)

(Same as Criminology and Criminal Justice 325.) Prerequisite: Criminology and Criminal Justice 110, 120, 130, 210, 220, or consent of instructor. Analysis of the role of gender in crime and the justice system. Emphasis on gender differences in crime commission, criminal processing, and employment in criminal justice agencies.

326 Criminology (3)

Prerequisites: Sociology 200 and Sociology 214 or six hours of sociology or anthropology. Crime as a social phenomenon. Theory and research concerning the causes of crime.

328 Institutions and the Control of Crime and Delinquency (3)

(Same as Criminology and Criminal Justice 328.) Prerequisite: Sociology 214 or Sociology 326. Institutional responses to crime and delinquency. Theories and programs of rehabilitation and punishment. Organizational conditions affecting behavior of correctional personnel.

330 Field Research in Criminology (2-4)

Prerequisites: Sociology 214 and Sociology 230, or Sociology 326, or their equivalent. Students will participate in individual or group research projects involving systematic data collection and sociological analysis concerning the causation or societal reaction to crime, delinquency, or related forms of deviance. One option available to students will be an opportunity to study organizations dealing with juvenile or adult offenders.

331 Qualitative Methods in Social Research (3)

Prerequisite: Sociology 220 and Sociology 230, or their equivalent, or consent of instructor. This course is devoted to such qualitative methods as participant observation, intensive interview, content analysis, and oral history, among others. The place of these kinds of techniques in social research, as well as the issues raised by them, will be considered. Students will participate in individual or group research projects using one or more of the methods discussed.

336 Organizations and Environments (3)

Prerequisites: Sociology 10 and junior standing or consent of instructor. Internal and external forces that influence the structures, adaptive flexibility, and actions of public and private organizations and agencies are examined. Specific foci include: organizational responses to environmental opportunities, constraints, and contingencies; sources of conflict and impediments to organizational goal attainment; and strategies for increasing organizational effectiveness, efficiency, and chances for survival.

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338 Sociology of Health (3)

(Same as Nursing 338.) Prerequisites: Sociology 10 and junior standing. Exploration of social dimensions and issues related to health and illness, such as access to the health care delivery system; factors influencing prevention, utilization and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

340 Race, Crime, and Justice (3)

(Same as Criminology and Criminal Justice 340.) Prerequisite: Criminology and Criminal Justice 110, 120, 130, 210, 220, or consent of instructor. Analysis of the involvement of racial minorities in crime and the criminal justice system. Emphasis on group differences in offending, processing, victimization, and employment in criminal justice agencies.

342 World Population and Ecology (3)

Prerequisites: Sociology 10 and junior standing or consent of instructor. Sociological theories and research relating people to their ecological environments. Topics include fertility and population change in the non-Western world. Emphasis is directed to population policies in e.g., Africa and India and China.

344 Problems of Urban Community (3)

Prerequisites: Sociology 10 and junior standing, or consent of instructor. The urban community as an area of social action and problem solving with emphasis on the sociological aspects of urban problems.

346 Demographic Techniques (3)

Prerequisites: Sociology 220 and Sociology 230, or consent of instructor. Practicum experience with computation and analysis of major demographic measures of population size, growth, and shape; fertility; mortality; immigration; emigration; and morbidity. Special attention to comparisons of standard Western and non-Western demographic models, with emphasis on computer modeling.

350 Special Study (1-10)

Prerequisite: Consent of instructor. Independent study through readings, reports, and field work.

352 Advanced Principles of Sociology (3)

Prerequisites: Sociology 10 and junior standing or consent of instructor. Analysis of the main concepts and principles of sociology and survey of sociology as a social science.

354 Sociology of Business and Work Settings (3)

Prerequisites: Sociology 10 and junior standing, or consent of instructor. The sociology of work and occupations in America, Europe, and Asia; organization structures and worker participation; worker attitude, behaviors, and commitment; the socialization of the worker; determinants of worker behavior; social problems of work and business; and the impact of community on work place and business behavior.

356 Sociology of Education (3)

Prerequisite: Sociology 10 and junior standing, or consent of instructor. Education as a social institution, its role as an

agent of socialization, and its effect upon the processes of social change and social mobility. The relationship between the school and its community.

360 Sociology of Minority Groups (3)

Prerequisites: Sociology 10 and junior standing or consent of instructor. The study of dominant-subordinate group relations. Religion, ethnicity, race, and gender as factors in the unequal distribution of power.

361 Social Gerontology (3)

(Same as Gerontology 361.) Prerequisites: Sociology 10 and junior standing, or consent of instructor. Topics include: sociological theories of aging, technological and social change and its effects on the environment of older people, and prejudice and discrimination against the elderly.

370 Selected Topics In Techniques of Sociological Research (1-3)

Prerequisite: Sociology 220, 230, or consent of instructor. The study of a specific research technique used in sociological analyses. May be taken more than once for credit provided the course topic is different each time.

375 The Social Psychology of Disabilities (3)

Prerequisite: Sociology 160 or Psych 160 or consent of instructor. (Same as Psychology 375). A social psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

377 Personality and Culture (3)

Prerequisites: Sociology 10 and junior standing or consent of instructor. Analysis of behavior from the standpoint of interaction between psychological, sociological, and cultural systems.

378 Selected Topics In Social Psychology (1-3)

Prerequisite: Psych 160 or Sociology 160, or consent of instructor. Focused examination of selected issues, concepts, and methods in the study of social interaction. May be taken twice for credit.

380 Selected Topics In Social Policy (1-3)

Prerequisite: Sociology 10, Junior standing or consent of instructor. Examination of a specific sociological topic of current relevance in the community. May be taken more than once for credit provided the course topic is different each time.

394 Methods in Theory Construction (3)

Prerequisite: Sociology 210 or consent of instructor. An in-depth comparison of selected techniques of theory building and testing. Verbal and/or mathematical formalization of selected sociological examples of theory will be the central activity.

400 Proseminar in Sociology (3)

Required of all entering graduate students in the fall

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semester of the first year of residency. An overview of the field of contemporary sociology, with emphasis on the major theories, issues, research approaches, and ethical problems in the field today, and an introduction to theory construction, measurement, and design strategies.

402 Advanced Quantitative Techniques (3)

Prerequisite: Sociology 220 or consent of instructor. A study of advanced quantitative analysis of sociological data, focusing on problems of multivariate analysis, sampling theory and techniques, and the use of electronic data processing in approaching these problems.

404 Advanced Methodology (3)

Prerequisite: Sociology 230 or consent of instructor. A study of methodological problems on an advanced level, focusing on contemporary issues in the processes of inquiry with particular emphasis on the applicability of different modes of research to various types of theoretical problems. Consideration of ethical problems in social research.

406 Research Practicum (3)

Prerequisites: Sociology 400 and consent of instructor. Involvement of students in an individual or group project culminating in a report, in order to provide firsthand experience in integration of theoretical concerns, methodological principles, and appropriate research techniques in an empirical study, the subject of which shall be determined in collaboration with the instructor.

410 Comparative Social Structures (3)

Prerequisite: Sociology 400 or consent of instructor. Social institutions in selected societies are examined in terms of their similarities and differences. Typically, non-American and American social structures such as religion, education, politics, family, and economy are compared, along with population dynamics and change, myths, values, and norms. Societies are selected depending on specialty of faculty and interests of students. May be repeated for credit if the topic is different.

415 Foundations of Criminological Theory (3)

(Same as Criminology and Criminal Justice 415.) Prerequisites: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420 Theories of Conflict (3)

Prerequisite: Sociology 400 or consent of instructor. The conflict perspective in sociology is contrasted with consensus models of society. Conflict theorizing is traced from the Classical social thought tradition in Western civilization to its modern Marxist and non-Marxist formulations in contemporary sociology. Ethical implications for social conflict intervention are considered.

422 Family and Interpersonal Conflict Resolution (3)

Prerequisite: Sociology 420 or consent of instructor. The sources and functions of interpersonal conflict in family and neighborhood settings are analyzed. Mediation and

conciliation strategies are developed in relation to primary and secondary structures, role systems, and social change.

424 Conflict Management in Organizations (3)

Prerequisite: Sociology 420 or consent of instructor. Intrinsic sources of inter- and intraorganizational conflict and related methods of mediation are examined. Conflict management strategies and situational manifestations of conflict are analyzed within the context of antecedent conditions, such as domain dissensus, differential interests and goals, previously unresolved disputes, unbalanced power relations, structural barriers to communications, internal and external competition for resources, and environmental change.

426 Community and Regional Conflict Intervention (3)

Prerequisite: Sociology 420 or consent of instructor. Community and regional conflicts are examined, with emphasis on paradigms for analyzing power, policy, and social change, and on developing intervention skills through simulation exercises. Intervention roles and approaches, such as mediation, conciliation, arbitration, and advocacy are discussed.

430 Policy Mediation Processes (3)

Prerequisite: Sociology 426 or consent of instructor. Sociological theories of conflict are applied to public issues and policy-making, with an emphasis on building analysis and practice skills. Processes of mediated problem solving are studied and applied to conflict between jurisdictions, between citizens and governments, and between public and private sectors.

440 Seminar in Urban Sociology (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

442 Minority Aging (3)

(Same as Gerontology 442.) Prerequisite: Sociology 361 or consent of instructor. The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

444 Social Policy and Community Planning (3)

Prerequisite: Consent of instructor. Analysis of the formulation of policy as a social process with concentration on political as well as technical-rational elements. Relation of social policy formation to planning at the community level and analysis of the elements and dynamics of community planning. Analysis of and exposure to planning agencies in the St. Louis metropolitan area.

445 Sociological Dimensions of Chronic Illness (3)

(Same as Gerontology 445.) Prerequisite: Sociology 400 or consent of instructor. The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

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446 Selected Topics in Health Care Policy (3)

(Same as Public Policy Administration 446 and PolSci 446.) Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

447 Health Policy and the Elderly (3)

Prerequisite: Consent of instructor. Examination of how public policy addresses the acute medical problems, as well as the long-term care needs, of the elderly. The influence of health policy on the structure of the long-term care system is analyzed, along with the consequences of age-based versus need-based policies.

449 Issues in Retirement (3)

(Same as Gerontology 449.) Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States. It considers experiences of older persons in retirement—its processes, causes, and consequences—in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

450 Seminar in Social Psychology (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

460 Seminar in Deviant Behavior (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

461 Law and Social Control (3)

(Same as Criminology and Criminal Justice 430.) Prerequisites: Graduate standing and consent of instructor. Examination of the relationship between law and other social institutions, the values and interests that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control, and social change.

462 Sociology of Criminal Law (3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor. A survey of research on the formulation, enforcement, and administration of criminal law.

464 Seminar in Criminological Theories (3)

(Same as Criminology and Criminal Justice 464.) Prerequisite: Sociology 400 or consent of instructor. Theories of criminality are examined, with an emphasis on explanations of criminal behavior and societal responses. Theories discussed include: structural strain, differential association, subcultural deviance, differential opportunity, labeling, and social control.

470 Seminar in Sociological Issues (1-3)

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by one of the other 400-level courses. May be taken up to three times for up to nine hours of credit, provided the subject matter is different each time the seminar is taken.

475 Introduction to Evaluation Research Methods (3)

(Same as Psych 475, Public Policy Administration 475, and Criminology and Criminal Justice 475.) Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

476 Research Practicum in Evaluation Research Methods (3)

Prerequisites: Sociology 475 and consent of instructor. Instruction in, and supervision of, research design and data collection for evaluation of social-deviance action program research report. Concurrent with on-site participant observation.

480 Individual Study (3)

Prerequisite: Consent of adviser and instructor. Designed to give the student the opportunity to pursue particular interests within the discipline and/or to study areas not currently covered by formal courses. Guided by faculty with appropriate interests. May be taken only twice.

490 Supervised Research (1-10)

Prerequisites: Sociology 322, Sociology 332, Sociology 492, and consent of instructor. Individual supervision of research leading to the preparation of a thesis, research paper, or publishable article, in which the student demonstrates skills in the discipline of sociology.

492 Advanced Sociological Theory (3)

Prerequisite: Sociology 210 or consent of instructor. Recent and current developments in sociological theory in light of its tradition and methodological issues. The state of modern theory with regard to specific conceptual, substantive, and methodological concerns.

495 Sociological Reporting (3)

Prerequisites: Sociology 400, Sociology 402, and Sociology 404. As part of the M.A. degree exit requirement, the seminar offers directed practice in the interpretation and reporting of sociological data in a wide range of styles, including those appropriate for research reports, journal articles, policy papers, nontechnical magazines, books, and monographs, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored.

Interdisciplinary Studies

Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either a minor or a certificate in a designated area of study. There are also a number of courses which are designated as interdisciplinary and which may or may not be part of a particular interdisciplinary minor or certificate program.

These interdisciplinary courses and programs bring together the resources of two or more subject areas in order to focus on topics that benefit from being studied from the point of view of more than one discipline. In some cases, faculty from several departments teach as a team, giving students the opportunity to experience faculty dialogue in a cross-disciplinary fashion.

Minor in American Studies

American studies is an internationally recognized discipline and a minor is available at the University of Missouri-St. Louis. The minor is primarily an organization of courses from several departments that focus on America and on American culture. Students interested in this minor should contact the coordinator of American studies for advice and information.

Candidates must have a cumulative grade point average of 2.0 or better in the 18 credit hours required for the minor. Three hours (excluding Interdisciplinary 90 and 295) may be taken on a satisfactory/unsatisfactory basis.

Requirements

The following **interdisciplinary courses** are required.
90, The Foundations of American Culture
295, Issues in American Culture

Candidates must also select **four courses** from the following lists. No more than two courses can be taken in the same department. One course must be taken from the humanities list and one from the social sciences list.

Humanities courses applicable to the minor.

Art and Art History:

- 65, Photography and Society (Same as Interdisciplinary 65)
- 116, North American Indian Art
- 158, American Art
- 159, American Architecture
- 191, Art since 1945
- 215, Topics in Tribal Art
- 258, Topics in American Art
- 263, Photography Since 1945
- 291, Topics in Contemporary Art

English:

- 70, African-American Literature
- 71, Native American Literature (Same as Anthro 71)
- 171, American Literature I
- 172, American Literature II

- 373, Selected Major American Writers I
- 374, Selected Major American Writers II
- 375, American Fiction to World War I
- 376, Modern American Fiction
- 395, Special Topics in Literature (When Applicable)

Music:

- 6, Introduction to African American Music
- 7, Introduction to Jazz

Philosophy:

- 107, American Philosophy
- 210, Significant Figures in Philosophy (When Applicable)

Interdisciplinary:

- 65, Photography and Society (Same as Art 65)

Social Science courses applicable to the minor.

Anthropology:

- 71, Native American Literature (Same as English 71)
- 120, Native People of North America
- 121, Native Peoples of Eastern North America
- 122, Native Peoples of Western North America
- 131, Archaeology of Missouri
- 132, Archaeology of North America

Communication:

- 243, Communications in American Politics
- 343, The Rhetoric of Protest
- 350, Mass Communication History
- 352, Mass Media Criticism

Criminology and Criminal Justice:

- 240, Policing
- 340, Race, Crime, and Justice

History:

- 107, History of Missouri
- 202, Black History in the United States
- 212, African-American History: From Civil Rights to Black Power
- 300, Selected Topics in History (When applicable)
- 301, United States History: Colonial America to 1763
- 302, United States History: Revolution and the New Nation, 1763-1815
- 303, United States History: Nationalism and Sectionalism, 1815 to 1860
- 304, United States History: 1860-1900
- 305, United States History: 1900-1940
- 306, United States History: 1940 to the Present
- 311, Topics in American Constitutional History
- 313, American Military History to 1900
- 314, American Foreign and Military Affairs, 1900-Present
- 315, History of Women in the United States

Political Science:

- 129, Women and the Law
- 135, Introduction to Urban Politics
- 165, American Political Thought
- 228, The Federal Judicial System: Politics, Process, and Behavior
- 230, The American Presidency

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231, Congressional Politics
232, African Americans and the Political System
235, Political Parties and Elections
238, Women in Politics
246, The Politics of Poverty and Welfare
282, United States Foreign Policy
320, Constitutional Law
321, Civil Liberties
332, Studies in American Politics
333, Mock Constitutional Convention

Social Work:

150, Social Welfare as a Social Institution
285, Social Issues and Social Policy Development

Sociology:

40, Social Problems
360, Sociology of Minority Groups

In addition, courses with variable topics such as Topics in ... , Studies in ... , and seminars may be taken when the topics are appropriate. See the coordinator of American studies.

Minor in Black Studies

This minor is designed to provide a focus for new and existing courses in the area of black and African studies. A faculty member from the department of art & art history, history, or psychology is designated as coordinator. Students planning to pursue this minor should consult the coordinator for advisement. For appropriate referral, please contact the advising office at the College of Arts and Sciences.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor. Courses applied to the minor may not be counted for a major.

Special topics courses, directed studies or readings relevant to black studies may be included in the minor when approved by the coordinator of black studies.

Requirements

Students must take:
Interdisciplinary 40, The Black World

and a minimum of **two** courses from the following:

Anthro 124, Cultures of Africa
Art 117, African Art
English 70, African-American Literature
History 81, African Civilization to 1800
History 82, African Civilization Since 1800
History 202, Black History in the United States
Music 6, Introduction to African-American Music
History 212, African-American History: From Civil Rights to Black Power

and a minimum of **three** courses from the following:

History 381, West Africa Since 1800
History 382, History of Southern Africa

PolSci 232, African Americans and the Political System
PolSci 258, African Politics
Sociology 245, Sociology of South Africa
Sociology 360, Sociology of Minority Groups
Comm 332, Intercultural Communication
Anthro 234, Cultural Continuity and Change in Sub-Saharan Africa
Anthro 235, Women in Sub-Saharan Africa: A Contemporary Perspective

Minor in Classical Studies

The Minor in Classical Studies is an interdisciplinary course of studies intended to encourage undergraduates in various disciplines to come to a fuller awareness of the cultures of ancient Greece and Rome and of the classical tradition that underlies much of modern Western civilization. In addition to appealing to any student's curiosity about the early stages of society in the West, the minor provides an especially valuable supplement to those who are majoring in many liberal arts areas including history, literature, philosophy, foreign languages, and art.

The Classical World (Interdisciplinary 10), the only required course in the minor, is an introductory survey focusing on central issues and themes and major works from the entire period.

Students pursuing the minor will acquire a foundation in either Greek or Latin. They may choose to use either sequence to fulfill the foreign language requirement in the College of Arts and Sciences.

Requirements

Candidates for the minor must complete 19 credit hours of course work including:

Interdisciplinary 10, The Classical World

and either

Latin 1, Latin 1
Latin 2, Latin 2

or

Ancient Greek 1, Ancient Greek 1
Ancient Greek 2, Ancient Greek 2

and **two** courses from the following list.

Ancient Greek 101, Intermediate Ancient Greek Language and Culture
Art 111, Art and Archeology of the Ancient World
Art 112, Greek Art and Archeology
Art 113, Roman Art and Archeology
Art 212, Topics in Ancient Art and Archeology
English 20, Classical Mythology
English 120, Classical Literature in Translation
History 130, Ancient Civilization
History 331, The Ancient World: History of Greece to the End of the Hellenistic Period
History 332, The Ancient World: Rome
Interdisciplinary 200, Special Topics in Classical Studies
Latin 101, Intermediate Latin Language and Culture
Philosophy 101, Ancient Philosophy

Interdisciplinary Studies

Philosophy 201, Plato
Philosophy 202, Aristotle

Minor in Legal Studies

The minor in Legal Studies is open to all undergraduate students at UM-St. Louis, whatever their major field. It offers a secondary field of concentration in one of the most important areas of social life. Students may use the minor as a complement to their major, as an additional qualification for career opportunities, or as general education.

This interdisciplinary minor coordinates liberal arts courses related to law. A faculty member in Legal Studies will advise students and will work with their major advisers in planning appropriate courses.

Candidates must take:

Interdisciplinary 20, Foundations of Law: An Introduction to Legal Studies (cross listed as PolSci 20).

and **five courses** from the following list. At least **three** courses must be taken at the 200 level and above. No more than **two** courses from a single discipline may be included in the minor.

CCJ 10, Introduction to Criminology and Criminal Justice
CCJ 75, Crime and Punishment
CCJ 130, Criminal Justice Policy
CCJ 226, Law and the Individual
CCJ 227, Urban Law: Poverty and the Justice System
CCJ 345, Rights of the Offender
Comm 355, Media Law and Regulation
Econ 219, Law and Economics
History 311, Topics in American Constitutional History
History 330f, Medieval England
Philosophy 287, Philosophy of Law
Philosophy 387, Seminar in Philosophy of Law
PolSci 129, Women and the Law
PolSci 226, Law and the Individual (cross listed as CCJ 226)
PolSci 228, The Federal Judicial System: Politics, Process and Behavior
PolSci 320, Constitutional Law
PolSci 321, Civil Liberties
PolSci 326, Judicial Decision Making
PolSci 329, Studies in Public Law
PolSci 385, International Law
Sociology 175, Women, Crime, and Society
Sociology 278, Sociology of Law

Minor in Public Affairs Journalism

The Minor in Public Affairs Journalism provides students with an overview of media operations, including basic writing and reporting skills, as well as a specialty area of advanced study. Ordinarily the specialty or cognate area focuses on a particular field, such as consumer affairs, economics, or political science—areas in which a journalist would specialize. Cognate areas are proposed by students seeking the minor and approved by a faculty committee.

A minimum grade point average of 2.0 is required in the minor. No more than three hours credit may be taken on a satisfactory/unsatisfactory basis. A total of 18 hours is

required for the minor. At least 12 of the 18 required hours must be taken at UM-St. Louis.

Requirements

- A. Nine hours in communication/English professional training:**
English 214, News Writing, or **Comm 214**, News Writing
English 218, Reporting, or **Comm 212**, Broadcast Writing and Reporting
English 320, Independent Writing Project, or **Comm 394, 396 or 397**, Internship
- B. Nine hours in Public Affairs at the 200 level or above**
1. Students earning a Writing Certificate or majoring in Communication with a mass communication emphasis must take 15 hours (at least nine of these at the 200 level or above) in economics, political science, or sociology.
 2. Students majoring in economics, political science, or sociology must take nine hours (in addition to the required English/communication courses) at the 200 level or above in addition to English/communication courses chosen from those listed above and/or in the two cognate areas outside their major (i.e., economics, political science, or sociology).

Minor in Urban Studies

A Minor in Urban Studies includes 18 hours of course work. Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

Special topics courses relevant to urban studies may be included in the minor when approved in advance by the coordinator of the urban studies minor.

Requirements

Students must take:
Interdisciplinary 99, The City

and **five** courses selected from the following list, at least **three** courses at the 200 level or above. No more than **two** courses from a single discipline may be included in the minor.

Courses Applicable to the Minor

Anthro 242, The Culture of Cities
Anthro 250, American Folklore
Art 159, American Architecture
Art 295, The Artist and the City
CCJ 227, Urban Law: Poverty and the Justice System
CCJ 230, Crime Prevention
CCJ 300, Communities and Crime
Econo 270, Urban and Regional Economics
Econo 317, Public Finance: State and Local
Geography 210, Urban Geography
Geography 211, Location Theory

Interdisciplinary Studies

History 300, Selected Topics in History (when urban or St. Louis history)

PolSci 135, Introduction to Urban Politics

PolSci 245, Urban Administration

PolSci 346, Urban Planning and Politics

Psych 235, Community Psychology

Psych 256, Environmental Psychology

Sociology 40, Social Problems

Sociology 202, Urban Sociology

Sociology 344, Problems of Urban Community

Interdisciplinary Studies

Course Descriptions

In addition to regular departmental offerings, the College of Arts and Sciences also offers several interdisciplinary courses, listed below. These courses bring together the resources of two or more disciplines to focus on topics that benefit from being studied from the point of view of more than one discipline. In many cases faculty from several departments teach an interdisciplinary course together, giving students the opportunity to experience faculty dialogue on issues in a cross-disciplinary fashion. Most interdisciplinary courses have no prerequisites. Freshman and sophomore students are especially encouraged to take these courses.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 10*, 20, 40, 50, 60, 75, 90*, 91*, 99, 101, 120, 269*, 287, 295*, 310.

The following courses fulfill the Humanities [H] breadth of study requirement: 65, 70, 265.

*These courses may fulfill the Humanities [H] or Social Sciences [SS] breadth of study requirements.

10 The Classical World (3)

A survey of the cultures of ancient Greece and Rome—from the beginning of Hellenic civilization during the second millennium B.C. to the start of the breakup of the Roman Empire in the West. Focuses on various central issues and trends; illustrated primarily by the history, literature, philosophy, and art of the period.

20 Foundations of Law: An Introduction to Legal Studies (3)

As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

40 The Black World (3)

A survey of the cultural life, historical experience, and contemporary socio-political issues facing the black peoples of Africa, the Caribbean, and United States.

45 Introduction to Labor Studies (3)

(Same as Pol Sci 45). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and media.

50 Interdisciplinary Perspectives on Women (3)

An interdisciplinary study of the role of women in the family and in society. Areas of coverage will include the

biological, psychological, anthropological, economic, social, political-legal, and historical.

60 Aging in America (3)

(Same as Gerontology 60.) An introduction to the major issues, research, problems, and current service approaches in the study of the aging process. An overview of information useful for students in the arts and sciences, business, education, and nursing schools. This course is primarily for freshmen and sophomores.

65 Photography and Society (3)

(Same as Art and Art History 65.) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art.

70 Introduction to the Study of Religion (3)

The nature of religion and approaches to its study. Examples will be drawn from representative Western and non-Western traditions.

75 Crime and Punishment (3)

(Same as Criminology and Criminal Justice 75 and Sociology 75.) An introduction to sociological and psychological explanations of crime and punishment. An examination of private and governmental responses to the threats of crime and delinquent behavior.

90 The Development of American Cultures (3)

An examination of the conflict and amalgamation of diverse cultures in the origins and development of American society. Consideration is given to the emergence of a national political and economic system, national and regional cultures, racial and gender ideology, and sectional conflict. These developments will be examined through their impact on art, literature, religion, music, science, anthropology, architecture, political philosophy, and economic thought.

99 The City (3)

(Same as Criminology and Criminal Justice 99, Political Science 99, and Sociology 99.) Consideration of economic factors, urban institutions, historical developments in urbanization, problems of the inner city, suburbia and the metropolitan area, ethnic groups, stratification, and psychological implications of urban living. This course is primarily for freshmen and sophomores. It is open to juniors and seniors with the instructor's permission.

101 AIDS: Myths, Threats, and Realities (3)

Issues regarding the AIDS threat are examined, along with their ramifications. Topics include biological aspects of HIV retroviruses, how they are contracted and spread; methods of testing for them, and issues of public health versus individual rights; similarities and differences with past plagues and epidemics; ethical and theological positions; projected and actual effects of AIDS on society including workplace, education, the law, insurance industry, and economy; problems of labeling and deviance, psychological stigma, interpersonal communication and counselor burnout; political responses and the rational promotion of political strategies and policies to control the spread of AIDS.

Interdisciplinary Studies

120 Special Topics in Gerontology (1-3)

(Same as Gerontology 120.) Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

150 Special Topics in Women's Studies (3)

An introduction to a particular topic area in women's studies (topics will be announced prior to registration), drawing on the theories and methods of such disciplines as sociology, psychology, political science, history, philosophy, art history, and others to examine particular aspects of women's experience in social and cultural life.

200 Special Topics in Classical Studies (3)

Prerequisite: Interdisciplinary 10 or consent of minor coordinator. Selected topics dealing with various aspects (e.g. literature, history, philosophy, politics, sociology, fine arts) of ancient Greece and Rome. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with the consent of the Coordinator for the Minor in Classical Studies. Readings will be in English.

265 Topics in Photographic Studies (3)

(Same as Art and Art History 265.) Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

269 The Marxist Heritage (3)

(Same as Philosophy 269, and PolSci 269.) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

287 The World Food Problem (3)

Prerequisite: Econ 40 or 51, or consent of instructor. An introduction to the world's food problem and an examination of the economic and political problems in distributing basic food-stuffs among the earth's people.

295 Issues in American Culture (3)

Prerequisites: Interdisciplinary 90 or consent of instructor. An examination of specific topics in American culture from the point of view of a number of disciplines. This exit seminar for the American Studies minor may be repeated for credit.

310 Child Abuse and Neglect: An Interdisciplinary Approach (3)

Prerequisite: Social Work 280 or consent of instructor. This course will use an interdisciplinary approach drawing on the fields of Social Work, Nursing, and Education to explore the major concepts necessary for understanding abused and neglected children and their families. Emphasis will be placed on:

(1) defining the problem including societal stresses which contribute to the abuse and neglect; (2) exploring existing practice methods; and (3) becoming familiar with treatment programs currently available.

350 Topics in Women's Studies (3)

Prerequisites: Junior standing and three Women's Studies courses including Interdisciplinary 50 or consent of instructor. This course will focus on a particular aspect of woman's condition (to be announced prior to registration) and will draw upon recent theoretical and methodological work in the field of women's studies from a variety of disciplines.

351 Theories of Feminism (3)

Prerequisites: Junior standing and three Women's Studies courses including Interdisciplinary 50 or consent of instructor. An analysis of contemporary theories of feminism, including liberal, radical, socialist, and women-of-color perspectives, and an exploration of the underpinnings of feminist theory in major systems of thought.

352 Special Readings in Women's Studies (1-5)

Prerequisite: Consent of instructor. Directed independent work in selected Women's Studies topics through readings, research, reports and/or conferences.

390 Independent Studies in Photographic Studies (1-10)

Prerequisites: Twelve hours completed in photographic studies. Integrated individual projects conducted under photographic studies committee and departmental faculty supervision.

Certificate Programs

In order to find the descriptions of the courses listed within a specific certificate program, refer to the individual departments.

Certificate programs are offered in biochemistry, biotechnology, photographic studies, studies in religions, women's studies, writing, and East Asian, Latin American, European, and international studies. These programs, which usually combine course offerings from different departments, make it possible for students to earn the equivalent of a minor in a given area in addition to their major.

Biochemistry Certificate

The University of Missouri-St. Louis offers a certificate program for science majors who are interested in careers in biochemistry. The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a chemistry track or a biology track. All students complete the following core requirements:

Biology 11, Introductory Biology I
Biology 12, Introductory Biology II
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Chem 122, Quantitative Analysis
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

and **one** of the following **biology** courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Gene Expression in Eukaryotes

Students choosing to complete the certificate through the **biology track** must take these **additional courses**:

Biology 376, Topics in Biological Chemistry
Biology 378, Topics in Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chem 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the chemistry track must take these additional chemistry courses:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar
371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

Undergraduate Certificate in Biotechnology

The University offers an undergraduate certificate program for biology majors who are interested in careers in biotechnology, including biochemistry, microbiology,

molecular biology, cell biology, developmental biology, and molecular evolution.

Requirements

Undergraduate biology majors must enroll in the Biotechnology Certificate Program after the completion of 60 credit hours. A student will receive the Certificate in Biotechnology by completing the requirements for the bachelor's degree and fulfilling all the science (Biology, Chemistry, Math, and Computer Science) course requirements of the B.S. in biology program. The required biology courses for the certificate are:

Biology 216, Microbiology
Biology 218, Microbiology Laboratory
Biology 226, Genetics Laboratory
Biology 278, Biological Chemistry Laboratory
Biology 328, Techniques in Molecular Biology

One of the following two courses:

Biology 326, Gene Expression in Eukaryotes
Biology 338, Gene Expression in Prokaryotes

One of the following four courses:

Biology 317, Immunobiology
Biology 335, Molecular Cell Biology
Biology 334, Virology
Biology 376, Topics in Biological Chemistry, or
Chemistry 372, Advanced Biochemistry

Photographic Studies Certificate

UM-St. Louis students, graduates, and postbaccalaureate candidates may obtain a certificate in photographic studies by coordinating courses in and related to photography.

To be eligible for the certificate, undergraduates must complete a degree in a chosen major field. A faculty member of the Interdisciplinary Photographic Studies Committee will act as adviser to all students and will consult with the faculty adviser in the student's major to plan appropriate credits.

The Photographic Studies Certificate is the only such program in the country and should be of special interest to those considering a career in the arts, communications, history, science, business, advertising, or in photography itself. The program should also interest professional photographers, teachers, interested lay people, and graduates who are returning to school. This certificate is designed for all who have an intense interest in the myriad aesthetic and practical aspects of the medium.

Requirements

The following courses are required:

Art 60, Photography I
Art 160, Photography II
Art 165, History of Photography, or **History 168**, Photohistory
Interdisciplinary 65/Art 65, Photography and Society
Art 360, Photography III, or **Interdisciplinary 390**, Independent Studies in Photographic Studies

Certificate Programs

Students must also take at least one three-hour course selected from the following departmental offerings: (New courses will be reviewed periodically for inclusion.)

Art 5, Introduction to Art
 Art 161, Introduction to Digital Photography
 Art 261, Color Photography I
 Art 262, Non-Silver Photography
 Art 263, Photography Since 1945
 Art 264, Video Art I
 Art 274/Philosophy 274, Philosophy of Art
 Art 277, Printmaking: Photolithography
 Art 360, Photography III
 Art 361, Color Photography II
 Art 364, Video Art II
 Art 390, Special Studies
 Art 391, Advanced Problems in Photography I
 Art 392, Advanced Problems in Photography II
 Biology 360, Techniques in Electron Microscopy
 Comm 50, Introduction to Mass Media
 Comm 70, Introduction to Cinema
 Comm 210, Television Production
 English 214/Comm 214, News Writing
 English 215, Feature Writing
 History 168, Photohistory
 Interdisciplinary 40, The Black World
 Interdisciplinary 365, Seminar in Photographic Studies
 Interdisciplinary 390, Independent Studies in Photographic Studies
 Psych 213, Principles of Perception
 Psych 355, Psychology of Perception
 Extension course, Professional Photography Seminar

Studies in Religions Certificate

A Certificate in Studies in Religions requires the completion of 18 hours with a grade of C or better.

Courses must be chosen from two or more departments (interdisciplinary offerings excluded), and the program must include two or more courses which focus on different, major religious traditions. (Courses which fulfill this requirement are marked with an asterisk [*] in the list below.)

In addition, students are encouraged to broaden their understanding of religions and religious experience by enrolling in several courses in which these subjects are studied in philosophical or cultural contexts.

Students must obtain the approval of the coordinator of studies in religions before completing twelve hours toward this certificate.

Requirements

Students must take 18 hours chosen from the following list in accordance with the guidelines above:

Anthro 244, Religion, Magic, and Science
 Anthro 273, Archaeology & Cultures of the Biblical World
 Art 125, Medieval Art
 *Art 114, Early Christian Art and Archaeology
 *English 13, Topics in Literature

*English 123, Jewish Literature
 *English 124, Literature of the New Testament
 *English 125, Literature of the Old Testament
 *English 391, Special Topics in Literature
 *English 395, Topics in Jewish Literature
 *History 252, The World of Islam
 *History 334, History of the Church: Early Christianity
 *History 335, History of the Church: The Middle Ages
 Music 103, Music in Religion
 Philosophy 85, Philosophy of Religion
 Philosophy 102, Medieval Philosophy
 Philosophy 120, Asian Philosophy
 *Philosophy 185, Topics in Philosophy of Religion
 Philosophy 385, Seminar in Philosophical Theology
 PolSci 165, American Political Thought
 PolSci 261, Ancient and Medieval Political Thought
 Sociology 264, The Sociology of Religion

Institute for Women's and Gender Studies Certificate

Faculty

Frances Hoffmann, Director; Associate Professor of Sociology
 Ph.D., University of Oregon
 Janet Berlo, Professor of Art
 Ph.D., Yale University
 Carol K. Peck, Professor of Optometry
 Ph.D., University of California-Los Angeles
 Suzanna Rose, Professor of Psychology
 Ph.D., University of Pittsburgh
 Victoria Sork, Professor of Biology
 Ph.D., University of Michigan
 Jayne Stake, Professor of Psychology
 Ph.D., Arizona State University
 Zuleyma Tang Martinez, Professor of Biology
 Ph.D., University of California-Berkeley
 Diane Toulaiatos, Professor of Music
 Ph.D., Ohio State University
 Yael Even, Associate Professor of Art
 Ph.D., Columbia University
 Michele Hoyman, Associate Professor of Political Science
 Ph.D., University of Michigan
 Joyce Mushaben, Associate Professor of Political Science
 Ph.D., Indiana University
 Gail Ratcliff, Associate Professor of Mathematics
 Ph.D., Yale University
 Stephanie Ross, Associate Professor of Philosophy
 Ph.D., Harvard University
 Kathy Gentile, Associate Professor of English
 Ph.D., University of Oregon
 Margo-Lea Hurwicz, Associate Professor of Anthropology
 Ph.D., University of California-Los Angeles
 Barbara Kachur, Associate Professor of Communication
 Ph.D., Ohio State University
 Kimberly Kempf Leonard, Associate Professor of Criminology and Criminal Justice
 Ph.D., The Wharton School, University of Pennsylvania
 Kay McChesney, Assistant Professor of Sociology
 Ph.D., University of Southern California
 Gerda Ray, Assistant Professor of History
 Ph.D., University of California-Berkeley

Certificate Programs

Sally Barr-Ebest, Associate Professor of English
Ph.D., University of Indiana
Margaret Sherraden, Assistant Professor of Social Work
Ph.D., Washington University
Linda Kick, Lecturer, Department of English
M.A., University of Toronto
M.A., University of Missouri-Columbia
Nanora Sweet, Senior Lecturer, Department of English
Ph.D., University of Michigan
Susan Brownell, Assistant Professor of Anthropology
Ph.D., University of California-Santa Barbara
Janet Lauritsen, Associate Professor of Criminology and
Criminal Justice
Ph.D., University of Illinois-Urbana
Joan Hashimi, Associate Professor of Social Work
Ph.D., University of Illinois-Urbana
Sheryline Zebroski, Assistant Professor of Sociology
Ph.D., SUNY Stony Brook
Sheila Clark-Ekong, Assistant Professor of Anthropology
Ph.D., University of California-Los Angeles
Edith Graber, Adjunct Professor of Sociology
Ph.D., University of Denver
Margaret Phillips, Lecturer in Foreign Languages
Ph.D., Saint Louis University
Deborah Larson, Associate Professor of English
Ph.D., Columbia University
Jean Zarucchi, Associate Professor of Foreign Languages
Ph.D., Harvard University
Beverly Sporleder, Lecturer in Social Work
MSW, Washington University
Anne Winkler, Associate Professor of Economics
Ph.D., University of Illinois-Urbana
Lois Pierce, Associate Professor of Social Work
Ph.D., Washington University
Leslie Brown, Instructor of History
M.A., Duke University

The Institute for Women's and Gender Studies program at the University of Missouri-St. Louis draws upon the rich body of interdisciplinary feminist scholarship to investigate emerging theories and research on women and gender. Courses in the Institute for Women's and Gender Studies program examine women's lives, roles, and contributions among different cultures and times, enabling students to broaden their educational experience and develop new insights into their own lives and aspirations. The program offers both day and evening courses.

The faculty and students in the Institute for Women's and Gender Studies program believe in cooperative education. Institute for Women's and Gender Studies classes promote the exchange of knowledge among women and men of different classes, races, sexual orientations, and social conditions.

The Institute for Women's and Gender Studies program offers an undergraduate Certificate which is similar to a minor. (For graduate study, see listing for Institute for Women's and Gender Studies Graduate Certificate.) A Certificate is meant to supplement a student's traditional academic major, to encourage a reassessment of women's roles in society, and to facilitate career goals that focus on women's issues. The opportunity to earn a Certificate is

available to all undergraduates pursuing a degree at UM-St. Louis and to individuals with a bachelor's degree from any university.

Institute for Women's and Gender Studies courses are open to all students, whether or not they are working toward a Certificate.

Candidates for the Certificate should register with the Institute for Women's and Gender Studies program after they have taken one or two courses. To register, students should complete the Institute for Women's and Gender Studies Certificate form available from any Institute for Women's and Gender Studies faculty or from the Institute for Women's and Gender Studies office. Students interested in the program should contact the director of the program or any member of the Women's Studies faculty.

Requirements

A student must complete **18 hours** in Women's Studies courses, including:

Interdisciplinary 50, Interdisciplinary Perspectives on Women

and **either** a 300-level course in Women's Studies or an independent study (3 hours) to be taken in the junior or senior year. Students choosing the independent study option will write a research paper on some aspect of Women's Studies.

Also required are four additional courses chosen from the following list. These shall be distributed among at least two of the following areas: social science, humanities, and natural science. They should also be distributed among at least three academic departments. No more than three hours may be taken on a satisfactory/unsatisfactory basis.

Art 276, Women and the Visual Arts
Biology/Psych 140, Female Sexuality
Comm 395, Seminar in Communication (Women and Theater)
English 13, Topics in Literature (when appropriate topic)
English 280, Topics in Women and Literature (e.g., Black Women Writers; Women and Theater)
English 380, Studies in Women and Literature
History 101, History of Women in Comparative Cultures
History 300, Selected Topics in History (Topics in American History: Women and Work)
History 320, History of Feminism in Western Society
History 321, History of Women in the United States
Interdisciplinary 50, Interdisciplinary Perspectives on Women
Interdisciplinary 150, Special Topics in Women's Studies
Interdisciplinary 350, Topics in Women's Studies (e.g., Women and Science; Women and Religion, Feminist Ethics)
Interdisciplinary 351, Theories of Feminism
Music 108, Women in Music
Nursing 365, Women's Issues in Health Care
Philosophy 153, Philosophy and Feminism
PolSci 129, Women and the Law
PolSci 257, Women, Power, and Public Policy
PolSci 238, Women in U.S. Politics
PolSci 268, Feminist Political Theory

Certificate Programs

PolSci 259, Politics, Leadership and Global Gender Gap
Psych 230, Psychology of Women
Social Work 312, Women's Social Issues
Sociology 100, Women in Contemporary Society
Sociology 175, Women, Crime, and Society

Institute for Women's and Gender Studies Certificate-Graduate

The Graduate Certificate in the Institute for Women's and Gender Studies is designed for those students who wish to receive post-baccalaureate training in Women's Studies. This program provides a multidisciplinary course of study for students wishing to specialize in women's issues. It is appropriate for students in the College of Arts and Sciences or any of the Schools of the University. (See Institute for Women's and Gender Studies Certificate for listing of faculty.)

Admission Requirements

Program applicants must have the following:

- 1) Baccalaureate degree;
- 2) 2.75 grade point average
- 3) Official transcripts of all previous undergraduate/graduate work;
- 4) Two letters of recommendation.

Certificate Requirements

A student may earn the Graduate Certificate in Women's Studies by completing a total of 18 hours from the following courses listed (or from additional courses approved by the Director for Women's Studies). At least nine hours of course work must be at the 400 level; no more than six hours of course work may be Independent Study.

Core Courses

Comm 395, Seminar in Communication (Women and Theater)
English 380, Studies in Women and Literature
English 416, Feminist Critical Theory
History 320, History of Feminism
History 321, History of Women in the United States
History 300, Topics in History: Women and Work in U.S. History
Interdisciplinary 350, Topics in Women's Studies
Interdisciplinary 351, Theories of Feminism
Nursing 365, Women's Issues in Health Care
Psych 418, Human Sexuality
Psych 410, Women and Mental Health
Social Work 312, Women and Social Issues

Writing Certificate

The Writing Certificate provides an opportunity for students to obtain a focused specialty in writing in addition to their major. A student may earn a Certificate in Writing by completing a total of **18 hours** in writing courses chosen from the following:

CCJ 200, Writing in Criminology and Criminal Justice
Comm 212, Broadcast Writing and Reporting
Comm 217, Script Writing for Business and Industry
English 103, Poetry Writing
English 104, Short Story Writing
English 105, Play Writing

English 108, or **Comm 108**, Advertising Copywriting
English 112, Topics in Writing
English 209, Practical Criticism: Writing About Literature
English 210, Advanced Expository Writing
English 211, Advanced Expository Writing for International Students
English 212, Business Writing
English 213, Technical Writing
English 214 or **Comm 214**, News Writing
English 215, Feature Writing
English 216, Writing in the Sciences
English 218, Reporting
English 228 or **Comm 228**, Writing for Public Relations
English 300, Writing in the Professions
English 302, Writing Literary Criticism
English 303, Advanced Poetry Writing
English 304, Advanced Fiction Writing
English 305, Writing for Teachers
English 313, Advanced Business and Technical Writing
English 319, Editing

Required: English 320, Independent Writing Project. Students serve a supervised writing internship or work with the instructor to complete an extensive writing project.

Courses taken to fulfill requirements for the Writing Certificate may not be taken on a satisfactory/unsatisfactory basis.

Gerontological Studies Certificate

The requirements for an undergraduate Certificate in Gerontological Studies are listed in the Interschool Studies in this Bulletin.

Trauma Studies Certificate

The Trauma Studies Certificate is designed for students who are interested in a focused specialty in trauma studies or victim services in addition to their own major. It is appropriate for students in the College of Arts and Sciences or any of the Schools of the University. It is particularly appropriate for students wishing to pursue careers in psychology, social work, sociology, criminology, law, public health or nursing.

Requirements

A student may earn a Trauma Studies Certificate by completing **18 hours** with a GPA of 2.0 or better from at least three departments from the following courses:

Students must complete at least 12 hours from the following group:

CCJ 120, Criminal Law
CCJ 300, Communities and Crime
CCJ 350, Victimology
Nursing 370, Topics in Nursing (Women at Risk: Women and Safety)
Psych 232, Psychology of Victims
Psych 280, The Psychology of Death and Dying
Psych 295, Selected Projects in Field Placement
Interdisciplinary 310, Child Abuse and Neglect: An Interdisciplinary Approach

Certificate Programs

Sociology 278, Sociology of Law

Only one of the following highly recommended courses may be counted toward the Trauma Studies Certificate:

Psych 161, Helping Relationships
Social Work 210, Introduction to Interventive Strategies for Social Work Practice

Students may count up to six hours from the following group toward the Trauma Studies Certificate:

CCJ 230, Crime Prevention
CCJ 240, Policing
CCJ 340, Race, Crime, and Justice (same as Sociology 340)
PolSci 140, Public Administration
PolSci 242, Introduction to Public Policy
PolSci 394, Leadership and Management in Nonprofit Organizations (same as Social Work 308 & Sociology 308)
Psych 160, Social Psychology (same as Sociology 160)
Psych 235, Community Psychology
Psych 245, Abnormal Psychology
Social Work 308, Leadership and Management in Nonprofit Organizations (same as PolSci 394 & Sociology 308)
Social Work 312, Women's Social Issues
Sociology 102, Sex Roles in Contemporary Society
Sociology 160, Social Psychology (same as Psych 160)
Sociology 175, Women, Crime, and Society
Sociology 214, Juvenile Delinquency and Youth Crimes
Sociology 268, The Sociology of Conflict
Sociology 308, Leadership and Management in Nonprofit Organizations (same as PolSci 394 & Social Work 308)
Sociology 340, Race, Crime, and Justice (same as CCJ 340)

Special Topics courses relevant to trauma studies may be included in the certificate when approved in advance by the Coordinator of the Trauma Studies Certificate.

Undergraduate Certificate in Conservation Biology

The Certificate in Conservation Biology is a multidisciplinary program of study integrating theoretical and applied topics associated with conservation biology. The Certificate is intended for undergraduate students with majors in biology, or in any other field who wish to develop a specialization in conservation. The Certificate is sponsored by the International Center for Tropical Ecology in cooperation with the Department of Biology and the Departments of Anthropology, Economics, History, Political Science, Social Work, and Sociology. Building on a core curriculum, students can elect courses from these departments to complete their requirements. Regularly enrolled undergraduates at UM-St. Louis or individuals with baccalaureate degrees who wish to receive a Certificate in Conservation Biology are eligible to participate in the Conservation Certificate Program. In order to participate, students must officially apply to the Certificate Program. Application forms are available from the Director of the ICTE. Guidelines for admission to the Certificate Program are available with the application forms. Individuals with a baccalaureate degree who are interested in this certificate must apply simultaneously to the University as an unclassified undergraduate and to the ICTE. The Certificate

requires completion of 21 credit hours as outlined below. Students should consult the Bulletin and the Certificate Program Director with regard to prerequisites for any of the courses listed here.

Core Courses

Biology 220, General Ecology
Biology 240, Conservation Biology
Biology 347, Practicum in Conservation

Electives: the remaining 12 credits must be selected from courses listed below. Six credits must be taken from within Biology and six credits outside of Biology, from at least two departments.

Anthro 120, Indians of North America
Anthro 121, Native Peoples of Eastern North America
Anthro 122, Native Peoples of Western North America
Anthro 131, Archaeology of Missouri
Anthro 132, Archaeology of North America
Biology 342, Population Biology
Biology 350, Plant Environmental Physiology
Biology 354, Entomology
Biology 359, Evolutionary Ecology of Animals
Biology 362, Plant Taxonomy
Biology 364, Ornithology
Biology 385, Wildlife Ecology and Conservation
Biology 395, Field Biology
Biology 396, Marine Biology
Econ 360, Natural Resource Economics
History 300, Selected Topics when relevant and endorsed by ICTE
PolSci 248, Environmental Politics
PolSci 285, International Organizations and Global Problem Solving
PolSci 351, Comparative Public Policy and Administration
PolSci 359, Studies in Comparative Politics when relevant and endorsed by ICTE
Social Work 390, Seminar in Social Work, when relevant and endorsed by ICTE
Sociology 342, World Population and Ecology
Sociology 346, Demographic Techniques

Graduate Certificate in Biotechnology

The Graduate Certificate in Biotechnology is offered for students with a Bachelor's degree who wish to obtain advanced level training in those fields of biology that pertain to biotechnology without necessarily earning a Master's degree. Students who enter this program may have a variety of interests including biochemistry, microbiology, molecular biology, cell biology, developmental biology, or molecular evolution.

Admission

Students who wish to earn a Graduate Certificate in Biotechnology must apply to the Biotechnology Certificate Program for admission to the program. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as non-degree students or as Master's students. Students who wish to obtain a Master's degree with a Biotechnology Certificate must be accepted into the Master's degree program in Biology as well as into

Certificate Programs

the Biotechnology Certificate Program. Students who apply to the certificate program as non-degree students will earn only the certificate. Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

Requirements

Students must maintain a minimum GPA of 3.0 to remain in the certificate program and earn the certificate. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program may simultaneously earn a graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

Courses for Graduate Certificate in Biotechnology

Biology 317, Immunobiology
Biology 376, Topics in Biological Chemistry or **Chem 372**, Advanced Biochemistry
Biology 426, Advanced Gene Expression in Eukaryotes
Biology 428, Advanced Techniques in Molecular Biology
Biology 434, Advanced Virology
Biology 435, Advanced Molecular Cell Biology
Biology 438, Advanced Gene Expression in Prokaryotes

Graduate Certificate in Tropical Biology and Conservation

The Certificate is awarded after completion of 18 credit hours of core courses and electives with a minimum of 12 credits at the 400 level. Up to three credits may be taken at the 200 level upon permission of the ICTE Director. Electives must include a minimum of 3 credits outside of biology with a maximum of 7 outside of biology. A maximum of 3 credits may be taken elsewhere than UM-St. Louis. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the Certificate when appropriate.

Required Core Courses:

Biology 445, Public Policy of Conservation and Sustainable Development
Biology 447 (1-4), Internship in Conservation Biology (may be replaced with a biology elective for individuals with applied conservation or environmental agency experience upon consent of Director, ICTE)

Choice of:

Biology 446, Theory and Application of Conservation Biology
Biology 487, Advanced Tropical Ecology and Conservation

Electives:

Biology 342, Population Biology
Biology 354, Entomology
Biology 362, Plant Taxonomy
Biology 364, Ornithology
Biology 368, Quantitative Methods in Plant Ecology
Biology 385, Wildlife Ecology and Conservation
Biology 396, Marine Biology
Biology 442, Advanced Population and Community Ecology

Biology 450, Advanced Plant Environmental Physiology
Biology 458, Advanced Evolutionary Ecology of Plants
Biology 459, Advanced Evolutionary Ecology of Animals
Biology 465, Methods in Plant Systematics
Biology 480, Advanced Behavioral Ecology
Biology 481, Advanced Theoretical Systematics and Evolution
Biology 487, Advanced Tropical Ecology and Conservation
Biology 489, Graduate Seminar, when relevant and endorsed by ICTE
Chem 417, Environmental Chemistry
Econ 360, Natural Resource Economics
History 300, Selected Topics in History, when appropriate
History 371, History of Latin America: To 1808
History 372, History of Latin America: Since 1808
History 381, West Africa Since 1800
History 460, Readings in Latin American History, when relevant and endorsed by ICTE
History 470, Readings in African History, when relevant and endorsed by ICTE
PolSci 248, Environmental Politics
PolSci 253, Political Systems of South America
PolSci 254, Political Systems of Mexico, Central America, and the Caribbean
PolSci 285, International Organizations and Global Problem Solving
PolSci 359, Studies in Comparative Politics, when relevant and endorsed by ICTE
PolSci 388, Studies in Comparative Politics, when relevant and endorsed by ICTE
PolSci 414, Topics in Public Policy Analysis, when appropriate
PolSci 448, Political Economy of Public Policy
PolSci 459, Seminar in Latin American Politics, when relevant and endorsed by ICTE
PolSci 462, Political Theory and Public Policy
PolSci 481, Seminar in International Relations
PolSci 342, World Population and Ecology
PolSci 346, Demographic Techniques

Africana Studies Certificate

Students seeking the Africana Studies Certificate have two options: an emphasis in African Studies and an emphasis in African Diaspora Studies.

I. African Studies:

1) At least one course in two of the following four areas for a total of nine hours:

Area 1: Anthropology
124, Cultures of Africa

Area 2: Art and Art History
117, African Art

Area 3: History
81, African Civilization to 1800
82, African Civilization Since 1800

Area 4: Political Science
258, African Politics

Certificate Programs

- 2) One course in two of the following areas, a total of six hours:

Area 1: Anthropology

234, Cultural Continuity and Change in Sub-saharan Africa
235, Women in Sub-saharan Africa

Area 2: Art and Art History

***215**, Topics in Tribal Arts

* Note: Students should take Art History 215 only when the topic is appropriate to Africa.

Area 3: History

380, West Africa to 1800
381, West Africa Since 1800
382, History of Southern Africa

Area 4: Sociology

245, Sociology of South Africa

- 3) An independent study course (three hours) in which a research paper will be written on some aspect of African Studies

II. African Diaspora Studies

- 1) **Interdisciplinary 40**: The Black World (3)

- 2) One course from each of the following areas, a total of six hours.

Area 1: Africa

Anthro 124: Cultures of Africa
History 81: African Civilization to 1800
History 82: African Civilization Since 1800

Area 2: Diaspora

Anthro 05: Human Origins
History 83: The African Diaspora to 1800
History 84: The African Diaspora Since 1800
History 202: Black History in the United States
History 212: African-American History: From Civil Rights to Black Power

3. At least one course from each of the following areas, a total of six hours:

Area 1: Africa

Anthro 234: Cultural Continuity and Change in Sub-saharan Africa
Anthro 235: Contemporary Women in Sub-saharan Africa
Art History 117: African Art
History 380: West Africa to 1800
History 381: West Africa Since 1800
History 382: History of Southern Africa
PolSci 258: African Politics
Sociology 245: Sociology of South Africa

Area 2: Diaspora

Comm 332: Intercultural Communication
English 70: African-American Literature

History 385: African Diaspora to 1800

History 386: African Diaspora Since 1800

Music 6: Introduction to African-American Music

PolSci 232: African Americans and the Political System

***Psych 392**: Selected Topics in Psychology: African-American Psychology

Sociology 360: Sociology of Minority Groups

* **Note**: Students should take Psychology 392 only when the African American Psychology topic is offered.

Undergraduate Certificate Program in Non-profit Organization Management and Leadership

The University offers an undergraduate certificate program for students who are current professional staff, board members, other leaders of non-profit and voluntary organizations, as well as those who wish to consider entering the field. It is the only such undergraduate program in Missouri.

The certificate requires the completion of 18 semester hours. Nine (9) of these hours must be the following core courses:

1. **Leadership and Management in Nonprofit Organizations**
PolSci 394, same as **Sociology or Social Work 308**
2. **Management Issues in Nonprofit Organizations: Staff Management Issues** (**Social Work 391-A**)
3. **Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations** (**Social Work 391-B**)
4. **Management Issues in Non-profit Organizations: Financial Issues** (**Social Work 391-C**)
5. **Sociology and Social Work: Philanthropy and Development** (course number to be determined).

The remaining 9 hours of electives can be selected from the following courses:

Business Administration

206 Basic Marketing
210 Management and Organizational Behavior
309 Human Resource Management
311 Advanced Management and Organizational Behavior

Communication

228 Public Relations Writing (Same as English 228)
230 Small Group Communication
231 Communication in the Organization
240 Persuasive Communication
358 Communication in Public Relations

English

212 Business Writing
213 Advanced Business and Technical Writing

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Political Science

342 Public Personnel Management

344 Public Budgeting

Psychology

222 Group Processes in Organization

320 Personnel Assessment

Social Work

305 Intervention Strategies for Social Work with Organizations and Communities

Sociology

268 The Sociology of Conflict

280 Society, Arts and Popular Culture

312 Sociology of Wealth and Poverty

314 Social Change

336 Organizations and Environment

The Certificate will be conferred upon completion of a Bachelor's degree from the University of Missouri at St. Louis.

Graduate Certificate Program in Nonprofit Organization Management and Leadership

Through the Public Administration Program, the University offers a graduate certificate program for students who are current professional staff, board members, and other leaders of nonprofit and voluntary organizations, as well as those who wish to consider entering the field. There are only two such graduate programs in Missouri. The certificate can be taken by itself or in conjunction with the pursuit of the Master's in Public Policy Admin. or a graduate degree in another field.

- A. The certificate in Nonprofit Management and Leadership requires the completion of 18 semester hours. Nine (9) of these are the following core courses:
1. Leadership and Management in Nonprofit Organizations (3 hours) (Political Science 394, same as Public Policy Administration 394, Sociology or Social Work 308)
 2. Management Issues in Nonprofit Organizations: Staff Management Issues (1 hour) (Public Policy Administration and Social Work 391-A)
 3. Management Issues in Nonprofit Organization: Legal Issues in Governing and Managing Nonprofit Organizations (1) (Public Policy Administration and Social Work 391-B)

4. American Philanthropy and Nonprofit Resource Development (3 hours) (Public Policy Admin. and Social Work)
- B. Six hours of electives are to be taken from selected courses in Accounting, Business Admin., Economics, Management, Marketing, Political Science, Psychology, Public Policy Administration, and Sociology (see attached list). A student may choose among these courses or other courses approved by the Program Director. (All Graduate electives must be at the 400 course level.)
- C. Three hours of internship is also required. Graduate students should demonstrate either a professional field experience equivalent to the internship or be required to participate. Any request for an exemption from the internship requirement must be approved by the Program Director after a review of the student's professional or managerial field experience with appropriate documentation. Students who receive an exemption must take another three (3) hours of electives from the selection in area B.
- D. The internship will include learning activities in management and governance processes in nonprofit organizations, as well as a seminar in which students will critically reflect on their field experience with a faculty supervisor.

Requirements of admission to the certificate program are the same as those required for admission to the Graduate school: an undergraduate degree, and a G.P.A of 2.75 or better.

Preprofessional Programs

Students at the University of Missouri-St. Louis may develop preprofessional study programs from the University's academic offerings in architecture, engineering, dentistry, journalism, law, medicine, optometry, or pharmacy. With early and careful advising, students may develop a two-year study program in preparation for transfer into a professional program in the junior year, or they may select a major field of study and related area courses which provide strong undergraduate preparation for graduate professional study.

Students should seek preprofessional faculty advisers in their interest area early in their academic careers to ensure development of sound, comprehensive study programs which fulfill the admission requirements of the professional program to which they wish to apply.

The following information on preprofessional study at UM-St. Louis is provided to give students minimal guidelines and assistance in planning a program.

Pre-Architecture

The Department of Art and Art History sponsors the 3+4 Program for the School of Architecture at Washington University. A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:

- 1) The student has completed all general education requirements and all requirements for a major and lacks only the total hours (electives) necessary for a degree.
- 2) A student who has not completed required courses for a degree must remedy the deficiency with courses taken at the University of Missouri-St. Louis within three years of entering the professional school. At the time of graduation the student must remain in good standing in the professional school or have successfully graduated from professional school.
- 3) A student who has not completed all the courses required for a major may, if the major department at UM-St. Louis agrees, substitute up to six hours of appropriate course work from the professional school.

The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure. For more information on admission requirements, please contact the College of Arts and Sciences at 516-5300.

Pre-Engineering

The Joint Undergraduate Engineering Program of the University of Missouri-St. Louis and Washington University was established in 1993. It allows UM-St. Louis to offer complete Bachelor of Science degree programs in Mechanical Engineering and in Electrical Engineering.

Students who enter the joint program take the pre-engineering half of their course work on the campus of UM-St. Louis. The remaining half of their degree programs, consisting of upper-level engineering courses and laboratories, is taken on the campus of Washington University and taught by Washington University engineering faculty members. The two campuses are separated by a driving time of about 15 minutes.

The UM-St. Louis pre-engineering program provides a solid base in mathematics, physics, chemistry, and introductory engineering subjects. Students completing the pre-engineering program will be well prepared for transferring to engineering schools throughout the United States including UM-Columbia, UM-Rolla, Washington University, and SIU-Edwardsville in addition to continuing their education and earning their engineering degrees here at UM-St. Louis.

Admission Requirements

In addition to the general admission requirements, prospective undergraduate engineering and pre-engineering students must take a mathematics placement test, given at UM-St. Louis, the semester before enrolling.

Although there is no required pattern of high-school units for admission to the undergraduate engineering or pre-engineering programs, students are urged to complete at least three units of mathematics, including units in algebra (excluding general mathematics) and trigonometry. Calculus, if available, is also strongly recommended.

Available Course Work

Science and Mathematics

Math 80, Analytic Geometry and Calculus I*
Math 175, Analytic Geometry and Calculus II*
Math 180, Analytic Geometry and Calculus III*
Math 202, Introduction to Differential Equations*
Computer Science 125, Introduction to Computer Science
Chem 11, Introductory Chemistry I*
Chem 12, Introductory Chemistry II*
Physics 111, Physics: Mechanics and Heat*
Physics 112, Physics: Electricity, Magnetism, and Optics*

Introductory Engineering

Engineering 144, Statics*
Engineering 145, Dynamics*

Humanities, Social Sciences, and English Composition

English 10, Freshman Composition*
English 213, Technical Writing
Humanities Electives (Three Courses)*
Social Sciences Electives (Three Courses)*

Asterisks indicate pre-engineering course work required for students planning to pursue a Bachelor of Science degree in engineering at UM-St. Louis through the joint program with Washington University.

Students planning to earn a Bachelor of Science degree in engineering at UM-St. Louis should choose humanities

Preprofessional Programs

and social sciences electives to meet both the UM-St. Louis General Education Requirements and the humanities and social sciences requirements of the Joint Undergraduate Engineering Program. In particular:

- A course in American history or government, or in Missouri history or government, must be included.
- The cultural diversity requirement must be fulfilled.
- At least 8 credit hours must be in one department or area within humanities or social sciences; of these 8 credit hours, at least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.
- Some courses that fulfill the humanities or social sciences breadth of study requirement do not count as Humanities and Social Sciences Electives; an example would be a statistics course taught in economics or psychology.

For Further Information

For information about undergraduate engineering and pre-engineering programs at UM-St. Louis, please contact our offices at 228 Benton Hall; 516-6800.

Prejournalism

Students wishing to pursue a journalism degree should review the entrance requirements of the schools they would like to attend for information on suggested prejournalism courses of study.

Students seeking a journalism degree from the University of Missouri must complete their junior and senior years at the School of Journalism, University of Missouri-Columbia. For admission, students must present to the UMC School of Journalism 60 acceptable credit hours. 85% of those admitted are chosen on the basis of grade point average. The remainder are chosen on the basis of grades and other factors.

Required Courses

The following studies are required for admission to the School of Journalism:

- 1) **English Composition:** Six credit hours. English 10, Freshman Composition, and English 210, Advanced Expository Writing, satisfy the requirement with a grade of B or better in English 210.
- 2) **Foreign Language:** Thirteen credit hours are required unless the student has completed four or more high school units in a single foreign language.
- 3) **Behavioral, Biological, Physical, and Mathematical Science:** eleven hours from three of seven areas plus Math 31: biology, physical science, anthropology, computer science, math, psychology or sociology. The eleven hours must include at least one course with a lab (minimum four hours credit).
- 4) **Social Science:** 3-6 hours in Economics, 6 hours in American History and three hours in American Government.
- 5) **Humanistic Studies:** Five hours in two of six areas: appreciation or history of art or music; foreign

civilizations; classics; theater appreciation and philosophy. Three hours are also required in American or British Literature.

In addition, word processing skills are required (forty words per minute).

Nontransferable courses at the School of Journalism are basic military science, basic physical education, typing or shorthand, journalism or communication, and no more than three hours maximum of applied music, dance, acting, or studio art.

Students are required to take two journalism courses at UMC prior to admission to the school. The English composition requirement must be satisfied prior to enrollment in any journalism course.

For advisement and information, contact the Advising Office, College of Arts and Sciences, 303 Lucas, telephone 516-5300.

Prelaw

A "prelaw curriculum" is a myth, a mistaken notion based on an inexact analogy to premedical programs, which are quite specific and virtually obligatory for medical school candidates. While no single curricular path is the ideal preparation for law school, a broadly based undergraduate program that includes training in analytical reasoning and writing will serve the student well.

English language and literature courses are virtually indispensable. An awareness of the institutional processes of government obtained through study in political science is needed. Since law is inseparable from historical experience, an acquaintance with American history is important. Students should acquire a knowledge of macro- and microeconomics. Statistics, accounting, and computer science are valuable in understanding special legal subjects and the practice of law.

The University of Missouri has law schools at Columbia and Kansas City. University of Missouri-St. Louis students will find everything needed in planning an undergraduate program, preparing for the LSAT, and applying to law school in the office of the prelaw adviser, 303 Lucas, 516-5300. Students should contact the prelaw adviser early in their undergraduate career.

Premedical Sciences

Students wishing to enter medical, dental, optometry, or veterinary medicine schools should pursue the B.A. or B.S. degrees with majors in the disciplines of their choice, but they should take whatever additional courses may be necessary for admission to the professional school. Preveterinary students will have to obtain certain animal sciences courses not offered at the University of Missouri-St. Louis.

Preprofessional Programs

Since medical school admission requirements vary, students are urged to consult the catalogs of the schools to which they intend to apply. Updated information may be found in Medical School Admission Requirements (United States and Canada) for the current year, available from the:

Association of American Medical Colleges
One Dupont Circle, N.W.
Washington, D 20036

The dean's office has a copy available for student use within the office.

Suggested Courses

Many medical schools recommend the following undergraduate courses:

Biology: **Biology 11**, Introductory Biology I; **Biology 12**, Introductory Biology II; **Biology 224**, Genetics; and additional courses in developmental biology and/or physiology.

Chemistry: **Chemistry 11**, Introductory Chemistry I; **Chemistry 12**, Introductory Chemistry II; **Chemistry 261**, Structural Organic Chemistry; **Chemistry 262**, Organic Reactions; **Chemistry 263**, Techniques of Organic Chemistry; and additional courses in organic chemistry and quantitative analysis.

Mathematics: Students should take courses at least through calculus, as appropriate for the major degree.

Physics: Eight credit hours or as appropriate for the degree chosen.

Since students are not confirmed for admission to professional schools until the science requirements for admission are fulfilled, students should meet the science requirements before the end of the junior year. To complete these requirements in time, premedical students should take Chemistry 11 and 12, Introductory Chemistry I and II, during the freshman year.

Students also should take the required national standardized examination before or during the junior year as is appropriate for the exam; the Medical College Admission Test for premed students; the Veterinary Medical Aptitude Test for prevet students; the Dental Aptitude Test for pre dental students; and the Optometry Admission Test for pre-optometry students.

Each year the number of applicants to health profession schools exceeds the number of available places. Students, therefore, are encouraged to have alternative plans should they not gain entrance. Pharmacy, nursing, and laboratory technology may be considered as alternative fields.

For further information, testing dates, or premedical advising, contact the premedical adviser, 303 Lucas Hall, telephone 516-5300.

Pre-Optometry

The University of Missouri-St. Louis offers a four-year program of study leading to the Doctor of Optometry degree. This professional degree is administered by the School of Optometry. It is one of only 19 schools of optometry nationwide and the only one in the state of Missouri.

Because the University offers the Doctor of Optometry degree, it is an ideal institution for pre-optometry education. Undergraduate students have access to the optometry school students, faculty, and staff for career and academic guidance.

For more information contact the Office of Student Affairs at the School of Optometry (516-6263).

Preprofessional 3+4 Program

The Department of Biology sponsors a 3+4 Program for the UM-St. Louis School of Optometry. In this program students may be admitted to the School of Optometry after completing three years (90 semester hours) of study in the Department of Biology. The undergraduate degree is granted when students satisfactorily complete the first year of optometry school. One or more of the following conditions must be met in order to qualify for the undergraduate degree.

- 1) All general education requirements and all requirements for the major, except electives, must be completed.
- 2) Any deficiency in required courses must be remedied with courses taken at UM-St. Louis within three years after entering the School of Optometry.
- 3) Up to six hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.

Prepharmacy

Admission to a school of pharmacy usually requires one to two years of college work in specified areas. Most colleges of pharmacy recommend the 1+4 plan which includes one year of college work followed by four years of professional courses in the college of pharmacy. In some cases the old 2+3 program is used. Since entrance requirements vary, students should consult the catalog of the college to which they intend to apply.

One-Year Prepharmacy Course Sequence

A typical one-year sequence for prepharmacy students which meets the admission requirements of the School of Pharmacy at the University of Missouri-Kansas City and also those of the St. Louis College of Pharmacy is as follows:

Preprofessional Programs

Freshman Year

First Semester (16 Hours)

Chemistry 11, Introductory Chemistry I
English 10, Freshman Composition
Math 30, College Algebra, and **Math 35**, Trigonometry
 (At UMKC mathematics through survey calculus, **Math 101**, is preferred.)
Elective*: One three-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

Second Semester (16 hours)

Biology 11, Introductory Biology I
 (At UMKC a physics course, **Physics 11**, is preferred to the biology course.)
Chemistry 12, Introductory Chemistry II
Literature: Any three-hour course
Elective*: One three-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

Sophomore Year

(for 2+3 programs)

First Semester (15 hours)

Biology 12: Introductory Biology II
Chemistry 261, Structural Organic Chemistry
Literature: Any three-hour course
Physics 11, Basic Physics
Elective*: One three-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

Second Semester (14 hours)

Biology: One biology elective
Chemistry 262, Organic Reactions
Chemistry 263, Techniques of Organic Chemistry
Physics 12, Basic Physics
Elective*: One three-hour course

* Courses in statistics, psychology, communication, economics, and accounting are most often recommended or required.

For additional information and prepharmacy advising, contact the chemistry department, 324 Benton Hall, telephone 516-5311.

**SCHOOL OF
BUSINESS
ADMINISTRATION**

UM-St. Louis 1997-98 Bulletin



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- Douglas E. Durand**, Dean; Professor*
Ph.D., Washington University
- John J. Anderson**, C.P.A., C.M.A., Associate Dean; Professor*
Ph.D., University of Wisconsin-Madison
- David R. Ganz**, Associate Dean and Director of Undergraduate Studies in Business; Assistant Professor
M.S. in C., St. Louis University
- Albert P. Amelss**, Professor Emeritus
Ph.D., St. Louis University
- Howard B. Baltz**, Professor Emeritus
Ph.D., Oklahoma State University
- James A. Breough**, Coordinator in Management; Professor*
Ph.D., Ohio State University
- William P. Dommermuth**, Professor Emeritus
Ph.D., Northwestern University
- Sioma Kagan**, Professor Emeritus
Diplom-Ingenieur, Ph.D., Columbia University
- Edward C. Lawrence**, Coordinator in Finance; Professor*
Ph.D., Pennsylvania State University
- Silvia A. Madeo**, C.P.A., Coordinator in Accounting; Professor*
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- Joseph S. Martinich**, Professor*
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- Robert M. Nauss**, Professor*
Ph.D., University of California, Los Angeles
- David Ronen**, Professor*
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- Robert S. Stich**, Professor Emeritus
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- William N. Dilla**, C.P.A., Associate Professor*
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- Dennis L. Dosssett**, Associate Professor*
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- Thomas H. Eyssell**, Associate Professor*
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- Timothy A. Farmer**, C.P.A., Associate Professor*
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- D'Anne G. Hancock**, Associate Professor*
Ph.D., University of New Orleans
- Michael M. Harris**, Associate Professor*
Ph.D., University of Illinois-Chicago
- Marius A. Janson**, Associate Professor*
Ph.D., University of Minnesota
- Kailash Joshi**, Associate Professor*
Ph.D., Indiana University
- Charles R. Kuehl**, Director of Continuing Education and Outreach for the School of Business Administration; Associate Professor*
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- Donald R. Kummer**, Director of Graduate Studies in Business; Associate Professor*
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- Kenneth W. Locke**, Adjunct Associate Professor
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- R. Frank Page**, C.P.A., Associate Professor*
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- Susan M. Sanchez**, Associate Professor*
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- Vicki L. Sauter**, Associate Professor*
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- William K. Meade II**, Assistant Professor*
Ph.D., Michigan State University
- Mary Beth Mohrman**, Assistant Professor*
Ph.D., Washington University
- Paul S. Speck**, Assistant Professor*
Ph.D., Texas Tech University
- Martha L. Wartick**, C.P.A., Assistant Professor*
Ph.D., Pennsylvania State University
- Stacey M. Whitecotton**, C.P.A., Assistant Professor*
(On leave)
Ph.D., University of Oklahoma
- David A. Bird**, Instructor
M.S., Washington University
- Lindell P. Chew**, Instructor
M.B.A., University of Missouri-Columbia
- Ottilia N. Voegtli**, Instructor
M.B.A., University of Missouri-St. Louis
- Wayne W. Winter**, Assistant Coordinator in Legal Environment; Instructor
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Business Administration

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Laurence A. Madeo, Lecturer
Ph.D., University of Michigan
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Elizabeth W. Vining, Lecturer/Academic Advisor
M.B.A., University of Missouri-St. Louis

*members of Graduate Faculty

The University of Missouri - St. Louis School of Business Administration was established in 1967, and was accredited by the American Assembly of Collegiate Schools of Business (AACSB) six years later—the shortest time on record for any school to receive accreditation of its business program. The AACSB is the only nationally recognized accrediting agency for business and accounting programs. Of some 1,200 business schools nationally, only about 300 are accredited by the AACSB. In 1995, the School of Business Administration received reaccreditation of its business programs, and initial accreditation of its accounting programs, both undergraduate and graduate.

The mission of the School reflects the traditional academic activities of teaching, research, and service. Within the resource and strategic constraints placed on the School by the campus and the system, the School seeks to:

provide students with a high quality business education that prepares them to become productive contributors and leaders in both private and public sector organizations;

conduct research, the results of which extend and expand existing levels of knowledge and understanding relating to the operation, administration, and social responsibilities of enterprises in both the private and public sectors;

serve the university, the citizens of Missouri, and the St. Louis business community through useful outreach programs and through effective interactions with the School's faculty and staff.

At the undergraduate level, the School of Business Administration offers the Bachelor of Science in Business Administration (BSBA) degree with emphases in finance, international business, logistics and operations management, management and organizational behavior, management information systems, and marketing; or an individual may earn the BSBA degree with no emphasis. A Bachelor of Science in Accounting (BSA) is also offered to undergraduate students. At the graduate level, the School offers the

Master of Business Administration (MBA), Master of Accounting (MAcc) and Master of Science in Management Information Systems (MS in MIS) degrees. Several specialized certificate programs are also available.

Our diverse faculty, including forty doctorally qualified, full-time members, have degrees from thirty different Ph.D. degree-granting institutions, assuring students exposure to various management theories and educational approaches.

In addition to the undergraduate and graduate degree programs mentioned above, the School supports three additional operations: a continuing education unit; an applied research center; and a community service research center. More information about these operations is available from the School.

Undergraduate Studies

Admission to the School of Business Administration

The school offers a two-year, junior/senior-level program. Admission prerequisites are:

- 1) At least a 2.0 campus grade point average for all work attempted at the University of Missouri-St. Louis.
- 2) A minimum of 60 total credit hours. Normally, the following introductory courses are included within the 60 hours:

BA 103, Computers and Information Systems
BA 140, Fundamentals of Financial Accounting
BA 145, Managerial Accounting
BA 156, Legal Environment of Business
Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics

Transfer Students

Transfer students must meet all admission requirements; students failing to do so may be accepted for admission to the University but not directly to the School of Business Administration. Students transferring to UM-St. Louis are expected to take most of their specific business work during their junior and senior years. Business courses which are offered at the freshman or sophomore level and which are transferred in lieu of those offered at UM-St. Louis at the 200 level or above must be validated. Validation is determined by the appropriate discipline and may include:

- 1) Passing an approved 200-level or above course in that area with a grade of C- or better or
- 2) Passing a proficiency examination.

Business students must complete 48-60 hours in business for the BSBA and BSA degrees. At least half of the 48-60 business hours must be completed in residence at UM-St. Louis on a regular graded basis. Students must also complete no fewer than sixty (60) hours (business and non-business) at an accredited baccalaureate degree granting institution and must meet the School's residency requirement.

Business Administration

Degree Requirements

General Education Requirements

All undergraduate business administration majors must complete the general education requirements of both the University and the School of Business Administration. The School's general education requirements are in keeping with those of the University. Many of the courses needed to complete the School's degree requirements, as outlined below, may be taken to fulfill the University's general education requirements.

General Degree Requirements

All undergraduate business administration and accounting majors must complete the specific non-business courses which are School of Business Administration degree requirements. To satisfy the BSBA and BSA general degree requirements, the following pre-business administration requirements must be met:

- 1) Demonstration of basic skills in written communication by a minimum grade of C- in English 10, English Composition. For more information refer to the University General Education Requirements.
- 2) Students wishing to complete a degree at UM-St. Louis must complete a junior-level English requirement with a grade of C- or better.
- 3) Three courses in the humanities, to be chosen from selected offerings in art, English, music, philosophy and communication (applied courses do not qualify). See the Office of Undergraduate Academic Advising or the World Wide Web for a detailed listing of courses which fulfill this requirement.
- 4) Five courses in social science, to include: Econ 51, Principles of Microeconomics, and Econ 52, Principles of Macroeconomics; one course which meets the state requirement (see the University General Education Requirements); and two additional courses.
- 5) Three courses in mathematics and science which must include: a minimum proficiency in Math 100, Basic Calculus, and Math 105, Basic Probability and Statistics, and at least one lecture course in either a biological or physical science. (Note: Math 30, College Algebra, is a prerequisite to Math 100 and Math 105; also students planning to pursue a more in depth knowledge of calculus should take Math 80 in lieu of Math 100).
- 6) Global Awareness Requirement (9 hours):
 - A. Cultural Diversity Requirement: to expose students to a culture radically different from their own and to enhance their sensitivity to and awareness of cross-cultural differences, the School of Business Administration requires that students complete a three-hour course which focuses upon aspects of a culture and not upon the interactions of that culture with Euro-American cultures. This requirement may be met by one of the courses listed in the College of Arts and Sciences General Information.
 - B. International Studies: Graduates will work and live in an interdependent world; they will be part of a global economy and will work in an increasingly competitive global marketplace. Success in this changing environment requires knowledge and understanding of the international system, the global economy and other

global issues. Towards meeting that objective the School of Business Administration requires that:

Students complete two three-hour courses in international studies. These courses are upper division courses, and will ordinarily be completed in the junior or senior year. A list* of the courses that satisfy this requirement is available in the School of Business Administration Undergraduate Academic Advising Office.

Students who elect to take 13 hours in one foreign language may use the third course in the sequence in partial fulfillment of this requirement.

* This list will be updated periodically by the Undergraduate Studies Committee with the advice of the Director of the Center for International Studies. Check with your advisor for the most up-to-date list of courses that will satisfy these requirements.

School of Business Administration Core Degree Requirements

Candidates for the Bachelor of Science in Business Administration or Bachelor of Science in Accounting degree must complete the following business administration core courses:

- 103, Computers and Information Systems
- 140, Fundamentals of Financial Accounting
- 145, Managerial Accounting
- 156, Legal Environment of Business
- *204, Financial Management
- *206, Basic Marketing
- *210, Management and Organizational Behavior
- *250, Business Statistics
- *252, Introduction to Operations Management
- *390, Business Assessment Testing
- *391, Strategic Management (seminar)

Students must earn a minimum grade of "C-" in each course included in the thirty (30) hour business core except BA 391, Strategic Management; and BA 390, Business Assessment Testing. A grade of "satisfactory" is required in Business Assessment Testing. Also to be admitted to BA 391, Strategic Management, all other core courses must be completed (except BA 390) with a passing grade.

School of Business Administration Degree Requirements

All students who pursue the Bachelor of Science in Business Administration (BSBA) degree or the Bachelor of Science in Accounting (BSA) degree are required to complete a minimum of 36 hours in business courses at the **junior/senior level** (UM-St. Louis courses numbered 200 and above). Eighteen (18) of these hours are business **core** courses (those with an asterisk, above) and eighteen (18) hours are business **electives**.

Transfer courses used to partially fulfill this requirement must be from four-year accredited schools and must be restricted to junior/senior level students at those schools. Business courses taken in the freshman/sophomore year at any accredited school may be granted transfer credit, but the credit will not be included within the thirty-six hours

Business Administration

required at the junior/senior level. If the freshman/sophomore transfer course in business appears to be similar to a junior/senior level business course at UM-St. Louis, one may request to validate the transfer course. Successful validation will result in a waiver from the need to take the validated course at UM-St. Louis but the transfer credit will not be counted at UM-St. Louis as part of the minimum thirty-six (36) hours required at the junior/senior level.

Approved Electives

In addition to the above, students must complete a minimum of 24 hours of approved electives. A list of the approved electives is available in the Undergraduate Advising Office of the School of Business Administration. Courses that are not on this list (free electives) may not be used as approved electives, except with the approval of the School's Undergraduate Studies Committee. Free electives are placed on a student's transcript but do not count toward the 120 required hours for the BSBA and BSA degrees. At least 12 hours of approved electives must be taken outside the School of Business Administration; the remaining may be earned within the School. A minimum of 60 hours must be taken in non-business administration course work.

Graduation Requirements

The BSBA and BSA degree programs require a minimum of 48 hours in business administration courses, a minimum of 72 hours in business administration and approved electives combined, and a minimum of 120 hours for all course work.

The student must earn a minimum campus grade point average of 2.0 and a minimum grade point average of 2.0 for all business courses attempted at UM-St. Louis. Grade modification cannot be used for calculating the business grade point average.

School of Business Administration Residency Requirement
Business administration students must take their last 30 hours at the University of Missouri-St. Louis. Exceptions to this residency requirement would have to be approved by the School's Undergraduate Studies Committee.

Limitation on Discipline Concentration

While a certain level of concentration in one of the various business fields is desirable, students should not concentrate their course selection to the extent of limiting their career flexibility. No more than 24 hours beyond required core courses are allowed in any business discipline--accounting, finance, logistics and operations management, management and organizational behavior, management information systems, and marketing. The combined hours in business and economics courses may not exceed 78 within the 120-hour program.

BSBA Emphasis Areas

An emphasis area is not required within the BSBA degree program. Students who choose an emphasis must fulfill the general and specific requirements set forth below. An emphasis area will be noted on the student's permanent record card (transcript)--not the diploma--upon completion of the emphasis area and the BSBA degree requirements. NOTE: An emphasis area designation may be added to the permanent record card for up to two years following

graduation. Courses taken after graduation which are to be applied toward an emphasis area must be taken in residence at UM-St. Louis.

General Requirements--BSBA & BSA

All BSBA/BSA degree requirements must be satisfied including completion of the ten business core courses required of all persons.

A minimum of eighteen (18) hours of business electives beyond the business core are required for all BSBA or BSA degree seeking students. Business courses in fulfillment of a particular emphasis area would be counted among these 18 hours.

A student must earn a grade of C- or better in all business and non-business courses applied to the emphasis area. Additionally, a campus minimum GPA of 2.00 is required in both the business and emphasis area coursework. (Non-business courses required for an emphasis area are not averaged into either the business or the emphasis area GPA.)

The satisfactory/unsatisfactory option (see section following "Specific Requirements--BS in Accounting") may not be used for courses included in an emphasis area.

All emphasis areas and the BS in Accounting have residency requirements--a minimum number of business hours beyond the business core which must be taken at UM-St. Louis:

Finance, International Business, Logistics and Operations Management, Management and Organizational Behavior, and Marketing--six (6) hours; Management Information Systems and BS in Accounting--nine (9) hours.

Hours transferred from four-year accredited institutions require UM-St. Louis area approval to satisfy emphasis area and BS in Accounting requirements. Transferred independent study courses will not fulfill emphasis area requirements nor requirements for the BS in Accounting.

The specific requirements for an emphasis area and for the BS in Accounting for a given individual will be those requirements in effect at the time of completion (with a passing grade) of the first course in the emphasis area or BS in Accounting program beyond the business core courses.

No more than thirty (30) hours of business electives (sixty [60] business hours in total) may be applied toward the minimum of 120 hours required for the BSBA and BSA degrees.

No more than 24 hours beyond the required business core courses may be taken in any area within the 120 hour minimum degree programs.

Various experimental courses and independent study courses may be offered under the BA 295, BA 296 and BA 395 numbers. The first such course taken in a given area will not count against the limit of courses in that area; any additional experimental and independent study courses will count against the limitations outlined in the previous paragraph.

Business Administration

Specific Requirements—BS in Business Administration

Finance

Finance is a multidisciplinary field that combines various concepts from management, economics and accounting with financial techniques to make sound business decisions and solve problems. There are many business situations in both large and small companies that require knowledge of the latest financial practices and tools. Generally, these applications involve investing (using funds) or financing (raising funds). As a result, the field is comprised of a number of areas including corporate finance, investments, financial institutions and services (banking, insurance, real estate) and personal financial planning.

Undergraduate Program Philosophy

Over the last two decades, the field of finance has become increasingly technical and specialized. Employers recruiting for financial positions not only require candidates to have an undergraduate or graduate degree in finance, but they also want new employees to exhibit skills and experience beyond those typically found in a traditional academic environment. As a result, professional licensing or certification has become one of the most widely recognized means of demonstrating core competency. Consequently, the finance program at UM-St. Louis carefully integrates finance tracks into the curriculum to enable students to complete their academic degrees while at the same time providing the in-depth knowledge necessary for taking professional certification exams. Our program is designed to accelerate professional development and provide students with superior credentials to qualify them for skilled positions in a highly competitive job market. Details for each of the tracks are discussed below.

Finance Core

To earn an emphasis in Finance in the BSBA degree program, all students must successfully complete a minimum of fifteen credit hours of finance electives beyond the business core course of Financial Management, BA 204. In addition, students with a desire to earn one or more professional certifications in specialized areas will need to take additional course work to satisfy the knowledge requirements of a particular track as detailed below.

It should be noted that the course listing under each track is the recommended curriculum to obtain sufficient command of the topics under the specialization. Students deviating from the suggested program of study must assume responsibility for completing any gaps in their backgrounds on their own prior to sitting for any professional exams.

General Finance Emphasis

For students who desire to obtain a general knowledge of finance or custom tailor their own individual program, this option allows students to take any of the finance course electives in any sequence. By affording maximum flexibility, students can explore the many different areas within finance before deciding upon which career path they may want to embark. As stated above, for a BSBA degree with

an emphasis in finance, recipients must take a minimum of fifteen credit hours selected from the following courses:

BA 207 Practicum in Investments
BA 332 Principles of Insurance
BA 333 Life Insurance
BA 334 Investments
BA 335 Financial Risk Management
BA 336 Treasury Management
BA 337 Principles of Real Estate
BA 350 Financial Policies
BA 351 Computer Applications in Finance
BA 355 Financial Services Industry and Instruments
BA 356 Commercial Bank Management
BA 380 International Finance
BA 295 Business Administration Problems/Seminars
BA 296 Independent Study
BA 395 Retirement Planning and Employee Benefits
BA 395 Trust and Estate Planning
BA 395 Practice of Personal Financial Planning
BA 395 Property and Liability Insurance
BA 395 Practicum in Finance

Track Certification

All students completing one of the specialized tracks at UM-St. Louis will receive a "Certificate of Completion" for that track. This document will be in addition to the degree the student receives and is intended to provide additional evidence of attaining a specific body of knowledge. To receive the certificate, students must fill out an application for certification in their last semester. The application can be obtained from the Office of the Undergraduate Academic Advising in the School of Business Administration.

Corporate Finance Track

The Corporate Finance Track trains students to make business financial decisions to maximize the value of the firm. In addition to raising and investing capital, firm managers must deal with a number of stakeholders including stockholders, lenders, customers, and regulators. While the major focus is on the financial problems of large corporations, many of the analytical tools and techniques also apply to small business enterprises. Students completing **BA 336**, Treasury Management, are eligible under a special agreement with the Treasury Management Association to sit for the Certified Cash Manager (CCM) exam. After completion of two years of related experience, the CCM designation qualifies students to work in the Treasury Departments of many leading companies or service providers like banks. Recommended courses include:

BA 334 Investments
BA 335 Financial Risk Management
BA 336 Treasury Management
BA 340A Financial Accounting and Reporting I
BA 340B Financial Accounting and Reporting II
BA 350 Financial Policies
BA 351 Computer Applications in Finance
BA 356 Commercial Bank Management
BA 380 International Finance

Financial Institutions and Services Track

Financial institutions design and deliver financial services to businesses, government and individuals. It is also one of the fastest growing segments of the economy. This

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track is intended for students with a desire to work in a bank, insurance company, real estate firm, or other service provider. Beginning career opportunities include becoming a loan officer for a bank, a securities broker, a mortgage broker, or property manager. Additionally, the Principles of Real Estate course (BA 337) provides students with the educational foundation to sit for the Missouri Real Estate Salespersons' Exam to become licensed to sell residential property under the direction of a broker. Recommended courses include:

BA 332 Principles of Insurance
BA 334 Investments
BA 337 Principles of Real Estate
BA 351 Computer Applications in Finance
BA 355 Financial Services Industry and Instruments
BA 356 Commercial Bank Management

Investment and Portfolio Management Track

There are billions of dollars flowing into retirement plans and mutual funds each year. These monies are invested in security markets around the world to provide the owners with the best returns available for a given level of risk. Professional portfolio managers have the responsibility of meeting investor goals while subject to rapidly changing market conditions. This path of study is intended to prepare students for a challenging career in money management. The program provides students with the critical knowledge to sit for the Chartered Financial Analyst (CFA) exam. This professional designation is highly regarded by the investment industry and requires the passing of a series of three exams. Students must also gain three years of related work experience before being certified. Recommended courses include:

BA 207 Practicum in Investments
BA 334 Investments
BA 335 Financial Risk Management
BA 340A Financial Accounting and Reporting I
BA 340B Financial Accounting and Reporting II
BA 351 Computer Applications in Finance
BA 355 Financial Services Industry and Instruments
BA 380 International Finance

CFA Review Courses (one for each level) are noncredit and available through Continuing Education.

Financial Planning Track

The Financial Planning Track is designed to prepare students to counsel individuals on personal financial matters that impact the family. This curriculum is a registered program with the Certified Financial Planner Board of Standards Inc., enabling students who successfully complete it to sit for their certification examination. UM-St. Louis does not award the CFP® and Certified Financial Planner® designations. The right to use the marks CFP and Certified Financial Planner is granted by the CFP Board to those persons who have met its rigorous educational standards, passed the CFP Certification Examination, satisfied a work experience requirement, and agreed to the CFP Board Code of Ethics and Professional Responsibility. Only persons registered with the CFP Board are permitted to sit for the CFP Certification Examination. CFP certificates and licenses are issued only by the CFP Board. The registered curriculum includes:

BA 332 Principles of Insurance
BA 334 Investments
BA 337 Principles of Real Estate
BA 347 Income Taxes
BA 351 Computer Applications in Finance
BA 395 Practice of Personal Financial Planning
BA 395 Retirement Planning and Employee Benefits
BA 395 Trust and Estate Planning
BA 395 Practicum in Finance

Comprehensive CFP Exam Review (noncredit) is available through Continuing Education.

Insurance Track

This track is intended for the development of professionals for all aspects of the insurance industry. Insurance plays a special role in risk management for individuals and businesses. Areas emphasized include life and property/casualty risk exposures and the administration of pension and employee benefit plans. Students are prepared for careers as analytical staff members of major insurance companies, consultants, insurance agents or brokers, employee benefit specialists, and risk managers. The program is a cooperative partnership with the insurance industry including the American College in Bryn Mawr, Pennsylvania and the local chapter of the American Society. By special arrangement, students are entitled to apply three approved UM-St. Louis courses toward professional certification without further examination provided the courses are passed with a "C" grade or higher. The professional certifications include the widely recognized Chartered Life Underwriter (CLU) and the Chartered Financial Consultant (ChFC). Transfer of these courses to the American College for certification does not require any additional tuition but only a one-time registration fee. Further courses can be used to satisfy the knowledge content for certification but will necessitate the taking of a standard national exam required of all candidates on the material. Both the CLU and ChFC require the passing of 10 courses not all of which are offered by UM-St. Louis but are available through the American College. In the future, it may also be possible to take actuarial courses offered in the Department of Mathematics as part of this track.

Recommended courses include:

BA 332 Principles of Insurance
BA 333 Life Insurance
BA 334 Investments
BA 347 Income Taxes
BA 395 Practice of Personal Financial Planning
BA 395 Retirement Planning and Employee Benefits
BA 395 Property and Liability Insurance
BA 395 Trust and Estate Planning

International Business

Students wishing to pursue an emphasis in International Business (IB) must satisfy the University's General Education requirements, the cultural diversity requirement, the School of Business Administration core course requirements and the following International Business emphasis area requirements:

Twelve (12) hours--four courses--from the following international business courses with no more than one

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independent study course in the twelve hours:

- BA 316** International Marketing
- BA 317** International Management
- BA 380** International Finance
- BA 395** Business Administration Seminar (topics which are determined to be relevant)
- BA 396** Internship in International Business (no more than three hours may count toward the IB emphasis)
- BA 295** Business Administration Problems
- BA 296** Independent Study

Foreign language proficiency equivalent to thirteen hours in one foreign language of international commerce must be demonstrated. Transfer students must pass the UM-St. Louis foreign language proficiency exam. Languages of international commerce are determined by the School of Business Administration.

Students are encouraged to spend at least one semester in an exchange program offered through the University and approved by the School of Business Administration.

Logistics and Operations Management

The mission of Logistics and Operations Management is to get the appropriate goods or services to the right place, at the right time, in the right quality and quantity, while making the greatest contribution to the organization. In a business environment, Logistics and Operations Management encompasses the design, implementation and management of systems for efficient deployment of personnel, physical facilities, raw-materials, in-process inventories, finished goods and related information or services. Logistics and Operations Management covers the whole supply chain, from the point or origin to the point of consumption. Logistics and Operations Management analysts must be proficient in the use of quantitative models and computers, and communicate effectively.

For an emphasis in Logistics and Operations Management a student must complete at least four (4) courses (twelve [12] hours) from the following:

- BA 306** Decision Support and Expert Systems
- BA 308A, B, C, or D** Production and Operations Management
- BA 329** Business Forecasting
- BA 330** Quality Assurance in Business
- BA 331** Multivariate Analysis
- BA 375** Operations Research
- BA 385** Operations Research II
- BA 295/395** Business Administration Problems/Seminars
- BA 296** Independent Study
- CS 125** Introduction to Computer Science
- *BA 224** Managerial Applications of Object-Oriented Programming I
- *BA 307** Management of End-User Computing

BA 295, 296 & 395 are restricted to those courses offered and approved by the area faculty.

- * No more than one of these programming courses may be counted toward the emphasis area.

Management and Organizational Behavior

The study of management and organizational behavior

focuses on the behavior of individuals and groups in an organizational setting. The business environment today demands graduates with skills who can effectively make decisions involving working with and leading people.

The management and organizational behavior emphasis stresses the qualitative approaches to business.

The major areas of focus are: the theory and functions of management; the management of human resources; the development of strategic policies in an organization; organizational design and conflict resolution; entrepreneurship; and international management. In covering these topics, both classic and current perspectives are provided.

To earn the emphasis designation in Management and Organizational Behavior a student must complete four (4) courses (twelve [12] hours) to include BA 311, Advanced Management and Organizational Behavior, plus three (3) additional courses selected from:

- BA 309** Human Resource Management
- BA 312** Industrial and Labor Relations
- BA 317** International Management
- BA 318** Industrial and Organizational Psychology (This course is cross-listed as Psych 318)

- BA 319** Employee Training and Development
- BA 392** Entrepreneurship/Small Business Management
- BA 295/395** Business Administration Problems/Seminars
- BA 296** Independent Study

BA 295, 296 & 395 are restricted to those courses offered and approved by the area faculty.

Management Information Systems

Computer-based management information systems are of vital importance to modern organizations. Management Information Systems (MIS) professionals analyze, design, develop, implement and manage state-of-the-art telecommunications, multi-media and other computer-based information systems. In addition to maintaining traditional transaction processing systems, today's MIS professionals are involved in exciting developments in computing systems, such as decision support and expert systems, database development and enhancement, development and use of Graphical User Interfaces (GUI), and design and management of telecommunications systems. The MIS program provides students with a foundation in both the functional areas of business and in computing technologies that enables graduates to pursue both technical and managerial careers incorporating leading edge technologies in public and private organizations.

To earn the emphasis designation in Management Information Systems a student must complete seven (7) courses (twenty-one [21] hours) beyond required business core courses. These 7 courses include:

1. A student must complete 5 courses (15 hours)
 - a) Programming/File Structure Requirement (6 hours) (Either Track 1 or Track 2)

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TRACK 1

BA 109 COBOL Programming and

BA 209 File Management

TRACK 2

BA 224 Managerial Applications of Object-Oriented Programming I and

BA 225 Managerial Applications of Object-Oriented Programming II

b) Analysis and Design Requirement (6 hours)

BA 215 Information Systems Analysis

BA 310 Information Systems Design

c) Database Requirement (3 hours)

BA 212 Database Management Systems

2. A student must complete two courses from the following to include at least one Business Administration (BA) course at the 300-level (6 hours):

BA 109 COBOL Programming (if not used to fulfill requirements in 1A)

BA 209 File Management (if not used to fulfill requirements in 1A)

BA 224 Managerial Applications of Object-Oriented Programming I (if not used to fulfill requirements in 1A)

BA 225 Managerial Applications of Object-Oriented Programming II (if not used to fulfill requirements in 1A)

BA 304 The Management of Information Systems

BA 305 Management of Telecommunications

BA 306 Decision Support & Expert Systems

BA 307 Management of End-User Computing

BA 344 Computer Applications in Accounting

CS 240 Computer Hardware & Small Computer Systems I

CS 241 Computer Hardware & Small Computer Systems II

CS 332 Artificial Intelligence

CS 376 Operating Systems

BA 295/395 Business Administration Problems/Seminars

BA 296 Independent Study

BA 295, 296 & 395 are restricted to those courses offered and approved by the area faculty.

Marketing

Marketing is an important part of any business or organization and can enhance growth, increase profits, and help achieve the organization's goals. Furthermore, marketing plays an important role in our society by enhancing our quality of life. Equally important, marketing offers varied and interesting career opportunities.

Marketing involves the activities needed to facilitate an exchange. This covers selling products, services or ideas to both consumers and business buyers. Many non-profit institutions are now enthusiastic users of marketing concepts; thus marketing majors find such untraditional areas as hospitals, churches, museums, universities and retirement homes often offer excellent entry level opportunities, in addition to such traditional firms as manufacturing and retailing concerns.

For an emphasis in Marketing, a student must complete at least four (4) courses (twelve [12] hours) selected from:

BA 270 Management of Promotion

BA 275 Marketing Research

BA 301 Consumer Behavior

BA 302 Quantitative Marketing Methods

BA 303 Business-to-Business Marketing

BA 315 Marketing Management

BA 316 International Marketing

BA 295/395 Business Administration Problems/Seminars

BA 296 Independent Study

BA 295, 296 & 395 are restricted to those courses offered and approved by the area faculty.

Specific Requirements— BS in Accounting

Accounting focuses on analyzing and measuring business activity, processing that data into reports, and communicating the information to decision makers. The successful accounting professional needs to acquire the education and skills necessary to fulfill these roles in whatever area of accounting he or she enters. Excellent skills in mathematics are necessary to analyze the quantitative, financial and operating data that decision makers use in marketing, finance, personnel administration, and other business activities. Because accounting is part of an information system, the ability to communicate financial results to managers, clients and others who need the information is a vitally important skill for professional accountants.

Mission: The Accounting Area of the University of Missouri-St. Louis endeavors to prepare high-potential students of diverse backgrounds to succeed in accounting careers, either through a bachelors or masters degree program. We seek to provide these students with the means to deal with the challenges confronting the accounting profession and to contribute to their solutions. Our faculty strives to further the practice and understanding of accounting through its teaching, research, and service to the profession.

Effective November, 1995, the accounting degree programs at UM-St. Louis are separately accredited by the American Assembly of Collegiate Schools of Business (AACSB). This unique accreditation is not currently shared by any other St. Louis college or university.

For the BSA degree a student must complete at least 7 business courses (21 hours) beyond required business core courses. These 7 courses include:

BA 340A Financial Accounting and Reporting I

BA 340B Financial Accounting and Reporting II

BA 345 Cost Accounting

BA 347 Income Taxes

BA 348 Auditing

In addition to the five courses above, either **BA 215:** Information Systems Analysis; or **BA 344:** Computer Applications in Accounting, must be completed; A minimum of one business course must be selected from the following:

BA 341 Financial Accounting and Reporting III

BA 342 Financial Accounting and Reporting IV

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BA 343 Accounting for Governmental and Nonprofit Entities
BA 349 Business Income Taxation
BA 295/395 Business Administration Problems/Seminars
 BA 295 and 395 are restricted to those courses offered and approved by the area faculty.

Two (2) additional courses (six [6] hours) must be successfully completed to earn the BSA degree:

One course selected from **Comm 30**: Interpersonal Communication I; or **Comm 40**: Introduction to Public Speaking; or **BA 205**: Contemporary Business Communication.

One course selected from **Phil 30**: Approaches to Ethics; or **Phil 154**: Business Ethics.

Satisfactory/Unsatisfactory Option

Business students in good standing may take up to 18 hours on a satisfactory/unsatisfactory basis. Exempt from this option are specific degree requirements, including such courses as Econ 51, Econ 52, mathematics courses, English 10, and junior-level English courses; courses fulfilling the mathematics requirement; and the required business administration core courses except BA 390. Up to nine of the allowable 18 hours of work taken on a satisfactory/unsatisfactory basis may, however, be in business electives. Students should consult the School of Business Administration's regulations on this option regarding particular emphasis area courses and those in the BSA degree program.

Restrictions

A student who has not been formally admitted to the School of Business Administration, or who is not currently admissible to the School of Business Administration may take no more than thirty (30) hours of business courses. Admissibility to the School of Business Administration requires that one complete at least sixty (60) credit hours and have a minimum 2.0 campus grade point average.

The School of Business Administration faculty is currently considering the implementation of a higher GPA requirement for admission and graduation. This will be no more than 2.5 and may be imposed in the future on all students entering the School.

Minor in Business Administration

The School also offers a minor in business administration for students pursuing other degree programs.

In order to obtain an academic minor in business administration, a student must satisfy the following requirements:

Pre-Business General Education Requirements

A student must complete the following economics courses:

Econ 51, Principles of Microeconomics

Econ 52, Principles of Macroeconomics

Statistics Requirement

A student must take one of the following statistics courses:

Math 105, Basic Probability and Statistics

(Prerequisite: Math 30)

Econ 265, Economic Statistics (Prerequisites: Econ 51 and 52 and Math 30)

Math 232, Applied Statistics II (Prerequisites: Stat 31 or 132 or equivalent)

Psych 201, Psychological Statistics (Prerequisites: Psych 3 and Math 30, or equivalents)

Business Course Requirements

A student must complete a minimum of 24 hours in business. The following six business administration courses must be taken:

BA 103, Computers and Information Systems

BA 140, Fundamentals of Financial Accounting (Prerequisites: 27 credit hours and Math 30)

BA 145, Managerial Accounting (Prerequisites: BA 140 and Math 30)

BA 204, Financial Management (Prerequisites: BA 140, Econ 52, Statistics Requirement and a 2.0 campus GPA)

BA 206, Basic Marketing (Prerequisites: Econ 51, junior standing, and a 2.0 campus GPA)

BA 210, Management and Organizational Behavior (Prerequisites: Junior standing and a 2.0 campus GPA) and any two additional business courses (core or elective) other than those listed under Statistics and Business Course Requirements.

In addition to completing the above courses, the following requirements for a minor in business administration must also be met:

- 1) A student must not take more than 30 hours of business courses within the 120 required for the degree program.
- 2) A student must earn an average of 2.0 or better and earn a C- or better in all business courses taken.
- 3) No course taken on a satisfactory/unsatisfactory basis may be applied toward fulfilling the minor requirements.
- 4) At least 12 credits of the business course requirements must be taken in residence at UM-St. Louis.

Minor in Employee Training and Development

The School of Business Administration and the Evening College offer a minor in employee training and development. Information on this minor can be found in the Evening College section of this book.

Cooperative Education and Internship Programs

Cooperative Education and Internship Programs are available for students seeking career-related employment while enrolled in school. These programs afford business students an opportunity to gain practical experience and earn a substantial income. Co-ops and internships are administered through Career Services, 308 Woods Hall.

International Business Certificate

Students who participate in the Missouri-London Program (take courses and work for one semester in London) or other study abroad programs may apply that experience toward an International Business Certificate. Details may be found in the Interdisciplinary Studies section of the Bulletin.

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Graduate Studies

The School of Business Administration offers three graduate degrees: the Master of Business Administration (MBA), the Master of Science in Management Information Systems (MS in MIS), and the Master of Accounting (MAcc).

Admission Requirements

The admissions decision is based on a combination of factors. Consideration is given to a candidate's academic record, GMAT scores, work and leadership experience, a personal narrative on the application form, and recommendations.

Applicants are required to take the Graduate Management Admissions Test (GMAT). This aptitude test is designed to measure certain mental capabilities important in graduate business studies. The examination tests ability to read, understand, and reason logically with both verbal and quantitative material. The test is not a measure of achievement or knowledge of business administration curriculum. Applications for the examination may be made directly to the:

Graduate Management Admissions Test
Educational Testing Service, CN6103
Princeton, New Jersey 08541

Information concerning the GMAT may also be obtained from the admission advisers or the Office of Graduate Studies in Business.

Master of Business Administration Program (MBA)

The MBA program is fully accredited by the American Assembly of Collegiate Schools of Business, the authorized professional accrediting body in collegiate business education, and is designed to prepare students for administrative positions. It also provides an appropriate foundation for students contemplating doctoral work and eventual careers in college teaching or in research. The program is designed for students who have bachelor's degrees from accredited institutions, including those with undergraduate backgrounds in the sciences, engineering, humanities, or arts. Students with undergraduate degrees in business administration or economics may pursue modified degree programs.

A 54-hour or two-year program, the MBA curriculum provides training in the fundamental areas of administration. The core program is designed to generate a working knowledge of the concepts and interrelationships of four broad categories fundamental to management training:

- The external environment confronting business organizations and management's response to interactive legal, economic, social, and political issues.
- The internal operation of various business organizations and management's role in channeling human behavior to satisfy both personal and organizational goals.
- Basic concepts, terminology, and interaction of the accounting, marketing, finance, information technology and operations management disciplines.

- Quantitative management decision-making models put to use in the context of current management information systems.

The total degree program is integrated by a course in strategy formulation and implementation in the student's last semester. There is no thesis requirement; however, students interested in undertaking an individual research project may earn elective credit by enrolling in a supervised independent study course.

MBA Program Degree Requirements

Depending on the student's previous background, programs will range from 39 to 54 hours. Course work must be completed within a six-year period. At least 30 hours of coursework must be taken while enrolled as an MBA candidate at UM-St. Louis.

Candidates must take at least **one** course at either the core level or from the business breadth requirements list in each of the following six areas: accounting, finance, management, marketing, information systems, and management science. Also no more than 15 credit hours may be taken in any one of the six areas.

Students are also required to have completed the equivalent of Econ 301, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences, by the end of their first 15 hours in the program.

Required Courses

The following courses or their equivalents are required of all degree candidates.

General Requirements

Econ 301, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences
BA 405, Managerial Communication
BA 408, Economics for Managers
BA 412, Law, Ethics, and Business
MS/IS 481, Statistical Analysis for Management Decisions
BA 490, Strategy Formulation and Implementation

Core Requirements

Accounting 440, Financial and Managerial Accounting
Finance 450, Financial Management
Management 460, Organizational Behavior and Administrative Processes

Marketing 470, Contemporary Marketing Concepts
MS/IS 480, Management Information Systems
MS/IS 483, Production and Operations Management

Business Breadth Requirements

A student must take a second-level course in three of the following areas:

Accounting: Accounting 442, Accounting for Decision Makers

Finance: Any approved 400-level course beyond Finance 450

Management: Any approved 400-level course beyond Management 460

Marketing: Any approved 400-level course beyond Marketing 470

Information Systems: Any approved 400-level course beyond Management Science and Information Systems 480

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Management Science: Any approved 400-level course beyond Management Science and Information Systems 483

Electives

The student must take a minimum of nine hours of elective courses. A maximum of six hours of electives may be taken at the 300 level. Nine elective hours may be taken outside the School of Business Administration if the student has approval in advance from a graduate adviser for the specific courses desired.

Previous Education

Students may waive certain courses from the general and core requirements. Waiver depends on the applicability of prior coursework and the student's performance in these courses. Regardless of the number of courses waived, all students must take at least 39 hours to earn the degree.

Master of Science in Management Information Systems (MS in MIS)

The MS in MIS program is designed to provide students with a foundation in functional business areas and in managerial and analytical skill areas required in modern organizations. A specialized program in computer-based management information systems is then built on this foundation. The objective of the program is to offer students sufficient technical and managerial knowledge and skills to operate successfully in the rapidly changing careers associated with the design, development, and management of computer-based information and telecommunications systems. The program is designed for students who have bachelor's degrees from accredited institutions, but it is not restricted to any single undergraduate major.

MS in MIS Program Degree Requirements

The curriculum involves a 60-hour or two-year program including a 30-hour core curriculum that is identical to that of the MBA program. Students with the appropriate academic background may waive some or all of this core curriculum. The second 30 hours involves a specialized curriculum oriented around computer-based management information and telecommunications systems--their design, development, and management.

Students also are required to have successfully completed the equivalent of Econ 301, Quantitative Methods and Modeling in Economics, Business and the Social Science, by the end of their first year. While graduate credit is not given for this course, it will be included in grade point calculation.

Required Basic Courses

The following courses, or their equivalents, are required of all degree candidates:

- BA 405**, Managerial Communication
- BA 408**, Economics for Managers
- BA 412**, Law, Ethics and Business
- Accounting 440**, Financial and Managerial Accounting
- Finance 450**, Financial Management
- Management 460**, Organizational Behavior and Administrative Processes
- Marketing 470**, Contemporary Marketing Concepts

- MS/IS 480**, Management Information Systems
- MS/IS 481**, Statistical Analysis for Management Decisions
- MS/IS 483**, Production and Operations Management

Required Specialization Courses

The following courses are required:

- MS/IS 484**, Business Programming and File Systems
- MS/IS 485**, Theoretical Foundations of Management Information Systems
- MS/IS 488**, Information Systems Analysis
- MS/IS 489**, Database Management Systems
- MS/IS 495**, Information Systems Design
- BA 490**, Strategy Formulation and Implementation

At least two of the following courses are also required:

- MS/IS 491**, Computer Systems: Architecture and Programming
- MS/IS 492**, Information Systems Management
- MS/IS 493**, Simulation for Managerial Decision Making
- MS/IS 496**, Telecommunications: Design and Management (or BA 305)
- MS/IS 497**, Expert Systems (or BA 306)
- MS/IS 498**, Fourth Generation Languages and End-User Computing (or BA 307)
- MS/IS 424**, Seminar in Current MIS Topics
- MS/IS 425**, Advanced MIS Applications

Electives

Each student must take six hours in a "related discipline" from an approved list available in the Graduate Studies in Business Office. Both courses must be taken in the same related discipline area. The six hours may also be met by the completion of a thesis.

Master of Accounting Program (MAcc)

The MAcc program is intended for students preparing to enter the accounting profession or furthering existing accounting careers. Designed to accommodate both students with undergraduate accounting majors and students with other undergraduate backgrounds, the program permits students to take a generalized course of study or specialize in income taxation. It may require as few as 30 credit hours for students with undergraduate accounting degrees. Because of the need to attain general business and professional accounting core competencies as a foundation for the MAcc requirements, students with no academic business or accounting background will be required to take additional credit hours as outlined below.

General Requirements

All students must meet course requirements in mathematics, general business, and accounting. Students must complete a minimum of 30 credit hours beyond the general business core and the professional accounting core. At least 15 credit hours in accounting must be completed, including at least 12 credit hours at the 400 level. At least 9 credit hours of the student's 30 credit hour program must be in 400-level non-accounting courses. Of the 30 credit hours beyond the general business and professional accounting core, 21 credit hours must be earned in courses at the 400 level.

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Mathematics Background Requirement

Students are required to have completed by the end of their first semester in the program the equivalent of Economics 301, Quantitative Methods and Modeling in Economics, Business, and the Social Sciences, with a grade of C or better. Graduate credit is not given for this course but it may be waived with appropriate undergraduate coursework.

General Business Core

Students must have credit for the equivalent of one three-credit-hour course in each of the following subject areas: macroeconomics, microeconomics, financial accounting, managerial accounting, marketing, financial management, organizational behavior, and business strategy. These requirements may be met with graduate-level course work or may be waived with appropriate courses taken as an undergraduate.

Professional Accounting Core

Students must have credit for the equivalent of each of the following three-credit-hour courses. Some of these courses may be taken concurrently with MAcc degree requirements (listed below) or may be waived with appropriate courses taken as an undergraduate.

BA 340A, Financial Accounting and Reporting I
 BA 340B, Financial Accounting and Reporting II
 BA 344, Computer Applications in Accounting
 BA 345, Cost Accounting or
 Accounting 441, Concepts in Management Accounting
 BA 347, Income Taxes
 BA 348, Auditing

MAcc Degree Requirements (minimum: 30 credit hours)

Accounting Courses (minimum: 15 credit hours, 12 credits at 400-level)

BA 341, Financial Accounting & Reporting III*
 BA 342, Financial Accounting & Reporting IV*

Research course—At least one of the following courses must be completed:

Accounting 421, Professional Accounting Research
 Accounting 431, Tax Research

Seminar—At least one of the following courses must be completed:

Accounting 445, Seminar in Financial Accounting Theory
 Accounting 439, Seminar in Taxation

Accounting Electives—to meet 15 credit-hour and 400-level requirements

Non-Accounting Courses (minimum: 9 credit hours at 400-level)

BA 405, Managerial Communication*
 BA 412, Law, Ethics, and Business*
 MS/IS 480, Management Information Systems*
 MS/IS 481, Statistical Analysis for Management Decisions*
 MS/IS 483, Production and Operations Management*

Electives may be necessary to meet 9 credit-hour 400-level non-accounting requirement or minimum 30 credit-hour requirement

(*=May be waived with appropriate undergraduate courses)

Taxation Emphasis

Students desiring an emphasis in taxation must complete Accounting 431, Tax Research, Accounting 439, Seminar in Taxation, and at least two courses from the following list of electives:
 Accounting 432, Taxation of Estates, Gifts, and Trusts
 Accounting 433, Taxation of Corporations and Shareholders
 Accounting 434, Taxation of Partnerships and Partners
 Accounting 435, Tax Practice and Procedure
 Accounting 436, Advanced Topics in Taxation

Graduate Certificate Programs in Business Studies

The School of Business Administration offers a number of 18-hour Graduate Certificates. To be admitted to a graduate certificate program, students must meet the same requirements as those needed for a graduate degree program in business (see "Admission Requirements" in the Graduate Studies in Business Administration section of *this Bulletin*).

Certificate programs allow qualified graduate students to pursue a defined course of study in a specialized business topic. Without requiring completion of a 30 – 72-hour graduate business degree program, certificate programs provide students with the opportunity to obtain the advanced knowledge available through a graduate course of study.

In order to successfully complete a certificate program, students must have earned a 3.0 cumulative GPA in certificate classes. Unless otherwise specified, the certificate must be completed within six years. Students must also comply with all requirements related to matters such as prerequisites, academic probation, and other graduate business program policies.

Graduate Certificate in Human Resources Management

The Graduate Certificate in Human Resources Management is an 18-hour course of study designed to focus on the multidimensional aspects of personnel operations within business organizations. The course of study emphasizes both the formal and informal sides of human resources management.

Requirements

Students must complete the following six courses or appropriate substitutes if course waivers are appropriate:
 Management 460, Organizational Behavior and Administrative Processes
 Management 461, Managing Human Resources
 Management 464, Compensation and Benefits
 Management 465, Union-Management Relations and Collective Bargaining
 Management 466, Personnel Administration: Theory and Practice
 MS/IS 481, Statistical Analysis for Management Decisions

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Management 460, Management 461, and MS/IS 481 may be waived with equivalent undergraduate courses. If a student is able to waive any or all of these three courses, substitute courses (approved by both the Area Coordinator of Management and the Director of Graduate Studies in Business) will be provided. Substitute courses may include Management 462, Advanced Organizational Behavior and Administrative Processes or a course from outside the School of Business Administration. In all cases, 18 hours are needed to complete the Graduate Certificate in Human Resources Management.

Graduate Certificate in Marketing Management

The Graduate Certificate in Marketing Management is an 18-hour program designed to provide a focused intensive study of the marketing management activity within organizations. This program is designed to serve a broad group of marketing managers, including those with interest in sales, brand management, promotion, and consumer behavior.

Requirements

Students must complete the following six courses or appropriate substitutes if course waivers are appropriate: **Marketing 470**, Contemporary Marketing Concepts **Marketing 475**, Consumer Motivation and Behavior **Marketing 478**, Marketing and Business Research

Marketing Management:

Marketing 471, Marketing Planning and Strategy
Marketing 476, Marketing Communications
Marketing 477, Product Planning and Pricing

All course prerequisites and all course waivers are applicable. Substitute courses must be approved by the Area Coordinator of Marketing and the Director of Graduate Studies in Business. In all cases, 18 hours (including at least 12 hours in marketing) are needed to complete the Graduate Certificate in Marketing Management.

Graduate Certificate in Taxation

The Graduate Certificate in Taxation is an 18-hour course of study designed to focus on the theory and practice of taxation as a subfield of accounting. The course of study emphasizes both the legal, as well as the academic analysis of taxation.

Requirements

Besides the admission requirements needed by all graduate business students, students seeking a Graduate Certificate in Taxation must have the equivalent of an undergraduate degree in accounting from UM-St. Louis. An up-to-date tax course should be part of that degree although up-to-date tax knowledge may be evidenced through an "old" tax course combined with recent tax experience.

To earn the certificate, students must complete six courses as prescribed following:

Required Courses

Accounting 431, Tax Research
Accounting 433, Taxation of Corporations and shareholders
Accounting 435, Tax Practice and Procedure

Three Additional Courses From:

Accounting 432, Taxes of Estates, Gifts, and Trusts
Accounting 434, Taxation of Partnerships and Partners
Accounting 436, Advanced Topics in Taxation
BA 405, Managerial Communications or **BA 412**, Public Policies Affecting Business

Students must complete the Graduate Certificate in Taxation within three years from the time they first enroll in the program.

Special Interdisciplinary Degree

The School of Business Administration also cooperates with the Departments of Economics and Political Science in the College of Arts and Sciences in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see the Inter-School Studies section of this *Bulletin*.

General Statement of Policy Applicable to All Students Taking Business Courses

Academic Misconduct

The School of Business Administration views academic dishonesty as a serious offense. Unless instructed by their instructor to the contrary, students should assume that all class assignments are to be done independently. For independent assignments (e.g., a case analysis, take-home or in-class exams), giving or receiving aid, unless authorized by the instructor, is considered academic dishonesty. If the student is uncertain concerning the nature of an assignment, it is his/her responsibility to seek the instructor's guidance. For more information on academic misconduct, refer to the appendix of this *Bulletin* and the UM-St. Louis Student Handbook.

Career Outlook

The current economic climate appears to favor students with business training. Business school graduates with the B.S.B.A. degree usually obtain entry-level positions in areas requiring accounting, finance, management, management information systems, marketing, and quantitative backgrounds. Recent graduates of the School of Business Administration hold positions with a variety of local and national firms as accountants; internal auditors; sales representatives; cost, budget, and systems analysts; executive trainees; merchandisers; systems programmers; and purchasing agents.

Many graduates of the University's graduate business programs are employed in staff-level positions in local and national businesses, and opportunities for managerial posts are promising for the graduate with a master's degree in business administration. Additionally, several graduates have chosen to pursue careers in college teaching.

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Course Descriptions

Courses in this section are grouped as follows: all undergraduate courses are listed under Business Administration; 400-level graduate courses are listed under Business Administration, Accounting, Finance, Management, Management Science/Information Systems, and Marketing.

The School of Business Administration uses the University course numbering system (see p. 5) with the following clarifications:

100 to 199, sophomore, junior, or senior standing is required unless a specific exception is listed.
200 to 299, junior or senior standing is required.
300 to 399, junior, senior, or graduate standing is required unless a specific exception or restriction is listed.

A minimum grade of C- shall be required to meet the prerequisite requirement for any course. Prerequisites may be waived only by consent of both the instructor and the area coordinator. A minimum campus GPA of 2.0 is required for admittance to each 200- and 300-level Business Administration course.

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93 Personal Finance for Nonbusiness Majors (3)

For future professionals who want to learn more about personal finance and how to better manage their resources. The topics include purchasing/leasing cars, home acquisitions, investing in stocks and bonds, mutual funds, retirement planning and health and life insurance. Special emphasis will be on the nontechnical aspects of these issues. Cannot be used for credit in BSBA program.

95 Topics in Business Administration (1-3)

Study of selected special problems in business and administration. May be repeated for credit with different topics. Cannot be included in BSBA program.

103 Computers and Information Systems (3)

The basic concepts of data processing and the fundamental principles of computer-based information systems are studied. The characteristics of computer hardware and software used in implementing business applications are considered. Students will develop skills in utilizing both mainframe and microcomputers.

104 FORTRAN Programming (3)

Prerequisite: BA 103. A study of the principles of programming digital computers using the FORTRAN language. Credit will not be granted for both BA 104 and Computer Science 122.

109 COBOL Programming (3)

Prerequisite: BA 103 or Computer Science 122. Structured COBOL programming techniques for business applications are presented. Included are report generation, control breaks, output editing, debugging, tables, and sort concepts.

140 Fundamentals of Financial Accounting (3)

Prerequisites: Math 30 and completion of 27 credit hours. This is a one-semester course in financial accounting theory and practices, with primary emphasis upon the accounting cycle and the preparation and interpretation of corporate financial statements.

145 Managerial Accounting (3)

Prerequisites: Math 30 and BA 140. This is an advanced course that goes beyond the scope of a second-semester course in fundamentals of accounting. The development, interpretation, and use of relevant cost behavior, control, and traceability concepts for management planning, controlling, and decision making are emphasized. Topics include: an introduction to product costing, the contribution concept, direct costing, performance standards and variance analysis, responsibility accounting, segment profitability, alternative choice decisions, and capital budgeting.

156 Legal Environment of Business (3)

Prerequisites: Econ 51 and BA 140. An introduction to the nature and meaning of law, sources of law, legal process and institutions. The legal environment of business is defined as: the attitude of the government toward business, the historical development of this attitude; current trends of public control in taxation, regulation of commerce, and competition; freedom of contract, antitrust legislation and its relationship to marketing, mergers, and acquisitions; and labor management relations.

195 Topics in Business Administration (1-3)

Prerequisites: Vary with topic; contact the School of Business Administration. Study of selected special problems in business and administration. May be repeated for credit with different topics.

204 Financial Management (3)

Prerequisites: Econ 52, MT 105, and BA 140, and a 2.0 campus GPA. The study of a firm's need for funds; the institutions, instruments, and markets concerned with raising funds; and the techniques of analysis used to determine how effectively these funds, once raised, are invested within the firm.

205 Contemporary Business Communication (3)

Prerequisites: English 10 or equivalent and a minimum campus GPA of 2.0 (Comm 40 recommended, but not required.) A forum wherein business writing and speaking skills are addressed. Communication unique to business organizations is critiqued. Emphasis is placed on writing and verbal communication skills necessary to succeed in the business environment.

206 Basic Marketing (3)

Prerequisites: Econ 51, junior standing, and a 2.0 campus GPA. An examination of the character and importance of the marketing process, its essential functions, and the institutions performing them. Attention is focused on the major policies (such as distribution, product, price, and promotion) which underlie the multifarious activities of marketing institutions and the managerial, economic, and societal implications of such policies.

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207 Practicum In Investments (1)

Prerequisite: BA 204 and a 2.0 campus GPA. Students will apply their knowledge of stocks and bonds by managing a real dollar portfolio of securities. This course requires that students perform technical and fundamental analysis, prepare research reports, present proposals and participate in group investment decisions. The University's Student Investment Trust provides the money for students to invest. Course may be repeated for credit up to a maximum of 3 credit hours.

209 File Management (3)

Prerequisite: BA 109 and a 2.0 campus GPA. The course covers job control language, utilities, partitioned data sets, updating of sequential files, indexed files, direct and/or relative files. The topics are implemented in a COBOL environment. A database management system is used to illustrate design and implementation of business applications.

210 Management and Organizational Behavior (3)

Prerequisites: Junior standing and a 2.0 campus GPA. This course involves the study of the behavior of individuals and groups in an organizational setting. Specific topics examined include: motivation, leadership, organizational design, and conflict resolution, as well as basic coverage of management principles. In covering these topics, both "classic" and current perspectives are provided.

212 Database Management Systems (3)

Prerequisites: BA 209 or BA 225 and a minimum campus GPA of 2.0. This course provides an introduction to the design and use of databases in meeting business information needs. Topics include database planning, conceptual design, and data administration. The concepts are studied with projects involving the use of a current database management system.

215 Information Systems Analysis (3)

Prerequisites: BA 109, or BA 224, and a minimum campus GPA of 2.0. Techniques and philosophies of systems analysis are addressed. Included are: traditional versus structured design methods, computer-based tools for systems analysis, workbenches, design and analysis of database systems, maintenance of existing information systems, human/machine interfaces, and security and control.

224 Managerial Applications of Object-Oriented Programming I (3)

Prerequisites: (BA 103 or Computer Science 122 or 125) and a 2.0 campus GPA. The course provides a study of the UNIX operating system and the C++ programming language as they pertain to managerial applications. In addition, the course will introduce the use of object-oriented programming methodologies.

225 Managerial Applications of Object-Oriented Programming II (3)

Prerequisites: BA 224 and a minimum campus GPA of 2.0. This course expands object-oriented skills taught in BA 224. The emphasis in this course is on object-oriented development tools and development in a client-server environment. The data management tools will include the use of SQL to access server-based databases.

250 Business Statistics (3)

Prerequisites: Math 100 and 105, BA 103 and a 2.0 campus GPA. Construction and use of statistical models for business management. Students will learn techniques used for relational analysis and business forecasting and how to apply them in a business context. Tools include CHI-Square tests of statistical independence; analysis of variance; simple linear regression and correlation; multiple linear regression; and extrapolative techniques such as moving averages and exponential smoothing. Emphasis is placed on problem definition, construction of statistical models, analysis of data, and interpretation of results. Computers are used for extensive analyses of case data.

252 Introduction to Operations Management (3)

Prerequisites: Econ 51, BA 145, BA 250 and a 2.0 campus GPA. An examination of the concepts, processes, and institutions which are fundamental to an understanding of manufacturing and service operations within organizations. Emphasis is on the management and organization of operations and upon the application of quantitative methods to the solution of strategic, tactical and operational problems.

256 Business Law: Contracts, Sales, Secured Transactions, Bankruptcy (3)

Prerequisites: BA 140, Econ 51, and a 2.0 campus GPA, or junior standing and a 2.0 campus GPA. Introduction to the laws of contracts, sales, secured transactions, bankruptcy, and other selected topics.

257 Business Law: Negotiable Instruments, Business Organizations, Property (3)

Prerequisites: BA 140, Econ 51, and a 2.0 campus GPA, or junior standing and a 2.0 campus GPA. Introduction to the laws of negotiable instruments, the principal-agent relationship, partnerships, corporations, property, and other selected topics.

270 Management of Promotion (3)

Prerequisite: BA 206 and a 2.0 campus GPA. A study of the design, organization, and implementation of the marketing "communications mix." Various methods, such as advertising, personal selling, and publicity are analyzed as alternatives for use alone, or in combination, to stimulate demand, reseller support, and buyer preference. Particular topics considered include: media selection, sales promotional, packaging, and selling strategy, and their relationships in the promotion process.

275 Marketing Research (3)

Prerequisites: BA 103, BA 206, BA 250 and a 2.0 campus GPA. An investigation of the acquisition, presentation, and application of marketing information for management. Particular problems considered are defining information requirements, evaluating research findings, and utilizing information. Statistical methods, models, and/or cases are employed to illustrate approaches to marketing intelligence problems, such as sales forecasts, market delineation, buyer motives, store location, and performance of marketing functions.

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289 Career Planning (1)

Prerequisite: A minimum of junior standing and a 2.0 campus GPA. The emphasis of this course will be to assist business students to develop an understanding of themselves as related to employment, to develop an understanding of the world of work, and to integrate these so that effective career decisions can be made.

295 Business Administration Problems (1-10)

Prerequisite: To be determined each time the course is offered and to include a minimum 2.0 campus GPA. Study of selected special problems in business and administration. May be repeated for credit with different topics.

296 Independent Study (1-3)

Prerequisite: Permission of the professor, the dean, and a minimum campus GPA of 2.0. Occasional special individual study topics under the guidance of a specific professor.

301 Consumer Behavior (3)

Prerequisites: BA 206 and a minimum campus GPA of 2.0. A study of such consumer functions as decision making, attitude formation and change, cognition, perception, and learning. The marketing concepts of product positioning, segmentation, brand loyalty, shopping preference and diffusion of innovations are considered in context with the environmental, ethical, multicultural and social influences on an increasingly diverse American consumer.

302 Quantitative Marketing Methods (3)

Prerequisites: BA 103, BA 206, BA 250 and a 2.0 campus GPA. Applications of stochastic, deterministic, and simulation techniques to decision areas, such as market potential, product diversification, physical distribution alternatives, retail location, media selection, and market exposure. Quantitative and computerized methods are used heavily to enhance decision making in marketing, especially the selection, allocation, budgeting, and forecasting of marketing resources.

303 Business-to-Business Marketing (3)

Prerequisites: Senior Standing, MT 105, BA 206 and a 2.0 campus GPA. A study of the nature of the business-to-business (organizational) marketplace, concentrating on those aspects that differentiate it from consumer markets. The major focus of the course is marketing strategy, starting with analysis of the market wants and segments, concepts of pricing, the distribution arrangements, and buyer/seller relations. In this last area, consideration will be given to service, personal selling, sales promotion, and advertising, as found in the organizational marketplace. At all times emphasis is given to relating business-to-business marketing strategy to basic concepts in underlying business disciplines. Lectures and case discussions are used heavily in the course.

304 The Management of Information Systems (3)

Prerequisites: (BA 109 or BA 224) and a minimum campus GPA of 2.0. Aspects and methods for managing the computer and information resources of organizations. Topics include aligning IS plans with corporate plans, MIS organizational structures, demonstrating the value of MIS to senior management, facility management, purchase

decisions, software acquisition, software metrics, project management, security issues, and economic evaluation, as they relate to information resources.

305 Management of Telecommunications (3)

Prerequisite: BA 103 and a 2.0 campus GPA. The technical and managerial aspects of telecommunications as they apply to the business environment are discussed. Issues include: communications components and services, local area network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

306 Decision Support and Expert Systems (3)

Prerequisites: BA 252 and a minimum campus GPA of 2.0. Applications of decision support systems and expert systems in a business environment are studied. Relationships between decision support systems, expert systems, and database management systems are explored.

307 Management of End-User Computing (3)

Prerequisite: (BA 109 or BA 224) and a minimum campus GPA of 2.0. Issues in the management and practice of end-user computing are presented. The topics include information centers, Micro/Mainframe links, fourth generation languages, and end-user software packages.

308A Production and Operations Management (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). Application of the tools and techniques of statistical decision theory and operations research to production and operating problems. Emphasis is on the use of mathematical modeling and simulation techniques to analyze complex and ill-structured problems in large scale systems.

308B Production and Operations Management-Logistics (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). Detailed study of the logistical management of organizations. Topics include transportation, routing, facility location, fleet design, and capacity planning.

308C Production and Operations Management-Manufacturing (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). Study of manufacturing processes, manufacturing management, and strategic aspects of manufacturing. Topics include facility design and location, production planning and scheduling, inventory control, quality control, and technological innovation.

308D Production and Operations Management-Service System (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). The methods for managing the operations of service delivery systems, such as hospitals, banks, public safety, airlines, etc. Topics include facility design and location, queuing, and personnel scheduling.

309 Human Resource Management (3)

Prerequisites: MT105 and BA 210, and a 2.0 campus GPA.

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In-depth examination of selected human resource management issues from a contemporary manager's viewpoint. Topics examined include: employee selection, performance appraisal, training and development, compensation, legal issues, and labor relations.

310 Information Systems Design (3)

Prerequisites: BA 212, BA 215, one of either BA 209 or BA 225 and a minimum campus GPA of 2.0. System design, implementation, and methods of systems installation and operation are presented. A system development project is required.

311 Advanced Management and Organizational Behavior (3)

Prerequisite: BA 210 and a 2.0 campus GPA. Building upon BA 210, this course provides a more detailed examination of motivation, leadership, group process, decision-making, job design, and organizational development. In addition to providing more detail in terms of content, this course provides the student with considerable practical experience through the use of class exercises, case studies, and small group discussions.

312 Industrial and Labor Relations (3)

Prerequisite: BA 210 and a 2.0 campus GPA. Emphasis is on the dynamic relationship between management, employees, unions, and government as determinants in the efficient and effective use of human resources. Current issues and case materials are used to supplement text and lecture.

315 Marketing Management (3)

Prerequisites: MT 105, BA 206, one other three-hour marketing course, senior standing and a 2.0 campus GPA. An intensive analysis of major marketing decisions facing the firm, such as level, mix, allocation, and strategy of marketing efforts. Specific decision areas investigated include market determination, pricing physical distribution, product policy, promotion, channel management, and buyer behavior. Competitive, political, legal, and social factors that may affect such areas of decision are discussed. Cases, models, and problems are used heavily.

316 International Marketing (3)

Prerequisite: BA 206 and a 2.0 campus GPA. Marketing management problems, techniques and strategies needed to apply the marketing concept to the world marketplace. Understanding a country's cultural and environmental impact on the marketing plan is emphasized, as well as competing in markets of various cultures. Worldwide consumerism, economic and social development, the spread of multinational corporations, business ethics, and current economic and marketing issues are examined.

317 International Management (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Econ 52 and BA 210; or permission of the area coordinator and the instructor. A study of international business and international management practices. Topics covered include an introduction to international management and the multinational enterprise, the cultural environment of international management, planning in an international setting, organizing for international operations, directing international operations, international staffing, preparing

employees for international assignments, and the control process in an international context.

318 Industrial and Organizational Psychology (3)

(Same as Psych 318.) Prerequisites: Psych 201 or (MT 105 and BA 210). This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance appraisal, training, leadership, motivation, job satisfaction, and organizational design.

319 Employee Training and Development (3)

Prerequisite: A minimum 2.0 campus GPA. In addition, BA 210 or permission of instructor. An intensive study of training in organizations, including needs analysis, learning theory, management development, and development of training objectives and programs. Projects and exercises are used to supplement the readings.

329 Business Forecasting (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). Further study of statistical tools for forecasting in a decision-making context. Topics include explanatory models (multiple regression), classical time series decomposition, and extrapolative techniques (exponential smoothing and Box-Jenkins procedures). In addition, methods for considering problems of intervention effects, seasonality, and collinearity will be discussed. Students will perform extensive analyses of time series data using computer packages.

330 Quality Assurance in Business (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). A study of statistical quality control concepts and procedures applicable to management systems, administrative activities, service industries, and nonprofit organizations. Some successful quality assurance programs will be examined.

331 Multivariate Analysis (3)

Prerequisites: A minimum of 2.0 campus GPA and either (BA 252 and Math 100) or (Math 250 and Statistics 132). A study of statistical techniques applicable to multivariable relationships.

332 Principles of Insurance (3)

Prerequisites: BA 204 and 2.0 campus GPA. This is a survey course intended to introduce students to the basic concepts of insurance. Topics include the nature of risks, types of insurance carriers and markets, insurance contracts and policies, property and casualty coverages, life and health insurance, and government regulations. The functions of underwriting, setting premiums, risk analysis, loss prevention, and financial administration of carriers are emphasized.

333 Life Insurance (3)

Prerequisites: BA 204 or equivalent and a minimum campus GPA of 2.0. This course explores the life insurance business from the perspective of both the consumer and provider. Coverage will include an analysis of the various types of life insurance products, aspects of life insurance

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evaluation, reinsurance, underwriting, and uses of life insurance in financial planning. Also included is an examination of the tax, legal, and ethical requirements.

334 Investments (3)

Prerequisite: BA 204 and a 2.0 campus GPA. Financial analysis of debt and equity instruments available on organized exchanges and in less tangible over-the-counter markets. Techniques of such analysis are presented in context with economic and management circumstances within the company, industry, and economy.

335 Financial Risk Management (3)

Prerequisites: BA 204 and a 2.0 campus GPA. A study of derivative securities (forward contracts, futures, swaps and options) used in financial risk hedging. Emphasis will be placed on financial innovations and methods for tailoring a preferred risk/return trade-off. In addition, a project or a simulation will be utilized to emphasize the effects of risk management on portfolio development.

336 Treasury Management (3)

Prerequisites: BA 204 and a 2.0 campus GPA. The focus of this course is on the role cash management plays in corporate finance. Topics include cash collection and payment systems, forecasting cash flows, electronic fund transfers, check processing, international cash management and managing bank relationships. Students passing the course with a grade of A or B are permitted to take the qualifying exam to become a Certified Cash Manager (CCM) under a special arrangement with the Treasury Management Association. Along with other finance courses, this class prepares students for careers in the treasury departments of major companies or with service providers like banks.

337 Principles of Real Estate (3)

Prerequisites: BA 204 and a 2.0 campus GPA. As an introduction to the real estate industry, the course broadly explores all phases of acquisition, development and disposal of real property. Topics include legal requirements of contracts, property rights, valuation and appraisal techniques, marketing, brokerage operations and practices, mortgage financing, leasing and property management.

340A Financial Accounting and Reporting I (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30, BA 140, and 57 credit hours. Accounting theory and practice related to the acquisition, use, and disposal of assets (excluding long-term investments in securities). The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

340B Financial Accounting and Reporting II (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30 and BA 340A. Accounting theory and practice related to topics such as current and long-term liabilities, stockholders' equity, investments, statement of cash flows, and financial statement analysis. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

341 Financial Accounting and Reporting III (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30 and BA 340B. Accounting theory and practice related to topics such as dilutive securities, earnings per share, accounting for income taxes, leases, pensions, and partnerships. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

342 Financial Accounting and Reporting IV (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30 and BA 340B. Accounting theory and practice related to topics such as business combinations, consolidated financial statements, multinational operations, foreign exchange transactions, and governmental and nonprofit organizations. The course includes an emphasis on unstructured case problem solving skills, communication skills, and interpersonal skills.

343 Accounting for Governmental and Nonprofit Entities (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30, BA 140, and 57 credit hours. Principles of fund accounting and financial reporting for governmental and nonprofit entities.

344 Computer Applications in Accounting (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30, BA 103, BA 145, and BA 340A. Managerial and financial accounting applications of computers—budgeting, financial planning and analysis, and accounting information processing systems. Emphasis on development of systems for micro- and mainframe computers using high-level applications development software and on associated internal control and auditing problems.

345 Cost Accounting (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30, BA 145, and 57 credit hours. The study of the basic principles of cost determination for, and control of, manufacturing and distribution activities. Topics include job-order costing, process costing, cost allocations, and the development and use of standard costs within a system of absorption costing.

347 Income Taxes (3)

Prerequisites: A minimum 2.0 campus GPA. In addition, Math 30, BA 145, and 57 credit hours. Fundamentals of federal income taxation. Topics include taxable entities, income, deductions, tax accounting methods, tax basis, and property transactions at both the conceptual and operational levels.

348 Auditing (3)

Prerequisites: A minimum campus GPA of 2.0. In addition, MT 105, BA 340B, and BA 344 or BA 215. BA 344 or BA 215 may be taken concurrently. An introduction to auditing practice. Includes the social role of auditing and the services offered by auditors in internal, governmental, and public accounting practice. Emphasis is on the financial auditing process, including professional ethics, audit risk assessment, study and evaluation of internal control, gathering and evaluating audit evidence, and audit reporting decisions.

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349 Business Income Taxation (3)

Prerequisite: A minimum 2.0 campus GPA. In addition, BA 347. A study of the federal income taxation of partnerships and shareholders and corporations, including subchapter S (small business) corporations with emphasis on problems encountered in their formation, operation, liquidation, and sale.

350 Financial Policies (3)

Prerequisites: BA 204 and a 2.0 campus GPA. The intensification and application of the concepts developed in BA 204. Special emphasis is given to the development of top management policies and their application toward complex problems of finance. Techniques for identifying and dealing with these problems before they become acute will be investigated. Cases will be integrated with appropriate outside reading.

351 Computer Applications in Finance (3)

Prerequisites: BA 103, BA 204, one 300-level finance course, and a 2.0 campus GPA. Financial problem solving and applications on the microcomputer. A project-oriented course with an emphasis on micro-based finance projects: present value/IRR analysis, duration, immunization, portfolio optimization, leasing, capital budgeting, financial forecasting, options, and futures.

355 Financial Services Industry and Instruments (3)

Prerequisites: BA 204 and a 2.0 campus GPA. The theory of financial services, instruments, and markets is discussed. In this framework, the valuation consequences of money and capital markets, corporate control, complex contracting, and regulatory environment are developed. Topics also include hedging, interest rate risk, deposit insurance, and financial instruments.

356 Commercial Bank Management (3)

Prerequisites: Econ 52, BA 204, and a 2.0 campus GPA. Corporate finance and microeconomics are applied to matters of importance to commercial bankers. Among the subjects treated are bank-asset portfolio construction, lending policies, liabilities management, bank capital structure, short-run cash management, financial market rates and flows, and quantitative models for bank management. Commercial bank management is analyzed from an internal viewpoint in terms of what bank managers should look for in asset management and why; what market conditions they should be aware of; and what techniques they can use to meet changing economic and financial conditions.

375 Operations Research (3)

Prerequisites: Math 100, BA 252, and a 2.0 campus GPA, or Math 250 and a 2.0 campus GPA. Applications of the theories and techniques of operations research to problems of business, government, and industry, with emphasis on the construction and utilization of quantitative decision models.

380 International Finance (3)

Prerequisites: Econ 51, BA 204 and a 2.0 campus GPA. A study of the international financial markets, instruments, and portfolio strategies. Topics will include international risks, foreign diversification and hedging techniques for international exposure. The use of derivative instruments

and special markets are evaluated in the international corporate/investment setting.

385 Operations Research II (3)

Prerequisites: A minimum of a 2.0 campus GPA, BA 375 and either BA 250 or Statistics 132. Topics of special interest including mathematical programming, stochastic decision making, digital simulation, game theory, and other selected techniques. (Formerly Mathematical Programming).

390 Business Assessment Testing (0)

Prerequisite: Concurrent enrollment in BA 391. A one-time lab during which a major field exam in business is administered. Course graded on a Satisfactory/Unsatisfactory basis. Satisfactory grade required for graduation.

391 Strategic Management (3)

Prerequisites: Senior standing and BA 204, 206, 210, a minimum campus GPA of 2.0; and concurrent enrollment in BA 390. This is a capstone course drawing on the subject matter covered in prerequisite courses. Emphasis is on the formulation and implementation of corporate, business and functional strategies designed to achieve organizational objectives. Topics include the role of top management, globalization of business and ethical perspectives. Case studies and research reports may be used extensively. (It is preferred that this course be taken during the student's final semester.)

392 Entrepreneurship/Small Business Management (3)

Prerequisites: BA 156, 204, 206, 210, and a 2.0 campus GPA. This integrative general management course is designed to communicate the academic principles of business management applicable to solving of problems of small- and medium-size businesses and assist in their development. This course will provide a background in the forms of business, the development of business plans and systems integration, venture capital, accounting, procurement, promotion, financing, distribution and negotiations for initial organization, and operation and expansion of the firm.

395 Business Administration Seminar (1-10)

Prerequisite: To be determined each time the course is offered and to include a minimum 2.0 campus GPA. May be repeated for credit.

396 Internship in International Business (3-6)

Prerequisites: Econ 51 and 52, BA 140 and 145, an additional 12 hours in BA, concurrent enrollment in a UM overseas program; also a 2.0 minimum campus GPA. The internship will be a supervised field experience in a business/international organization at a foreign site. Students will work for 10 weeks on projects directed by host organization supervisors in consultation with a UM-St. Louis faculty member. Prior to the field experience students will receive training that includes familiarization with the language and practices of the country's business, the background of the host firm, and international information sources. The student will complete a written report of his/her project. Course may not be repeated for more than 6 hours credit.

Business Administration

405 Managerial Communication (3)

An analysis of business writing and speaking, and the communication conventions common in organizations. Emphasis is placed on developing skills critical to career advancement and necessary for effective organizational functioning. A second goal is to prepare students for assignments in other business courses. This course must be taken within the first 12 credit hours of study, preferably in the student's first semester.

408 Economics for Managers (3)

The first portion of this course introduces microeconomic analysis of consumers, firms, and government. The concepts and tools of economic analysis are applied to the production and distribution functions of organizations. The last portion is devoted to the macroeconomic influence of capital markets, the influence of interest rates, inflation, and the business cycle.

410 Managerial Economic Analysis (3)

Prerequisites: BA 408 or Econ 51 and Econ 52. Microeconomic analysis of consumers, firms, and government. The concepts and mathematical tools of economic analysis are applied to the production and distribution functions of organizations.

411 Analysis of National Economic Environment (3)

Prerequisites: BA 408 or Econ 51 and Econ 52. The character and functioning of the national economic system; analyzing and forecasting fluctuations in national income and product, employment, and prices; the influence of monetary and fiscal policies. Emphasis is on the acquisition of knowledge concerning forces affecting all business firms.

412 Law, Ethics, and Business (3)

Analysis of the relationship between law and business with emphasis on the ability of, and extent to which, governments regulate business activities. Topics covered include the employer-employee relationship, protection of consumers, antitrust regulation, and securities law. Also discussed are ethical issues confronting management of the modern business enterprises.

414 Introduction to Geographic Information Systems (3)

Prerequisites: MS/IS 481 or equivalent, and consent of instructor. Geographic information systems (GIS) are sophisticated computer-based systems for analysis, capture, presentation and maintenance of geographically referenced data. This course includes extensive use of GIS software and provides a foundation in using GIS for spatial analyses. A range of examples are used to emphasize use of GIS as a tool to support analysis and decision making.

415 Societal, Environmental, and Management Decisions (3)

Prerequisites: BA 408. An examination of the external relationships of a business enterprise with the broad and diverse interests of society. These are government and social forces that sometimes operate counter to the potential dictates of theoretical internal economic policies for an individual organization. The primary objective is to examine the increasingly complex set of interrelationships among business, government, other economic groups, and "the public." A series of major current problems,

chosen to raise some of the major issues involved in these interrelationships, and in particular to explore the development of public policy on such problems.

416 International Finance, Investment, and Commercial Relations (3)

Prerequisite: BA 450. The objectives of this course are to: provide a knowledge of the various international markets and securities; gain insight into the complexities of international risks when investing; and, study the use of international hedging vehicles to manage foreign exchange risk.

417 International Business Operations (3)

Prerequisite: BA 416. Functional management within multinational corporations; case studies of operations abroad; and focus on managerial decision making.

418 Governmental Budgeting and Financial Control (3)

(Same as Public Policy Administration 418.) Prerequisite: Accounting 440. A study of municipal and federal financial control and budgeting procedures with emphasis on public policy. The impact of financial control on top management decisions and the effect of budget strategies on the allocations of public funds.

420 Seminar in Business Administration (3)

An intensive study of a specific area of business administration of some specific business or economic phenomenon, or a specific problem or theory. Several different courses may be offered under this course number.

428 Current Topics in Business Administration (1)

Examination of a Business Administration topic of current interest. Instruction by regular graduate faculty, frequently supplemented by outside authorities (practicing managers, government officials, consultants, visiting faculty, etc.). Course may be taken three times for credit.

430 Individual Research (1-10)

Prerequisite: Consent of instructor and graduate director. Special individual research topics under the guidance of a specific professor.

490 Strategy Formulation and Implementation (3)

Prerequisites: FIN 450, MGT 460, MKT 470, MS/IS 483. Graduate program capstone course examining concepts and methods that integrate functional areas of business. The perspective is that of general management charged with directing the total enterprise. Interactions between the environment, organization, strategy, policies and the implementation of plans are explored. Special emphasis is given to globalization of business and ethical perspectives. This course should be taken during the semester prior to graduation. In no case may it be taken sooner than two semesters prior to graduation.

Accounting (400-level)

419 Management Accounting and Auditing in Governmental and Not-for-Profit Entities (3)

Prerequisites: BA 418 and Accounting 441 or consent of instructor. A study of accounting for use in the public

Business Administration

sector and in not-for-profit organizations. Cost behavior controllability, and traceability concepts for management planning and control will be investigated, as well as auditing in the public sector.

421 Professional Accounting Research (3)

Prerequisite: BA 341. Discussion of the research tools and methods available to resolve questions concerning accounting standards and practices. Critical analysis of topics of current interest and importance in accounting practice.

422 Seminar in Governmental and Non-Profit Accounting (3)

Prerequisites: BA 418. Consideration of the positions of authoritative groups concerning accounting theory and practice for governmental and nonprofit entities. Evaluation and critical analysis of these positions in view of current accounting literature and research finding.

431 Tax Research (3)

Prerequisite: BA 347 or consent of instructor. A discussion of the research tools and methods available to resolve questions pertaining to the tax laws. Addresses techniques for locating, verifying, and evaluating authority. Students will be expected to complete a number of tax research and writing problems throughout the semester. A basic understanding of the federal income tax law is presumed.

432 Taxation of Estates, Gifts, and Trusts (3)

Prerequisites: BA 347 and Accounting 431, or consent of instructor. Consideration of the transfer tax systems in general; the elements of the gross estate (includible versus nonincludible property), deductions (including the marital deduction) and credits; the gift tax and what it embraces; basic estate planning considerations; and income taxation of grantor and nongrantor trusts.

433 Taxation of Corporations and Shareholders (3)

Prerequisites: BA 347 and Accounting 431, or consent of the instructor. Addresses tax aspects of the formation, operation, and liquidation of a corporation, as well as changes in the corporate structure through division or reorganization. Topics include establishment of the corporate structure, distributions to shareholders, and stock dividends and redemptions.

434 Taxation of Partnerships and Partners (3)

Prerequisites: BA 347 and Accounting 431, or consent of instructor. Addresses tax aspects of the formation, operation, and termination of a partnership. Topics include special allocations and disposition of a partnership interest. Compares partnerships with Subchapter S corporations.

435 Tax Practice and Procedure (3)

Prerequisite: BA 347 or consent of the instructor. Addresses the audit process; practice before the Internal Revenue Service; administrative appeals; the notice of deficiency; waivers and extensions; amended returns and claims for refund; statute of limitations on deficiencies and overpayments; and taxpayer and tax return preparer penalties.

436 Advanced Topics In Taxation (3)

Prerequisites: BA 347 and Accounting 431, or consent of instructor. Addresses various topics selected by the

instructor, such as property transactions, compensation plans, charitable contributions, the alternative minimum tax, and tax planning.

439 Seminar in Taxation (3)

Prerequisite: At least nine hours of 400-level tax courses including Accounting 431 or consent of the instructor. Addresses tax policy topics drawing on literature from accounting, economics, and public finance. Other topics of current interest will be selected by the instructor.

440 Financial and Managerial Accounting (3)

This course provides an introduction to accounting, with emphasis on preparation of financial statements for external parties (financial accounting) and accumulation of cost information to aid internal planning and control (managerial accounting). Topics covered include measurement of assets and liabilities, revenues and expenses, the accounting cycle, financial statements, cost terminology, cost behavior, product costing, and relevant costs for decision making. This course provides the necessary background for Accounting 442 (Accounting for Decision Makers).

441 Concepts in Management Accounting (3)

Prerequisites: Math 100 or Econ 301 with a minimum grade of "C" and Accounting 440. The development, interpretation, and uses of accounting reports and supplementary information for management planning, control, and decision making. Emphasizes the application of relevant cost behavior, control, and traceability concepts in the preparation of internal accounting reports, with a secondary emphasis upon product costing techniques as appropriate to financial accounting needs. Topics include break-even analysis, operational budgeting, direct costing, absorption costing, standard costs and variance analysis, business segment analysis, responsibility accounting, distribution cost accounting, and gross profit analysis.

442 Accounting for Decision Makers (3)

Prerequisites: Accounting 440 or the equivalent. This course builds on the foundations covered in Accounting 440, emphasizing the use of accounting information for making operating, investment, and strategic business decisions. Topics covered include interpretation and analysis of financial statements, uses of accounting information by capital market participants, contribution margin analysis, tactical decision making, pricing and product decisions, budget analysis, and performance measurement.

443 International Accounting (3)

Prerequisites: BA 340B. Accounting practices for multinational businesses. Discussion of comparative financial accounting practices, the development of international accounting standards, and managerial accounting practices related to multinational operations.

445 Seminar in Financial Accounting Theory (3)

Prerequisite: Accounting 421. A study of theoretical issues, such as the foundations of accounting standards and the usefulness of accounting information. Analysis of how elements of accounting theory relate to current issues facing the profession.

Business Administration

446 Seminar in Auditing (3)

Prerequisites: BA 348 or permission of instructor. A study of advanced auditing and attestation issues, with an emphasis on operational auditing. Topics include professional ethics, risk analysis, internal control, fraud detection, analytical procedures, determining and assessing operational objectives, and reporting and implementing audit findings.

447 Accounting Systems for Management Planning and Control (3)

Prerequisites: Accounting 441 and MS/IS 481, or permission of instructor. A study of advanced managerial accounting techniques useful in facilitating the planning and control process in modern organizations. Emphasis on the implementation and administration of these techniques, their integration with management information systems, and the organizational role of the corporate accountant.

448 Seminar in Advanced Theory and Contemporary Issues in Accountancy (3)

Prerequisite: Accounting 445 and MS/IS 481. Examines the theory underlying accounting practice. The course includes an in-depth analysis of contemporary developments in financial accounting with a succinct overview of accounting research paradigms.

449 Systems Auditing (3)

Prerequisites: Accounting 440, MS/IS 480, or consent of instructor. Study of techniques involved in the control and audit of computer-based accounting information systems. Emphasis on the review of internal controls at operational and administrative levels and on computer-assisted audit techniques.

Finance (400-level)

450 Financial Management (3)

Prerequisites: ACC 440 (or BA 140), MS/IS 481 (or BA 250), and BA 408 (or Econ 51 and Econ 52). This course provides an in-depth analysis of corporate finance including asset pricing, risk and return, short- and long-term investment decisions, capital structure choices, dividend policy, derivatives, mergers and acquisitions, and a host of other current topics. The material is taught through lectures and problem solving.

451 Advanced Financial Management (3)

Prerequisites: Finance 450 and MS/IS 481. Exposure to recent financial management theory through selected readings. Financial management problems are considered by the use of cases and simulation models. An original research project under the supervision of the instructor is required.

455 Security Analysis (3)

Prerequisites: Finance 450 and MS/IS 481. An in-depth study of techniques used in evaluating various financial assets as investment opportunities. Financial assets studied include common stock, preferred stock, and fixed income securities. Other related topics such as sources of investment information and current market trends are discussed.

456 Capital Markets and Financial Institutions (3)

Prerequisite: Finance 450. The theory of financial intermediation is discussed in the context of banks, savings and loans, public and private insurance companies, and investment banking. In this framework, the relationship with money and capital markets, markets for corporate control, complex financial contracting, and regulatory environment is developed.

457 Introduction to Derivatives (3)

Prerequisite: Finance 450. An in-depth study of advanced risk management techniques utilizing futures, forwards, options, swaps and synthetic securities. A broad study of speculative market characteristics will be reviewed in conjunction with a variety of financial innovations. Portfolio management theories combined with mathematical models will be utilized to demonstrate the effects of hedging techniques and portfolio insurance.

458 Commercial Bank Management (3)

Prerequisite: Finance 450. This course explores the various bank management techniques required to manage a modern commercial bank in a rapidly changing environment. Topics include asset and liability management, capital adequacy, bank holding companies, profitability, and bank market structure and regulation.

Management (400-level)

460 Organizational Behavior and Administrative Processes (3)

(Same as Public Policy Administration 460.) The theoretical and research contribution of the behavioral sciences to management and administration are examined and applied to selected organizational situations. Areas to be considered from the standpoint of both individual and organizational performance are communication, motivation, conflict, decision making, goal setting, leadership, organizational design, climate, development, and control. Utilizing a systems perspective, the course attempts to develop in each student an ability to analyze and solve organizational problems.

461 Managing Human Resources (3)

Prerequisite: Management 460. In-depth examination of selected human resource management issues from a contemporary manager's viewpoint. Topics examined include: personnel planning; employee selection; performance appraisal, training, and development; compensation; legal issues; discipline; and labor relations. The course examines these topics as they relate primarily to operational activities in organizations.

462 Advanced Organizational Behavior and Administrative Processes (3)

Prerequisite: Management 460. An in-depth examination of selected organizational and individual theories affecting behavior and operating performance. Organizational structure and design, formal and informal organization, decision making, communications, and motivation are analyzed for their organizational impact. The course seeks to develop further the ability to analyze and evaluate organizational processes and individual behavior.

Business Administration

463 Organizational Training (3)

Prerequisite: Management 460 or Management 461 or permission of department. An intensive study of training and developmental methods/issues in organizations. Topics include needs analysis, learning theory, training techniques, evaluation, and management development. Other topics include memory, training objectives, and training facilities. Projects and exercises are used to supplement reading and lecture.

464 Compensation and Benefits (3)

Prerequisites: Management 461 and Management Science and Information Systems 481. An in-depth study of compensation and benefit programs in organizations. Topics include job evaluation, incentive systems, performance appraisal, and employee benefits. Discussion of relevant laws, such as the Equal Pay Act, is also provided.

465 Union-Management Relations and Collective Bargaining (3)

Prerequisites: Management 460 and BA 412. Primary concern is with the setting and the dynamics of contract negotiation and administration. Emphasis is on the development of insight and understanding of the forces affecting the decisions of the parties to a labor contract within the context of the social, political, and economic environment of the organization. A dynamic approach is taken to examine difficulties that arise in attempting to administer a collectively established relationship between employer and employee.

466 Selected Topics in Human Resource Management (3)

Prerequisites: Management 461 and MS/IS 481. This course provides an advanced treatment of selected human resource management topics. Primary focus is on topics such as job analysis, pre-employment screening devices, test validation, and civil rights laws. Other topics, such as performance appraisal, recruitment, promotions, and terminations may be covered. Various class projects may be assigned to supplement readings, lectures, and discussion.

467 Dynamics of Interpersonal Relations (3)

Prerequisite: Management 460 or academic background in general psychology. The self-concept, personality dynamics, and mechanisms of adjustment. Catalysts and barriers to effective communication. Examination of the functional relationship between ego-needs, perceptual distortion, and stereotypical thinking. Roleplaying, the resolution of role-conflict, and objective self-evaluation. The development of cooperation and trust as a prerequisite to effective human relations.

468 International Business Strategies (3)

Prerequisites: BA 408 and ACC 440. This course focuses on those managerial issues which follow from the strategy for worldwide operations, as distinguished from purely domestic firms or those only marginally involved in international activities. It aims to develop an appreciation for the unique competitive, sociocultural and political environments in which international business takes place and the skills required to deal with these changes.

Management Science/Information Systems (400-level)

423 Managerial Applications of Object-Oriented Technologies (3)

Prerequisite: MS/IS 480. This course deals with business-oriented programming in an object oriented environment. The emphasis will be on program definition, and tools and development in a client-server environment. The course will involve the study of an object-oriented language in addition to object-oriented methodologies for systems development.

424 Seminar in Current Management Information System Topics (3)

Prerequisite: MS/IS 488 or MS/IS 491. Advanced topics of current interest in management information systems. Content to be determined each time the course is offered. May be repeated for credit.

425 Advanced MIS Applications (3-6)

Prerequisite: MS/IS 488 or permission of instructor. The course requires a project through which the student applies MIS concepts to a real problem; a written, professional quality report will be required. The course material must build upon, not duplicate, material in the MIS curriculum. The course may be repeated for credit with the permission of the MS/IS area. Consent of the MS/IS area for the topic and number of hours is required.

480 Management Information Systems (3)

(Same as Public Policy Administration 480.) Prerequisite: Econ 301. An overview of management information systems is presented, including various information systems concepts and technologies. Students are introduced to a mainframe operating system, a microcomputer-based operating system, and a programming language. Students are also exposed to several common microcomputer-based software packages.

481 Statistical Analysis for Management Decisions (3)

Prerequisites: MS/IS 480 (may be taken concurrently) and Econ 301 with a minimum grade of "C." The role of statistical evidence in the formation of inference and in the selection of strategies in solving business problems is developed. Probability and probability distributions are studied as a basis of statistical inference. An introduction to multivariate analysis is provided, which includes analysis of variance and regression methods.

482 Management Science Methods (3)

Prerequisite: MS/IS 483. This course provides a working knowledge of management science techniques. It emphasizes analytical approaches to solving business problems, construction of mathematical models, and manipulation of model variables for managerial decision making. Topics include mathematical programming, including integer and network models, heuristics, and simulation models.

483 Production and Operations Management (3)

Prerequisite: MS/IS 480 and 481. This course discusses issues related to the creation and delivery of goods and services. Topics include the design of production processes,

Business Administration

the layout and location of facilities, forecasting, scheduling, inventory control, queuing, materials planning, and quality control. Analytical techniques such as linear programming are used in studying these problems.

484 Business Programming and File Systems (3)

Prerequisite: MS/IS 480. The course provides a study of business-oriented programming. The programming language COBOL will be introduced and studied in detail. Emphasis will be on program definition and the use of file structures in business-oriented applications.

485 Management Information Systems: Theory and Practice (3)

Prerequisites: MS/IS 480. Students are exposed to current Information Systems literature and major theoretical issues in Information Systems. Coverage stresses the fit between information systems and the organization. Topics include Management Information Systems development, end-user computing, systems architecture, decision support systems, and planning and control.

486 Advanced Statistical Methods for Management Decisions (3)

Prerequisite: MS/IS 481. A study of statistical methods applicable to specialized areas of statistical analysis. Topics include Markov processes, distribution-free tests, sampling theory and methods, experimental design, time series analysis, and spectral analysis.

487 Advanced Operations Research Applications (3)

Prerequisite: MS/IS 482. Application of operations research techniques to business problems. After a brief review of these techniques, followed by an examination of typical applications reported in the literature, the major portion of the term is spent in analyzing and solving an actual business operations research problem. A team approach is used, with groups of two or three students responsible for finding and solving an operations research problem in a local company. Primary emphasis is placed on the use of operations research techniques to solve management problems.

488 Information Systems Analysis (3)

Prerequisite: MS/IS 484. The theory and practice of structured analysis are presented. Topics may include: traditional vs. structured analysis methods, requirements analysis, user/analyst interaction, investigation of existing systems, human/machine interfaces, CASE tools, and workbenches.

489 Database Management Systems (3)

Prerequisite: MS/IS 484. The course introduces the concepts of Database Management Systems for business applications. Issues in database architecture, design, administration, and implementation are covered. Projects are assigned on a mainframe DBMS and a microcomputer-based DBMS to illustrate the concepts and applications.

491 Computer Systems: Architecture and Programming (3)

Prerequisite: MS/IS 484. This is an introduction to concepts of comparative computer architecture and its relationship to the operating system software which augments the architecture. An assembly language is studied.

492 Information Systems Management (3)

Prerequisites: Accounting 440, Management 460, Marketing 470, and MS/IS 485. The course covers the management of computer-based information. Issues relating the decisions of the chief information officer to the campus strategic planning of the organization are discussed. Further topics may include: cost and value of information, hardware/software evaluation and acquisition, systems implementation, performance measurement and evaluation, and organizational and behavioral issues.

493 Simulation for Managerial Decision Making (3)

Prerequisites: MS/IS 481, 482, and 485. Introduction to simulation as a managerial decision-making aid. Application of simulation to a number of management science-oriented problems. The course introduces and requires use of a simulation language.

494 Advanced Operations Research Topics (3)

Prerequisite: MS/IS 482. Advanced topics from such areas as mathematical programming, stochastic processes, decision theory, or game theory are studied in depth.

495 Information Systems Design (3)

Prerequisites: MS/IS 488, and MS/IS 489. This course builds upon the analysis techniques presented in Management Science/Information Systems 488. It requires the student, usually working in a group, to design and implement a system in a real-world environment. Advanced design concepts are presented to support the students in their project work.

496 Telecommunications: Design and Management (3)

Prerequisite: MS/IS 480. The topic of telecommunications is addressed from both a technical and managerial viewpoint. In particular, the course will address issues such as communications components and services, local area network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

497 Expert Systems (3)

Prerequisite: MS/IS 485. The course introduces the application of expert systems in the business environment. Current applications in business and development tools are discussed. In addition, topics such as knowledge representation methods, inference engines, knowledge acquisition, neural networks and the handling of uncertainty are addressed. A (group) project is required.

498 Fourth Generation Languages and End User Computing (3)

Prerequisite: MS/IS 480. The course presents fourth generation languages and covers managerial issues of end-user computing. A specific fourth generation language will be introduced and programming applications will be assigned. In addition, the course will explore the problems of providing and managing micro-to-mainframe links, end-user software packages, and security/confidentiality issues.

499 Management Information Systems Thesis Research (1-6)

Credit to be awarded only upon successful defense of thesis.

Business Administration

Marketing (400-level)

470 Contemporary Marketing Concepts (3)

Prerequisites: BA 408. Designed for students with no prior course work in the field of marketing. A wide spectrum of marketing institutions and activities is covered. The impact of marketing on the total firm, the economy, and society in general is assessed. The course is intended to develop and organize the fundamental marketing concepts necessary to an analytical study of consumer behavior, the economic environment, and four managerial aspects of marketing. The acquisition and utilization of marketing research data for problem solving is stressed. Relation and integration of basic marketing knowledge to the successful development of sound marketing policy, planning, and strategy is developed.

471 Marketing Planning and Strategy (3)

Prerequisite: Marketing 470. Emphasizes the development of a total marketing program through an analytical study of the marketing-mix, the diagnosis of the business situation, along with the influence of exogenous variables and the development of an effective campus marketing strategy. Stresses importance of an integrated marketing plan and utilizes modern decision-making tools. Supplementary readings, journal articles, and current periodicals are used to place the theoretical framework of the course into the contemporary environment of the market place.

475 Consumer Motivation and Behavior (3)

Prerequisite: Marketing 470. An analysis of the socio-psychological foundations of consumer behavior including personality differences, needs and wants, status symbols, social change and mobility, and fads and fashions. Consumer spending and saving habits, product preferences, leisure-time patterns, shopping behavior, and motivation research also are examined for their impact on advertising, selling, and marketing management.

476 Marketing Communications (3)

Prerequisite: Marketing 470. Deals with managerial decision making by placing particular emphasis on assimilating and integrating all forms of marketing communication in the development of promotional policies, plans, and procedures. Course approach is analytical rather than descriptive in investigating the areas of advertising, public relations, sales management, packaging, and other forms of demand stimulation.

477 Product Planning and Pricing (3)

Prerequisite: Marketing 470. A study of product management focusing on new product development. The steps of the new product development process are covered in detail. Current issues in new product research are discussed. Projects are emphasized and involve the application of several of the key techniques to the student's own new product ideas. Selected pricing topics are also covered, such as measuring consumer price sensitivity.

478 Marketing and Business Research (3)

Prerequisites: Marketing 470 and MS/IS 481. A broad approach to marketing research as a model for acquiring, retrieving, and analyzing decision-making information. Includes market measurement, evaluation of sales, and cost effectiveness, sales forecasting, and primary marketing research studies aimed at solving specific problems. Emphasis is placed also on building a theoretical and analytical framework to provide flexibility in the design of marketing experiments and in judging recent research innovations.

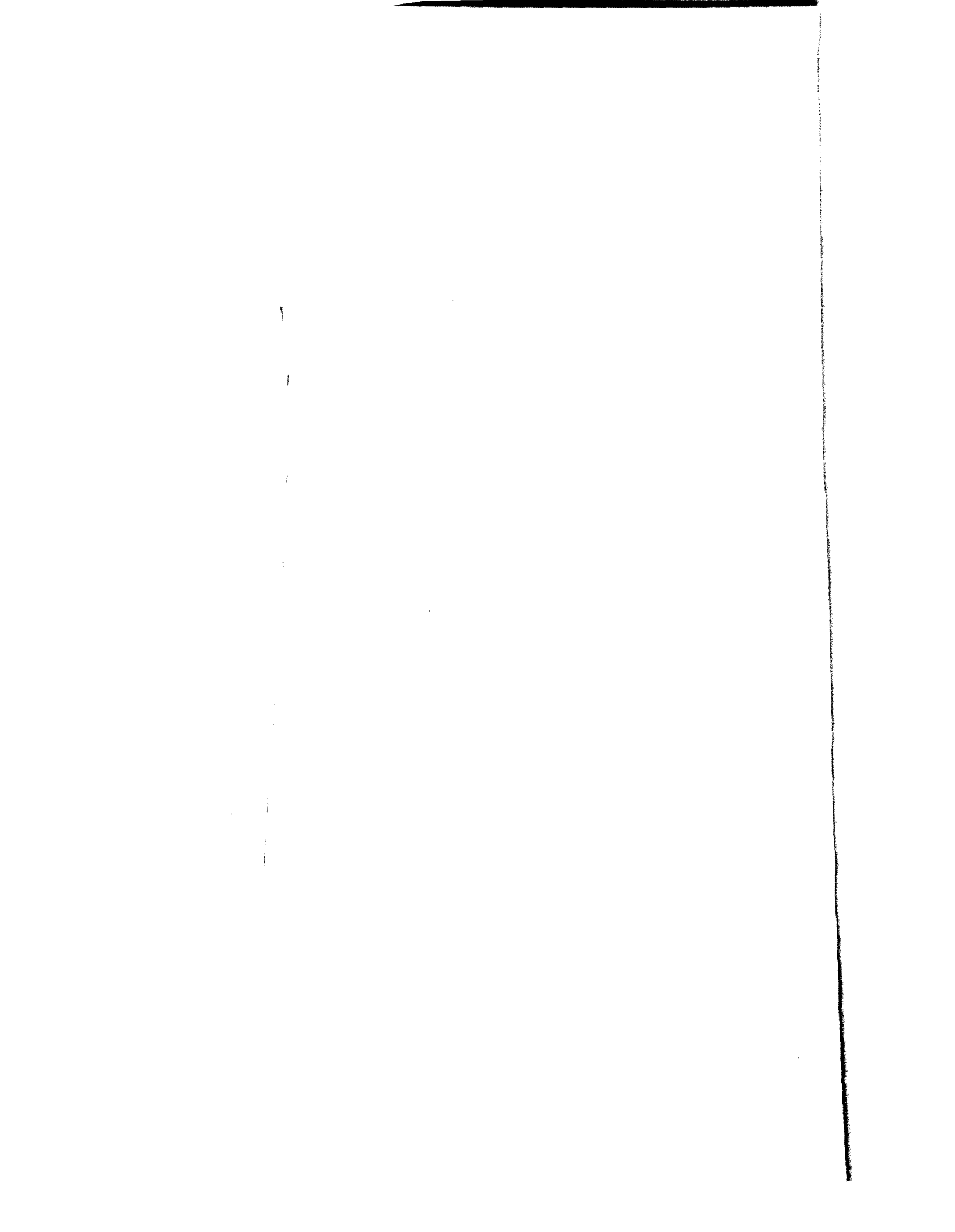
479 Marketing Channel Strategy (3)

Prerequisites: MKT 470 and MS/IS 483. A study of the marketing institutions involved in the distribution of goods and services, industrial and consumer markets, as well as the establishment and integration of marketing channels. The planning and analysis of the macrodistribution and microdistribution systems which contribute to creation of optimal time and place utility. Some attention is paid to quantitative applications to marketing situations including simulation and logistics.



SCHOOL OF EDUCATION

UM-St. Louis 1997-98 Bulletin



Teacher Education

Accreditation

The University of Missouri-St. Louis, through the School of Education, is accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary and secondary school teachers and school service personnel.

Teacher Education:

Degrees and Areas of Concentration

The School of Education offers work leading to the B.S. in Education with specialization in any of the following: early childhood education, elementary education, special education, and secondary education. Courses are also available for those seeking certification for middle school. In cooperation with other Schools and Colleges of the University, the School provides a program for students pursuing other degrees but planning on a teaching career in secondary education. The School is divided into three departments: Behavioral Studies; Educational Studies; Elementary, Early Childhood Education, and Physical Education. Each offers course work toward one or more of the above areas.

Course Designations in the School of Education

The following abbreviations are used to indicate instructional areas in the course listings and descriptions in the School of Education.

Adult Education Courses (**ADU ED**)
 Counselor Education Courses (**CNS ED**)
 Early Childhood Education Courses (**ECH ED**)
 Educational Administration Courses (**ED ADM**)
 Educational Foundations Courses (**ED FND**)
 Educational Psychology Courses (**ED PSY**)
 Educational Research and Evaluation Methods (**ED REM**)
 Educational Technology Courses (**ED TEC**)
 Elementary Education Courses (**ELE ED**)
 Physical Education Courses (**PHY ED**)
 School-Wide Education Courses (**EDUC**)
 Secondary Education Courses (**SEC ED**)
 Special Education Courses (**SPC ED**)

General Education Requirements

Students in the School of Education must meet University and departmental general education requirements specified for their degrees.

ACADEMIC RESIDENCE

Students must be in residence for 30 of the last 30 semester hours of graded credit. Courses graded on a satisfactory/unsatisfactory basis are not accepted within these last 30 semester credit hours. This residency requirement applies to students seeking degree or teacher certification.

Admission Policies

Types of Admission Students who wish to become teachers must be aware of two types of admission. One is admission to the School of Education, the other is admission to the Teacher Education Program. These serve completely different purposes and are separate procedures handled by different offices.

Admission To The School Of Education

After completing two years of college work at an accredited institution, students intending to teach in elementary, early childhood, middle school/junior high, secondary, special education, business education, or physical education settings must apply for admission to the School of Education. However, Evening College students do not need to apply to the School of Education, but should declare their major as education in the Evening College office when they have accumulated 40 credit hours. Students intending to teach in secondary-school classrooms other than specified above may elect to pursue the B.S. in Education or to receive degrees from other University Colleges and Schools and also meet teacher certification requirements. Students admitted to the School must also be admitted to the Teacher Education Program.

Application to the School of Education

Application to the School is processed through the Admissions Office. Eligibility is based upon the following criteria:

- 1) Satisfactory completion of two years of college work, with a minimum of 60 semester hours with a grade point average of 2.0 or above.
- 2) Having no more than nine hours of deficiencies in general education.
- 3) Completion of the specific prerequisites and/or other special requirements of the curriculum areas for which students are applying.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Admission to the Teacher Education Program

All students (pre- and post-degree) who wish to become teachers must be admitted to the Teacher Education Program regardless of the College or School in which they are enrolled. The admission program requires student action at the following two levels.

Level I Application to the Teacher Education Program

Applications to the Teacher Education Program are processed through the Office of Teacher Education. Eligibility is based upon fulfillment of the following requirements:

- 1) Students not previously admitted to the Teacher Education Program (acceptance of 60-Hour Form) must submit qualifying scores on the College Basic Academic Subjects Evaluation (C-BASE) in the areas of English, Writing, Mathematics, Science, and Social Studies as mandated by the Missouri Excellence in Education Act of 1985. Consult the Office of Teacher Education, School of Education, for test descriptions, cost, required scores, dates of administration, retest policies, etc. Acceptable C-BASE scores are required in addition to acceptable ACT or SAT scores. (C-BASE not applicable to students

Teacher Education

with a bachelor's degree. Graduates of the General Studies Program in the UM-St. Louis Evening College, however, must take the C-Base).

- 2) Scored either 20 on the ACT Composite (18, when taken prior to 11-1-89) or 800 on the SAT (verbal plus math)*.
- 3) Completed 60 hours of college or university courses (at UM-St. Louis or another accredited school).
- 4) Accumulated a grade point average of 2.5 or better.
- 5) Completed EDUC 101, Introduction to Classroom Teaching, or the equivalent, with a grade of C or better. (Not applicable for secondary education or early childhood education majors).
- 6) Completed ED FND 111, The School in Contemporary Society, or the equivalent, with a grade of C or better.
- 7) Received screening test in hearing (at nominal cost at the UM-St. Louis Health Center or off campus at personal expense).
- 8) Received screening test in vision (at no cost at UM-St. Louis Optometry Clinic or off campus at personal expense).
- 9) Agreed to adhere to ethical codes which have particular pertinence during clinical experiences. (These codes are available in the Office of Teacher Education, School of Education.)
- 10) Agreed to subscribe to a standard of preprofessional behavior which will enhance greater self-awareness if social or emotional difficulties arise which may affect future teacher effectiveness. (This standard is available in the Office of Teacher Education.)
- 11) Submitted an Affidavit of Moral Character, notarized by a Notary Public.

* Policy for Students Scoring Below ACT and SAT Qualifying Requirements

Students who do not achieve satisfactory scores of 20 on the ACT or 800 on the SAT may re-take the test(s) until the requirement is met. Students who initially score below the required ACT score of 20 or SAT score of 800 may petition the Dean of Education to attest that basic educational competencies are met if their grade point average from 60 hours of college or university courses is at least 2.50 and they have performed satisfactorily on a norm-referenced achievement test other than ACT or SAT. Students must produce evidence that the ACT or SAT was initially completed and a score recorded.

Students with a documented disabling condition, preventing valid test administration of the ACT or SAT, may be evaluated for basic educational competencies through appropriate testing instruments and/or procedures designated and approved by the Dean of the School of Education.

Students who do not meet the initial ACT or SAT qualifying scores may seek assistance in upgrading basic competencies through contact with one or more of the following University of Missouri-St. Louis services:
 Center for Academic Development
 Women's Center
 Counseling Service
 Veteran Affairs Office
 Video Instructional Program
 Horizons (Peer Counseling Center)

In addition, assistance may be available through correspondence courses, University of Missouri-Columbia. Copies of this policy are available in the Office of Teacher Education.

Student Teaching

Level II: Application to the Student Teaching Program

The application for student teaching is a two part process which begins two semesters prior to the semester in which the student plans to do student teaching.

Deadlines	Pre-application	Formal Application
Fall student teaching	*1st week in December	Beginning of winter semester prior to student teaching
Winter student teaching	*1st week in August	Beginning of fall semester prior to student teaching

***Check Student Teaching Bulletin Board in Marillac Hall for exact date.**

Step I Pre-application: Students must submit both of the following items to the Office of Teacher Education, Room 155, Marillac Hall:

- 1) an autobiography and philosophy of education written according to guidelines on reserve (number 456) in the Education Library; and
- 2) proof of formal acceptance to the Teacher Education Program (approved 60 hr. form), required of both pre- and post-degree students. Students will then sign an application list and receive a ticket to attend the formal application meetings which will be held at the beginning of the semester.

Step II Formal application: The students:

- 1) must attend one of three formal application meetings offered at the beginning of each semester to receive application materials. Dates and times will be posted on the Student Teaching Bulletin Board in Marillac Hall;
- 2) will be admitted to the meetings by ticket only; autobiographies and philosophies will be returned at this time. (See Pre-application above);
- 3) will complete and return applications within two weeks after the meetings to the Office of Teacher Education, room 155 Marillac Hall. Applications will not be accepted after the deadline.

Upon receipt, formal applications for both pre- and post-degree students are checked to ensure they have met the following requirements:

- 1) Full admission to the Teacher Education Program for both pre- and post-degree students.
- 2) Completion of 90 hours of approved course work at the time of application.
- 3) A cumulative grade point average of 2.5 or above by the semester prior to the one in which students plan to do their student teaching. The 2.5 cumulative grade point average must be maintained in order to graduate with a B.S. in education degree and/or be certified to

Teacher Education

teach in the state of Missouri.

- 4) Completion of English 210, Advanced Expository Writing, or equivalent, with a grade of C- or better.
- 5) Completion of Comm 40, or equivalent, Introduction to Public Speaking, with a grade of C- or better.
- 6) Completion of general education requirements and near completion of course requirements in the teaching major.
- 7) A grade of C or better in all professional education courses so designated. Lists of these courses are available in the Office of Teacher Education and from advisers. A C- grade is not acceptable.
- 8) Satisfactory recommendations by students' teaching area representatives in the Teacher Education Program.
- 9) Completion at UM-St. Louis of no fewer than 12 hours of approved course work.
- 10) Grade point average of 2.5 in the teaching field (secondary education students only).
- 11) Completion of prerequisite courses in professional education and psychology.

The student teaching experience in the Early Childhood, Elementary Education, Middle School, Physical Education, and Special Education certification programs has been strengthened by providing assignments in two different school settings and appropriately increasing the amount of time devoted to it. Students will be expected to do student teaching on a full day basis for an entire semester.

Student teaching, which must be done in residence, is not offered during the summer except for people who hold a Missouri teaching certificate and want to add another Special Education area for certification. Secondary student teaching in science education, mathematics education, and foreign language education is offered only during the Winter Semester. Secondary education majors student teach for an entire semester, full days.

While enrolled in student teaching, students may not carry more than 15 credit hours. When students are admitted to student teaching, the Office of Teacher Education arranges assignments with appropriate school district officials. Students should not contact school officials or teachers about possible student teaching assignments. Failure to observe this request is a basis for removal from student teaching.

Upon special request student teachers may be placed in outlying areas provided there are three students located in approximately the same geographic area. Individual requests cannot be honored.

Students who withdraw from student teaching at any time after being admitted for a given semester must formally reapply during the designated application period for the subsequent semester in which they plan to do their student teaching. This must be done in person in the Office of Teacher Education. Students who withdraw in this way three times must wait a minimum of one calendar year after the third such withdrawal before they may re-apply for student teaching. At the time of re-application they must present evidence that the circumstances which prevented them from continuing in student teaching during their last admission no longer pertain. In all instances of re-application, students must meet the

requirements in effect for the semester during which they plan to do their student teaching.

Student teachers who fail the course or are allowed to withdraw because they are failing to meet minimum requirements must wait at least one full semester and fulfill the remedial requirements established at the time of the failure or withdrawal before they may re-apply for admission to student teaching. The remedial requirements will be determined by the Office of Teacher Education after consultation with the cooperating teachers, University supervisors, and student teachers involved. The students must provide appropriate evidence that the remedial requirements have been met at the time they re-apply for admission to student teaching. It is understood that meeting the remedial requirements does not guarantee success in the subsequent student teaching experience.

For further information regarding certification, contact the Office of Teacher Education, 155 Marillac Hall.

Application for Degree and/or Certificate

Bachelor of Science in Education

Candidates for the B.S.Ed. degree must complete degree and certificate application forms in the Office of Teacher Education when they apply for admission to student teaching or during the semester before the one in which they expect to finish degree requirements.

Evening College students should complete degree application forms in the Evening College Office and certification application forms in the Office of Teacher Education.

Bachelor of Arts

Students seeking the B.A. degree with teacher certification must complete a state certification form with the Office of Teacher Education.

Certification

In cooperation with the Missouri State Department of Elementary and Secondary Education, the School of Education is responsible for issuing teaching certificates to students completing B.S. in education degree requirements, recommending for certification students completing degrees in other UM-St. Louis Colleges and Schools, as well as all certification requirements, advising, and recommending for certification those post-degree students who meet requirements.

Beginning September 1, 1990, all individuals must pass the appropriate Praxis/National Teacher's Examination in order to meet graduation and/or certification requirements. This exam should be taken during the semester immediately prior to that of student teaching.

Graduate Studies in Education

By completion of specified undergraduate courses at the University of Missouri-St. Louis, certification may be obtained in the following fields: elementary education; early childhood education; middle school/junior high; music education; physical education; special education: behavioral disorders (BD), educable mentally handicapped (EMH), learning disabilities (LD); as well as the secondary education areas of biology, business, chemistry, English, foreign languages (French, German, Spanish), mathematics, physics, social studies, and speech/theatre. Graduate programs leading to certification in counseling; reading; psychological examiner; school administration (elementary and secondary principal, school superintendent); and special education: behavioral disorders (BD), learning disabilities (LD), educable mentally handicapped (EMH), and early childhood special education ECSE) are also available; see Graduate Studies sections for each department of the School of Education.

Graduate Studies

Degrees and Areas of Emphasis

M.Ed. programs are offered in counseling, educational administration, elementary education, secondary education, and special education. Within the counseling program are the emphasis areas of elementary, secondary, and general counseling. Within the Educational Administration program are the emphasis areas of community education, elementary administration, and secondary administration. Within the Elementary Education program is the emphasis area of reading. Within the Secondary Education program are the emphasis areas of adult education, curriculum and instruction, and reading. Within the Special Education program are the emphasis areas of behavioral disorders, learning disabilities, mental retardation, and early childhood/special education. Courses are available for areas of specialization in early childhood education, physical education, and severe handicaps.

Advanced certification studies (60-hour concentrations) are offered in elementary and secondary educational administration.

Programs leading to the Ed.D. degree are offered in two broad interdisciplinary emphasis areas: learning-instructional processes and behavioral-developmental processes.

Master of Education Degree

Admission and General Requirements

The School of Education follows Graduate School policies relating to admissions, academic standards, residency, transfer credit, time limitations, and thesis options (see Graduate Study in this *Bulletin*). In addition to meeting the general requirements of the Graduate School, applicants for school or general counseling must complete a separate application (see graduate studies in the Behavioral Studies Department in this *Bulletin*). The minimum number of hours required for the M.Ed. degree is 32 except the elementary, secondary, and general counseling emphases require 48 hours. The school has

adopted a flexible policy on exit requirements which are determined departmentally.

Advisement and Program Planning

After acceptance, each student completes an adviser form, sent by the School of Education's Office of Graduate Studies, 201 ED LIB. An adviser is then appointed who counsels the student in registration and program planning. A program for master's degree form must be submitted for approval during the first two-thirds of the student's program. This form includes all course work in the program and the exit requirement. Once approved, the degree program may be changed only by petition.

Students working toward teacher and/or school service personnel certification as graduate students should complete state certification forms in the Office of Teacher Education, 155 Marillac Hall, one year before those requirements will be completed.

Doctor of Education Degree

The Ed.D. degree is designed primarily for the field practitioner, and is, therefore, a comparatively broad-based interdisciplinary degree. The two emphasis areas, learning instructional processes and behavioral-developmental processes, embrace two general categories of professional activities.

Learning-instructional processes place primary emphasis on the teaching-learning relationship, as well as on general planning and development of organizational programs to carry on this relationship successfully. Traditional programs that tend to fall under this heading are school administration, elementary and secondary teaching, supervision/curriculum, and reading instruction.

Behavioral-developmental processes place primary emphasis on the nature of individuals. Doctoral studies focus on such elements as learners' behavioral and developmental characteristics, typical and atypical development within varied environments, motivation, strategies of behavioral change, and counseling processes. Traditional programs that tend to fall under this heading are counseling, special education, educational psychology, and measurement. Students seeking the Ed.D. degree are expected to meet the doctoral degree requirements and procedures adopted by the Graduate School. (See Doctoral Degree Requirements for details.)

Admission and General Requirements

In addition to meeting the application and admissions requirements of the Graduate School, students must submit three letters of recommendation, preferably from individuals with earned doctorates (two letters must be from individuals with an earned doctorate), along with a professional resume. Because enrollment is competitive, admission standards are comparatively high. Successful candidates must exhibit significantly above-average academic records and GRE scores. In exceptional cases, other criteria may outweigh these customary indicators of probable academic success.

Graduate Studies in Education

At least two years of teaching or other school service experiences are required for admission. Exceptions may be made by substituting a supervised internship during the first year of the program.

Admission Application

In order to ensure time for review and decision, complete applications and accompanying materials must reach the Office of Admissions by September 15 for the Winter Semester and February 15 for the Summer or Fall Semester. In addition, applicants are urged to request transcripts and letters of recommendation two weeks before submitting their papers. Consideration of applications cannot be undertaken until all materials are available.

Degree Requirements

1) Core Studies

General Foundations, 12 hours from:

Philosophical, historical, psychological, sociological, anthropological, and comparative foundations of education, as well as curriculum, instruction, and supervision.

Research Methods, 12 hours from:

6 hours from:

Educational research methods
Multiple linear regression
Nonparametric statistics

6 hours from:

Qualitative research methodology

Common doctoral seminars, 6 hours

2) Role Specialization, 48 hours from:

Emphasis area doctoral seminars (6-12)
Emphasis area electives (15-27)
Related area (12-18)
Internship (3-9)

3) Dissertation, 12 hours

Total: minimum 90 hours, post-baccalaureate

Support Services

The School of Education maintains a number of offices and centers to directly assist students, faculty, and people in the metropolitan area and to support its instructional, research, and service activities.

Office of Teacher Education—155 MH

This Office supplies advisement services for undergraduate teacher education and certification students. It coordinates the clinical experiences of the School of Education and directs the student teaching program.

Office of Graduate Studies in Education—201 ED LIB

Information about admission to, and requirements of, graduate programs in education may be obtained in this Office. The Office also assists students with advisement,

registration, and related topics, and maintains student records.

Teacher Education Resource Center—G01

The Center is designed as an instructional media laboratory. The Instructional Technology Center located in Lucas Hall also has an office in the Center.

Human Services Unit—B23A ED LIB

The Human Services Unit is a training facility for graduate students supervised by faculty in the Department of Behavioral Studies. Career counseling and assistance with vocational, adult, or adolescent developmental concerns are available to individuals in the community.

Reading Clinic—B9 ED LIB

The Reading Clinic provides a laboratory setting for graduate level elementary and secondary teachers who are seeking certification as reading specialists. The Clinic has been providing services to the surrounding community in diagnosing and treating severe reading problems in children and adults since 1966. The Clinic also serves as a demonstration and materials center for pre-service and in-service teacher education, as well as a clinical research facility for the faculty.

University Child Development Center—130 SCB

The Center provides University students with observation, participation, research, and similar educational and clinical opportunities; it also offers quality child care programs for children of student, faculty, staff, and community families.

School Wide Courses

Course Descriptions

Course Area Key

The following abbreviations are used to indicate instructional areas in the School of Education:

ADU ED

Adult Education

CNS ED

Counselor Education

ECH ED

Early Childhood Education

ED ADM

Educational Administration

ED FND

Educational Foundations

ED PSY

Educational Psychology

ED REM

Educational Research and Evaluation Methods

ED TEC

Educational Technology

EDUC

School-Wide Education

ELE ED

Elementary Education

PHY ED

Physical Education

SEC ED

Secondary Education

SPC ED

Special Education

School-Wide Courses

Education (EDUC)

Prerequisites may be waived by consent of the department.

65 The University (3)

A School of Education interdisciplinary course on the principles, development, and organized structure of the university. Special emphasis will be placed on the role of the university in modern society and upon forces affecting the direction of the university and its potential for change. Methods include outside speakers, discussion groups, and laboratory research on UM-St. Louis.

101 Introduction to Classroom Teaching (3)

An introduction to the study of teachers' behaviors and learners' responses in classroom settings. Students will be assigned to school sites for specified observations/analyses and limited participation. Students will have the opportunity to evaluate the teaching profession as an appropriate career choice. The course will consist of approximately one-third lecture/seminar and two-thirds clinical/field experiences.

204 Special Topics in Education (1-3)

Prerequisites: Completion of 75 hours and consent of instructor. Examination of a special area or topic within the field of education. Topics to be considered will be announced prior to registration and may vary. For elective credit only. This course may be repeated for different topics. Not to exceed a total of six hours credit.

297 Independent Study (1-3)

Prerequisites: Completion of 75 hours and consent of instructor. Independent study through readings, research, reports, and conferences designed to provide depth in areas of study previously introduced in education courses. For elective credit only. May be repeated. Not to exceed a total of three hours credit.

301 Introduction to Microcomputers in Education (3)

A course designed to introduce individuals to the microcomputer as an instructional medium. The course will emphasize (1) the history, role, and use of microcomputers in education; (2) learning the elements of programming for the microcomputer; and (3) beginning program construction and debugging operations.

306 Graduate Workshop (1-10)

Prerequisite: Consent of instructor.

308 Graduate Institute (1-10)

Prerequisite: Consent of instructor.

317 Topics in the Teaching of Writing (1-3)

(Same as English 317) Prerequisite: English 210 or equivalent. Special topics in the practice of and pedagogy of writing designed for in-service teachers. Topics may include writing at specific grade levels, writing/reading workshops, writing in urban settings, writing across the curriculum, action research, new technology, classroom and district-level assessment. May be repeated once for credit if topics differ. Counts toward Certificate in writing.

393 Practicum in Individualized Instruction (3-6)

Prerequisites: Completion of the course(s) to which assigned for instruction and consent of instructor. Supervised instruction in individualized programs. Seminar accompanies instructional experience. May be repeated.

408 Graduate Institute (1-10)

Prerequisite: Consent of instructor.

414 Common Doctoral Seminar(s) (3)

Prerequisite: Admission to the doctoral program. Two EDUC 414 seminars are required for all doctoral students, for a total of six hours of EDUC 414 seminar credit. One: "Elements of Educational Leadership" is to be taken early in the program. The other: "Research: Implementing Change in Educational Systems" is to be taken following completion of the research courses identified in the student's approved program.

415 Emphasis Area Seminar(s) (3)

Prerequisite: Admission to the doctoral program. All doctoral students are required to take at least two

School-Wide Courses

emphasis area seminars consistent with their programs. Students may take additional emphasis area seminars. Obtain a list of emphasis area seminars from the Office of Graduate Studies in Education.

475 Microcomputer Applications in Music Education (3)
(Same as Music 475.) Prerequisites: Graduate standing in music. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

476 Microcomputer-Assisted Instruction Curriculum Development in Music (3)
(Same as Music 476.) Prerequisites: Graduate standing in music. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major CAI program for use in an elementary, secondary, or postsecondary setting is required.

477 Advanced Microcomputer Application in Music (3)
(Same as Music 477.) Prerequisite: Graduate standing in music. The study of complex microcomputer applications including music synthesis, MIDI, music-oriented graphics, voice and pitch recognition, administrative applications, and computer-assisted instruction.

491 Staff Development and Professional Growth (1-10)
Designed in conjunction with an individual school district or educational agency and related to problems of education confronting that specific district or agency.

497 Thesis Research (1-10)
Prerequisite: Consent of instructor.

499 Dissertation Research (1-12)
Prerequisite: Admission to the doctoral program. Credit awarded only upon successful defense of the dissertation.

Behavioral Studies

Faculty

George J. Yard, Associate Professor**, Chairperson
Ph.D., St. Louis University

R. Rocco Cottone, Professor**
Ph.D., St. Louis University

William L. Franzen, Professor*; Dean Emeritus
Ph.D., University of Wisconsin

Patricia A. Jakubowski, Professor*
Ed.D., University of Illinois

Thomas E. Jordan, Curators Professor* of Child
Development-Professor Emeritus
Ed.D., Indiana University

W. Ray Rhine, Professor Emeritus, Ph.D.

Thomas M. Shea, Visiting Professor**
Ed.D., Boston University

Arthur E. Smith, Professor*
Ed.D., St. Louis University

Margaret W. Cohen, Associate Professor**
Ph.D., Washington University

Theresa A. Cristiani, Associate Professor**
Ed.D., Indiana University

Donald R. Greer, Associate Professor*
Ph.D., University of Missouri-Columbia

Lowe S. (Sandy) MacLean, Associate Professor*
Ed.D., Indiana University-Bloomington

Mark Pope, Associate Professor**
Ed.D., University of San Francisco

Steven D. Spaner, Associate Professor**
Ph.D., Southern Illinois University-Carbondale

W. Glenn White, Associate Professor*
Ph.D., University of Missouri-Columbia

Scott Danforth, Assistant Professor**
Ph.D., University of South Florida-Tampa

Constance J. Fournier, Assistant Professor*
Ph.D., University of Texas, Austin

Matthew W. Keefer, Assistant Professor**
Ph.D., University of Pittsburgh

S. Simon Kim, Assistant Professor**
Ph.D., University of Southern California

Vivian J.C. McCollum, Assistant Professor*
Ph.D., St. Louis University

Tamara Timko, Assistant Professor*
Ph.D., Ohio State University

Karen Keller, Visiting Assistant Professor*
Ed.D., University of Texas

Virginia L. Navarro, Visiting Assistant Professor*
Ph.D., Washington University

* members of Graduate Faculty

**members of Doctoral Faculty

General Information

The Department of Behavioral Studies is housed on the fourth floor of Marillac Hall. Information about offerings and related matters may be obtained in the departmental office, 469 Marillac Hall.

At the undergraduate level the department coordinates work in educational psychology, counseling, measurement, special education, and related areas. Offerings leading to the B.S. in Education degree are available in special education. The Special Education program prepares students to teach

educable mentally retarded, early childhood special education, emotionally disturbed, or learning disabled children. Students also receive certification as regular elementary school teachers upon completion of the curriculum. New Missouri certification standards require a student teaching experience in each area of special education. It is possible for students to become certified as secondary special education teachers with appropriate advising, and additional course work.

At the graduate level the Department of Behavioral Studies offers work leading to the M.Ed. and requisite course work for state certification in Elementary and Secondary Guidance and Counseling, Special Education, School Psychological Examiner, and School Psychologist. Non-certification degree work is available in General Counseling and is designed to prepare students to take the state examination for Licensed Professional Counselor after they have completed the necessary hours of supervised counseling.

Areas of emphasis in the Counseling degree program are Elementary School, Secondary School, or General Counseling. Areas of emphasis in the Special Education program are Behavioral Disorders, Learning Disabilities, Educable Mentally Handicapped, and Early Childhood-Special Education. Courses concentrating in the areas of the Severe Developmentally Disabled and Gifted Education are also offered.

Students wishing to receive Missouri certification in Elementary School Counseling or Secondary School Counseling, School Psychological Examiner, and School Psychologist must complete all required courses in addition to holding teaching certificates valid in Missouri. Non-degree certification meeting the requirements for School Psychologist has been approved by the Missouri Department of Elementary and Secondary Education. Consult your adviser. The General Counseling area, for which there are no certification requirements, is only appropriate for the practice of counseling in non-school settings.

All degree students should consult with their advisers about the requirement of a scholarly paper.

Undergraduate Studies

Bachelor of Science in Education: Special Education

General Education Requirements (46 hours required):

English and Communication (6 hours)

English 10, Composition

Communication, 3 hours

English 210, 3 hours

Mathematics (3 hours)

Math 50, Structure of Mathematical Systems I

No credit toward graduation is granted for **Math 15**, Mathematics: Ideas and Structures, unless **Math 50** is completed.

Science (8 hours)

Biology (3)

Physical Science (Laboratory) (4)

Biology 130, Global Ecology (includes laboratory)

Behavioral Studies

Humanities (8 hours)

Music 177, An Introduction to Music for the Elementary School Teacher (Recommended) **plus two courses** from art, music, philosophy, or literature

Social Science (21 hours)

History 3, American Civilization, or

History 4, American Civilization

PolSci 11, Introduction to American Politics

PolSci 85, Global Ecology

Psych 3, General Psychology

ED PSY 211, Growth and Development

Econ 306, Microeconomics for the School Curriculum, or

Econ 40, Introduction to the American Economy

Sociology 10, Introduction to Sociology, or any Anthropology course

Related Area Requirements (12 hours)

PHY ED 130, Elements of Health Education

PHY ED 261, Physical Activity of the Exceptional Learner

Program Requirements (24 hours)

EDUC 101, Introduction to Classroom Teaching

ED FND 111, The School in Contemporary Society

ED PSY 312, Psychology of Teaching and Learning

and these **Elementary Education (ELE ED)** courses:

ELE ED 246, Teaching Mathematics in the Elementary School

ELE ED 330, Children's Literature and Reading

ELE ED 336, Teaching Language Arts and Reading, N-9

ELE ED 342, Teaching Remedial Mathematics

ELE ED 385, Teaching Reading in the Elementary School

Special Education Requirements (36 hours)

The following courses are required:

SPC ED 290 Student Teaching in Special Education I

SPC ED 291 Student Teaching in Special Education II

SPC ED 342 Career Education for the Special Needs Individual

Note: **SPC ED 290** and **SPC ED 291** must be taken during the same semester.

ED REM 310, Interpretation of Educational Tests and Measurements

SPC ED 313, The Psychology and Education of Exceptional Individuals

SPC ED 315, Speech and Language Problems of Exceptional Children

SPC ED 320, Behavior Management

CNS ED 331, Counseling Individuals with Special Needs

ELE ED 389, The Analysis and Correction of Reading Problems in the Classroom and at least two of the following Special Education (SPC ED) courses. (It is important that an adviser be consulted.)

ELE ED 330, Introduction to Mental Retardation and Severe Handicaps

ELE ED 345, Education of the Mentally Retarded

ELE ED 347, Introduction to Emotional Disturbance and Learning Disabilities

ELE ED 347, Teaching in the Learning Disabilities Classroom

ELE ED 350, Instructional Techniques for the Emotionally Disturbed Student

ELE ED 371, Methods and Curricula for the Severely Handicapped

ELE ED 372, Screening and Diagnosis of the Developmentally Delayed

Electives may be taken from among the following (strongly recommended): **9 hours**

SPC ED 322, Teaching Mainstreamed Students

ELE ED 241, Teaching of Science in the Elementary School

ELE ED 253, Teaching of Social Studies in the Elementary School

Attention Special Education Majors: New requirements will come into effect September 1996. Consult with your advisor for more specific information.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the Office of Undergraduate Studies in Education, 155 Marillac Hall.

Total: 120 hours

Graduate Studies

Admission

In addition to meeting the general admission requirements of the Graduate School, applicants to the Master's of Education with an emphasis in General or School Counseling must complete the Supplemental Application in addition to the Application to Graduate School, have three completed references on file, must have an undergraduate GPA of 3.0, and must take CNS ED 410 Personal and Professional Development in Counseling in their first semester. Admissions will be conducted twice a year. The datelines for admission are July 1 for the Fall semester and December 1 for the Winter semester. Applicants will be accepted on a provisional basis pending their completion of application materials, CNS ED 410, and review by the Counseling Faculty Review Board.

1. Since it is the objective of the Counselor Education faculty to identify students with low effectiveness potential as early as possible and to initiate the necessary procedures for dealing with such students, the faculty of the Counselor Education Program reserves the right to review students at any stage of their course work. Any grade less than a B in any core counseling course (CNS ED 410, Personal and Professional Development in Counseling; CNS ED 411, Theories of Counseling; CNS ED 493, Counseling Practicum I; CNS ED 494, Guidance Practicum II; and CNS ED 490, Internship) will automatically trigger a review process which may result in the termination of the student's degree program.
2. Students admitted to the Master's Degree Program in Counseling on restricted status must attain a 3.0 GPA for the first twelve hours of graduate course work at

Behavioral Studies

UM-St. Louis with no grades less than a B. Restricted students must include the following courses in the first twelve hours of course work:

CNS ED 410, Personal and Professional Development in Counseling; CNS ED 411, Theories of Counseling, and CNS ED 493, Counseling Practicum I. A student earning any grade less than a B in any of these three courses, but still maintaining a 3.0 GPA, will be allowed to repeat the course one time and must earn a grade of B or better to be admitted.

Master of Education: Emphasis in Elementary School Counseling

The courses listed below meet the course work requirements for the M.Ed. degree, state certification, and licensing as a professional counselor:

Counselor Education (CNS ED)

CNS ED 410, Personal and Professional Development in Counseling
 CNS ED 411, Theories of Counseling
 CNS ED 413, Ethical and Professional Issues in Counseling
 CNS ED 414, Individual Inventory
 CNS ED 420, Group Procedures in Counseling
 CNS ED 431, Foundations of School Guidance
 CNS ED 443, Career Development
 CNS ED 490, Internship (1-10)
 CNS ED 493, Counseling Practicum I
 CNS ED 495, Foundations for Multicultural Counseling

Psychological Foundations and Human Development

ED PSY 411, Psychology of Education
 ED PSY 413, Personality Development and Adjustment
 ED PSY 417, Psychology of the Elementary School Child

Educational Research and Evaluation Methods

ED REM 421, Educational and Psychological Measurement
 ED REM 422, Individual Assessment of Cognitive Abilities
 ED REM 431, Educational Research Methods I

Master of Education: Emphasis in General Counseling

The General Counseling emphasis allows flexibility for developing programs appropriate to particular nonschool settings. Students must have their adviser's approval before taking other than required courses.

Core Curriculum

The courses listed below meet the course work requirements for the M.Ed. degree and license to practice as a professional counselor:

410, Personal and Professional Development in Counseling
 411, Theories of Counseling
 413, Ethical and Professional Issues Counseling
 414, Individual Inventory
 420, Group Procedures in Counseling
 443, Career Development
 485, Community Counseling Practicum

486, Community Counseling Field Experience I
 487, Community Counseling Field Experience II
 495, Foundations for Multicultural Counseling

Psychological Foundations and Human Development (ED PSY)

The following course is required:
 413, Personality Development and Adjustment

Educational Research and Evaluation Methods

The following courses are required:
 ED REM 421, Educational and Psychological Measurement
 ED REM 431, Educational Research Methods I

Area of Specialization (9 hours)

Course work in the area of specialization is to be selected in consultation with the adviser.

Master of Education: Emphasis in Secondary School Counseling

The courses listed below meet the course work requirements for the M.Ed. degree, state certification, and licensing as a professional counselor:

Counselor Education (CNS ED)

CNS ED 410, Personal and Professional Development in Counseling
 CNS ED 411, Theories of Counseling
 CNS ED 413, Ethical and Professional Issues in Counseling
 CNS ED 414, Individual Inventory
 CNS ED 420, Group Procedures in Counseling
 CNS ED 431, Foundations of School Guidance
 CNS ED 443, Career Development or CNS ED 442, Career Information
 CNS ED 490, Internship (1-10)
 CNS ED 493, Counseling Practicum I
 CNS ED 495, Foundations for Multicultural Counseling

Psychological Foundations and Human Development (ED PSY)

ED PSY 411, Psychology of Education
 ED PSY 413, Personality Development and Adjustment
 ED PSY 418, The Psychology of Adolescence

Educational Research and Evaluation Methods (ED REM)

ED REM 421, Educational and Psychological Measurement
 ED REM 422, Individual Assessment of Cognitive Abilities
 ED REM 431, Educational Research Methods I

Master of Education: Program in Special Education

Graduate students should understand that completion of the M.Ed. program in Special Education does not assure teaching certification. Students seeking the degree and certification should consult with their advisers.

Following is the recommended curriculum for students enrolled in the Learning Disabilities, Mental Retardation,

Behavioral Studies

Behavioral Disorders, or Early Childhood-Special Education options.

Area of Specialization Students are required to complete 9-18 hours from the following areas:

Knowledge Base (3-6 hours)

SPC ED 497, Problems
 SPC ED 431, Problems in Mental Retardation
 SPC ED 443, Learning Disabilities
 SPC ED 450, Introduction to Behavioral Disorders
 SPC ED 462, Introduction to Early Childhood-Special Education

Curriculum (3-6 hours)

SEC ED 415, The Secondary School Curriculum
 SEC ED 416, Curriculum Construction for Secondary Schools
 ELE ED 410, Current Research in the Elementary School Curriculum
 SPC ED 413, Organizational Foundations for Special Education
 SPC ED 421, Prescriptive Teaching of Exceptional Children
 SPC ED 430, Education of the Mentally Retarded
 SPC ED 444, Education of Children with Learning Disabilities
 SPC ED 452, Education of Behaviorally Disordered Children
 SPC ED 463, Curriculum, Methods and Materials for Early Childhood-Special Education

Practicum (3-6 hours)

At least three hours must be taken in SPC ED 492, Practicum in Special Education.

Psychological Foundations and Human Development (3-6 hours)

ED PSY 411, Psychology of Education
 ED PSY 417, Psychology of the Elementary School Child
 ED PSY 418, The Psychology of Adolescence
 SPC ED 412, Psychology of Exceptional Children
 SPC ED 416, Current Research in Psychology of Exceptional Children

Educational Research and Evaluation Methods (3-6 hours)

ED REM 330, Educational Statistics
 ED REM 420, Classroom Measurement and Evaluation
 ED REM 421, Educational and Psychological Measurement
 ED REM 422, Individual Assessment of Cognitive Abilities

Electives may be chosen from the courses listed here and from other courses with approval of the adviser and department chairperson.

Career Outlook

Elementary and Secondary School Counselors

Future growth in the employment of school counselors may depend on the amount of funds that the federal government provides to the states. The most recent survey in Missouri shows that the supply and demand for counselors is about average for educational personnel. Many teachers who do not intend to leave the classroom pursue this program in order to be better able to meet the needs of their students. Some graduates of the program have left the field of education and have obtained positions such as those cited under General Counseling. With little additional work the school counselor may qualify for certification as a school psychological examiner.

General Counselors

Graduates have been employed in a wide variety of settings: as counselors in community colleges, universities, employment agencies, vocational rehabilitation agencies, probation and parole work, juvenile detention, alcoholism and drug abuse clinics, career planning and placement centers, community mental health agencies, family and children services, and various federally-funded public service projects. Additionally, graduates are employed in career development, business and industry positions, especially in training and personnel areas. Others have moved into roles calling for research and evaluation skills.

Note It should be noted that in Missouri, persons who engage in "professional counseling" in many of these settings are required by law to be licensed as professional counselors.

Special Education

The employment outlook for special education teachers continues to be favorable, especially in certain positions. In addition to special classroom teaching, graduates of the area have been employed as resource-room teachers, clinical diagnostic personnel, itinerant teachers, educational resource teachers, consultants, educational therapists, sheltered workshop evaluators, and in various supervisory and administrative positions in agencies and schools.

In combination with counseling, educational psychology, physical education, or other areas, careers can be planned in such occupations as vocational evaluator, counselor for special-needs individuals, and special physical educators.

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Course Descriptions

Courses in this section are grouped as follows: Counselor Education (CNS ED), Educational Psychology (ED PSY), Educational Research and Evaluation Methods (ED REM), Special Education (SPC ED).

Prerequisites may be waived by consent of the department.

For information about certification and licensure, an adviser should be consulted.

Counselor Education (CNS ED)

310 Introduction to the Counseling Profession (3)

Prerequisite: Junior or senior level standing. This survey course will provide undergraduates and noncounselors with a broad overview of the counseling profession. Topics include a history of the profession, foundations of counseling, ethical, and legal considerations and the role of the counselor in various settings.

314 Human Relations Skills (3)

Prerequisite: Consent of the instructor. A course emphasizing the development of specific skills in human relationships to help facilitate effective interaction among individuals and groups in the helping professions. Readings, discussion, and skill-building exercises will be used to develop various human relations skills.

317 Advisory Programs in the Middle Level School (3)

Prerequisite: ED PSY 312 or graduate status. The role of the middle level educator in the adviser-advisee program is examined. Implications of varying developmental levels on early adolescent decision making is explored. Skills for effective student/teacher communication are highlighted.

318 Counseling Gifted Students (3)

Prerequisites: SPC ED 313, ED PSY 312, or equivalent. This course emphasizes the social and emotional development of gifted and talented individuals. Subject areas will include current research, factors affecting the development of the gifted, and resources and strategies utilized in counseling these students and their parents.

329 Counseling the Chemical Dependent (3)

This course is an introduction to the problems resulting from the abuse of alcohol and other chemicals, with an emphasis on the impact of chemical dependence on the individual, the family, the employer, and the community. The special problems resulting from chemical dependence as it affects various populations, e.g., women, individuals with disabilities, and the elderly, will be analyzed and linked to appropriate counseling strategies.

330 Principles and Procedures for Student Personnel Work (3)

Student personnel work in educational institutions, objectives of student personnel work, and certain pertinent techniques.

331 Counseling Individuals with Special Needs (3)

Prerequisite: SPC ED 313 or equivalent. A course emphasizing counseling skills for individuals who plan to work with the handicapped. Emphasis is placed on using counseling strategies with school-age handicapped children.

332 Youth and Chemical Dependence (3)

Prerequisite: Junior standing. This course provides information about adolescent and preadolescent chemical dependency and its relationship to numerous other developmental and societal factors that place the adolescent "at risk" for the development of substance abuse problems. Skills in the identification, intervention, and referral of chemically-dependent adolescents are emphasized, along with preventive measures and family and school issues.

342 Occupational and Educational Information (3)

Nature and use of occupational and educational information. Characteristics, requirements of occupations, and training opportunities.

404 Seminar (3-10)

410 Personal and Professional Development in Counseling (3)

Prerequisite: Graduate standing. This course provides an in-depth view of the professional counseling field. Attention is focused on the development of the helping relationship, including a review of research on factors which influence helping processes and rapport building, a development of skills used in the counseling process, and increased awareness of how students' values, beliefs, and behaviors are related to counselor effectiveness.

411 Theories of Counseling (3)

Prerequisite: CNS ED 410. This course will explore the philosophical foundations of counseling theory. The major constructs of contemporary counseling approaches will be discussed, and the practical applications of these theories will be analyzed.

412 Theories and Techniques of Counseling Children and Adolescents (3)

Prerequisite: CNS ED 411 (ED PSY 417 or ED PSY 418 or permission of the instructor). This course focuses on counseling theories and their applicability to the developmental special concerns of children and adolescents including abuse, suicide, divorce, and death and dying. Individual, group, and family intervention techniques and consultation skills will be emphasized, as well as legal and ethical considerations for counselors. Strategies presented can be utilized in a variety of settings. Multicultural considerations are also addressed.

413 Ethical and Professional Issues in Individual and Relationship Counseling (3)

Prerequisite: CNS ED 410. Ethical, legal, and professional issues related to counseling are addressed. Ethical dilemmas in the provision of counseling services to individuals, couples, families, and groups are defined. Specific ethical codes of professional organizations are examined.

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414 Individual Inventory (3)

Prerequisites: ED REM 421. Uses of educational and psychological appraisal techniques in counseling. Develops counselors' abilities in assisting clients toward self-awareness through the use of test and nontest data. Ethical practices in the use of tests and the maintenance of personnel records are stressed.

420 Group Procedures in Counseling (3)

Prerequisites: CNS ED 411 and CNS ED 493. This course examines the process dynamics of groups including group development, leadership, norms and therapeutic factors. Group counseling theories and approaches used for other group work including skills, personal growth, support, vocational, and developmental guidance groups are included. Knowledge and skills of how to facilitate therapeutic groups are included. Students will be required to be participant-observers or facilitators of a group outside of class time.

423 Introduction to Systems Theory for Marriage and Family Counseling (3)

Prerequisite: CNS ED 411. This course is an introduction to general systems theory and application to marriage and family counseling. Students learn the theoretical basis for intervention and counseling strategies in the context of an ecology of human development. Developmental issues at individual, sibling, marital, family, and community levels and the ways in which various social systems interact with and mutually influence one another are presented.

424 Marriage Counseling and Enrichment (3)

Prerequisite: CNS ED 423 or consent of instructor. This course focuses on the theory and technique of marital or couples counseling and enrichment. Models and methods for prevention and treatment of relationship dysfunction are explored. Relationship developmental issues are addressed. Students are challenged to develop the critical skills necessary to be effective marriage counselors and marital life educators.

425 Family Counseling (3)

Prerequisites: CNS ED 423 and CNS ED 493, or consent of instructor. This course offers an in-depth analysis of strategic, structural, experiential, communications, behavioral, and psychodynamic approaches to systems change and family counseling. The range of techniques and applied practices evolving from each orientation are explored as are normal and dysfunctional family processes. Various counseling modalities, such as individual, concurrent, collaborative, conjoint, group, intergenerational, and networking are also considered.

426 Advanced Theories of Counseling and Family Therapy (3)

Prerequisites: CNS ED 411 and CNS ED 423, CNS ED 493 or consent of instructor. Contemporary and emergent theories in counseling and family therapy are presented and analyzed. Research issues are addressed.

428 Counseling the Co-Dependent (3)

Prerequisites: CNS ED 411 and CNS ED 329. This course offers an in-depth analysis of the nature and counseling of

co-dependency. Materials will include an examination of etiological factors, as well as specific counseling concepts and strategies.

429 Advanced Strategies in Chemical Dependence Counseling (3)

Prerequisite: CNS ED 329 or consent of instructor. This course introduces the student to advanced counseling skills and approaches that can be utilized to match substance abuse interventions to individual client need. Versatility and flexibility are emphasized as well as the use of research supported relapse prevention strategies

430 Counseling the Dual Diagnosed Substance Abuser (3)

Prerequisites: CNS ED 411 and CNS ED 329. This course introduces the student to the special needs, concerns, and problems encountered when counseling clients who are both mentally ill and chemically dependent. Subject areas include an overview of counseling methodologies, diagnosis, and psycho-pharmacology.

431 Foundations of School Guidance (3)

The purpose of this course is to give students a foundation for understanding the history, philosophy, and development of school guidance programs. The role functions of the school counselor within a developmental, comprehensive program are examined, along with communication skills necessary for consultation with students, parents, school support staff, and resource people in the community.

436 Student Personnel Work in Higher Education (3)

A survey course in student personnel administration with an emphasis on understanding the college student and on learning ways to meet both his/her academic and nonacademic needs.

442 Career Information (3)

Emphasis is on the nature of the changing labor market and the impact on personal, social, economic, career and educational aspects of individuals and society. Use of occupational and educational information systems and resources to assist with career decisions are examined. The needs of culturally diverse populations are discussed. Use of career and labor market information and programs such as computer technology to access up-to-date career and labor market information is explored. Various theories of career development and career choice will be examined.

443 Career Development (3)

Emphasis is on current theories of vocational/career development, career choice, and techniques and methods of career counseling. Issues concerning education and training, work, leisure, the family, life roles, and culturally diverse populations are studied. The role of career theory in planning, development, and delivery of a career development program is explored. Various printed resources and computer-assisted career information delivery systems will be discussed.

451 Counseling Parents of Exceptional Children (3)

The development of counseling skills to enable human service professionals to interact productively with families who have handicapped children.

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490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

493 Counseling Practicum I (3)

Prerequisite: CE 410 and CE 411 and consent of the instructor. The purpose of this course is to provide supervised practice in counseling, and the opportunity for students to learn to facilitate personal change and problem solutions using some systematic framework, theoretical orientation, or research base.

494 Guidance Practicum II (3)

Prerequisite: Grade of "B" or better in CNS ED 493 and/or consent of instructor. Supervised practice in counseling.

495 Foundations for Multicultural Counseling (3)

Prerequisite: CNS ED 493. This course will focus on: (1) reviewing knowledge and research in the area of multicultural counseling, (2) developing and/or enhancing skills useful in counseling with individuals from minority populations, and (3) developing levels of personal awareness about stereotypes, and learning how feelings and attitudes about these may impact counseling with individuals from minority populations.

496 Seminar in Counseling Research (3)

Prerequisite: ED REM 431, doctoral standing or consent of instructor. The purpose of this course is to review and analyze current counseling research literature. Ethical issues will be addressed.

497 Problems (1-10)

Educational Psychology (ED PSY)

211 Growth and Development (3)

Comprehensive study of chronological age norms and the process of growth and development throughout the entire life span. There will be special emphasis on childhood, adolescence, and senescence.

312 The Psychology of Teaching and Learning (3)

Prerequisites: ED FND 111 and ED PSY 270 or Psych 270, or Psych 271, and admission to the School of Education. Application of the principles of psychology to an understanding of the dynamics of teaching behavior and learning behavior. Involves both theoretical and practical approaches to analysis of the learning environment of the school. Required of all who are preparing to teach.

325 Education and the Psychology of Human Sexuality (3)

(Same as Nursing 325). The course is designed to provide educators and other human services personnel with knowledge and understanding of various personal and social dimensions of human sexuality.

404 Seminar (1-10)

411 Psychology of Education (3)

Current psychological theories and research that guide inquiry and decision making in education. Topics surveyed include behavior, development, learning, instruction.

412 Psychology of Learning Processes (3)

Prerequisite: ED PSY 411. Advanced study of learning and instructional theories. The historical and theoretical bases of instructional practice are examined.

413 Personality Development and Adjustment (3)

A course in personality development, personality structure, and the dynamics of adjustment. Course materials are oriented to the applied problems of counselors, teachers, administrators, and others in the helping professions.

416 Psychology of Early Childhood Development (3)

Prerequisite: ED PSY 411 or consent of instructor. A survey of the theories, concepts and research which inform the field of early childhood development and help caregivers and teachers understand the cognitive, social and emotional changes that take place from birth through the primary years of schooling.

417 Psychology of the Elementary School Child (3)

Prerequisite: ED PSY 411 or consent of instructor. Current research on the psychological changes which occur during the school age years (ages 5-12) of childhood. Includes attention to how development proceeds and to the processes that may alter its progress.

418 The Psychology of Adolescence (3)

Prerequisite: ED PSY 411 or consent of instructor. Current research on the psychological changes which occur during adolescence. Attention is paid to the family, school, peer groups, and contemporary settings that practitioners must understand to help young people meet the psychosocial challenges of adolescence.

420 Behavioral Analysis of Human Learning (3)

Prerequisite: Graduate standing. A course in the principles of human learning and the technology of behavior modification, from the perspective of the teaching and counseling professions. Emphasis is placed on its application to school learning and behavior problems and to social behavioral patterns in a variety of appropriate counseling settings.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

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Educational Research and Evaluation Methods (ED REM)

310 Interpretation of Educational Tests and Measurements (3)
A study of the principles of psychometrics with emphasis upon the classroom interpretation of group tests of cognitive abilities and achievement. Required of all majors in special education.

320 Classroom Testing and Measurement (3)
Basic measurement principles for the classroom teacher: test planning; construction and use of selection, supply, and performance type test items; item analysis for test improvement; methods of summarizing test scores; derived scores for interpretation of performance; development and use of norms in evaluation.

330 Educational Statistics (3)
Statistical methods for preservice educators and beginning graduate students: frequency distributions, measures of central tendency, variability, sampling, and correlation.

404 Seminar (1-10)
Prerequisite: Consent of instructor. Educational research and evaluation methods seminar addressing special issues and topics not normally included in the regular statistics, research methods, evaluation, and measurement courses.

412 Evaluation and Applications of Computers in Education (3)
Prerequisite: ER 431 or consent of instructor. Review of a computer language and evaluation of the various uses and capabilities of computers in the teaching, administration, and counseling areas of education. Familiarization with computing facilities and package programs.

420 Classroom Measurement and Evaluation (3)
An introductory graduate course to classroom testing and evaluation: comparison of criterion and norm referenced theory and technique; classical test theory, reliability, validity and associated descriptive statistics; derived and transformed scores; preparation of instructional objectives for use in developing the classroom test; evaluation of student achievement and instructional effectiveness through testing.

421 Educational and Psychological Measurement (3)
An introductory graduate course in testing and measurement theory in the affective behavior domain: reliability, validity, and associated descriptive statistics; correlation and simple regression; derived and transformed scores; interpretation of test scores based upon theory of psychological tests; measurement of aptitude, vocational interests, and personal-social adjustment.

422 Individual Assessment of Cognitive Abilities (3)
Prerequisite: ED REM 310, or 320, or 420, or 421, or consent of instructor. A course to develop administrative and interpretive skills in the use of individually administered tests such as the Wechsler scales, the Stanford-Binet, and similar instruments.

429 Advanced Test Theory in Education (3)
Prerequisite: ED REM 420, or ED REM 421, or consent of instructor. An advanced course in measurement theory and practice: issues of reliability, validity, and item analysis for both criterion and norm referenced tests; introduction to factor analysis theory and technique in the development and analysis of test structure and validity; introduction to item response theory and techniques for the improvement of educational testing and research.

431 Educational Research Methods I (3)
Prerequisites: At least one of the following: ED REM 310, 320, 330, 420, or 421, or consent of instructor. An introductory course in educational research methodology. Descriptive statistical concepts learned in the prerequisite course are extended to: inferential statistics and hypothesis testing; research design issues such as internal/external threats to validity; basic designs to minimize these threats; special issues associated with positivistic and nonpositivistic research paradigms; and the structure and content of the research proposal.

432 Educational Research Methods II (3)
Prerequisite: ED REM 431 or consent of instructor. A survey of advanced educational research methods: hypothesis testing using classical factorial analysis of variance; analysis of covariance; the general linear model; multiple and partial correlation; multiple linear regression; and advanced research designs for educational problems. Quantitative statistical methods associated with qualitative research situations are introduced.

433 Educational Research Methods III (3)
Prerequisite: ED REM 431 or consent of instructor. An advanced educational research methods course focusing on issues and techniques of multivariate analysis: multivariate analysis of variance (MANOVA); canonical correlation, discriminant function, factor, and cluster analysis; advanced topics in multiple linear regression analysis; and research designs and measurement techniques typically associated with these statistical methods.

435 Multiple Linear Regression in Education (3)
Prerequisite: ED REM 432 or ED REM 433. An advanced educational research methods course using MLR models and techniques to evaluate educational problems. Focus is on the theory, special issues, and techniques in the application of MLR to qualitative and quantitative educational research studies.

436 Nonparametric Statistics in Education (3)
Prerequisite: ED REM 431 or consent of instructor. An advanced educational research methods course in alternative analysis procedures to classical parametric statistics. Nonparametric methods are surveyed and their data requirements compared to their parametric counterparts. Educational research problems appropriate to or adaptable to these methods are studied.

437 Field Based Research Methods (3)
Prerequisite: ED REM 431 or consent of instructor. An advanced educational research methods course in the

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major paradigms of positivism and postpositivism. The principal traditions of qualitative research methods are reviewed. Alternative sampling strategies, observational measurement, individual and group interview techniques, and questionnaire construction are studied. Qualitative data analysis is addressed from two perspectives: nonquantitative and statistical. Quality control to establish the trustworthiness and authenticity of field studies is reviewed.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

Prerequisites: At least one previous ED REM course AND consent of course supervisor. Individual study on topics pertaining to educational measurement, evaluation, statistics, and research design.

Special Education (SPC ED)

192 Field Experience in Special Education (3)

Intensive early field experience involving on-site observation and limited participation with exceptional individuals in schools and/or other educational agencies. This course is open to all students.

242 Characteristics of Learning Disabilities (3)

A study of the divergent characteristics of children with perceptual impairments. This course consists of fifteen half-hour tapes, designed to offer instruction at an undergraduate level on the nature of children with learning disabilities, and the roles of educators, parents, and auxiliary personnel in diagnosis and remediation. Historical perspectives and future trends will be explored. The tapes are followed by student contact with the instructor, for discussion, work evaluation, and testing.

290 Student Teaching in Special Education I (5)

Prerequisites: SPC ED 313, SPC ED 320, SPC ED 332 and admission to student teaching. Must be taken with SPC ED 291 and must immediately precede SPC ED 291 in the semester. Clinical teaching experience in special education classrooms in schools under University and school supervision. Required of all majors in special education.

291 Student Teaching in Special Education II (5)

Prerequisite: SPC ED 290. Must be taken with SPC ED 290, and must immediately follow SPC ED 290 in the semester. Clinical teaching in special education classrooms in schools under University and school supervision. Assignments will be in different school districts, buildings, serving families of different socioeconomic and cultural backgrounds, and at different grade levels from those of the SPC ED 290 assignments. Required of all majors in special education.

311 Sex Education for Exceptional Individuals (3)

Prerequisite: Consent of instructor. Course is designed to give teachers a thorough knowledge and understanding of the issues, problems, teaching techniques, and the current curricular resources of teaching sex education to handicapped individuals.

313 The Psychology and Education of Exceptional Individuals (3)

Prerequisite: Psychology 270 or Psychology 271 or equivalent. The psychology and education of individuals with special problems and/or abilities. Survey of theories and strategies for the learning-teaching process and of sources of assistance to educators and parents. Required in certification programs.

315 Speech and Language Problems of Exceptional Children (3)

Prerequisites: ED FND 111, SPC ED 313, and admission to the School of Education. Study of the problems associated with speech and language development and the techniques employed by classroom teachers to lessen these problems for children. Required for all majors in special education.

320 Behavior Management (3)

Prerequisites: SPC ED 313 and an appropriate introductory course in the special education area of concentration. An in-depth exploration of various behavior control techniques that are particularly applicable to exceptional children. Students will be required to conduct at least one behavior modification project with exceptional children.

322 Teaching Mainstreamed Students (3)

Prerequisite: SPC ED 313 or SPC ED 412, or equivalent. The course is designed to assist regular classroom teachers to better understand the nature and needs of handicapped students who are likely to receive much of their daily instruction in the regular classroom. Regular teachers' roles and responsibilities, teaching strategies, and adjustment options in integrating handicapped students will be considered.

330 Introduction to Mental Retardation and Severe Handicapped (3)

Prerequisite: SPC ED 313. An introductory course describing characteristics, classification, and causes of mental retardation and severe handicapped.

332 Education of the Mentally Retarded (3)

Prerequisites: ED FND 111, SPC ED 313, and SPC ED 330. Methods and techniques of use in the education of mentally retarded children. Required of all who are preparing for certification in special education for the mentally retarded.

342 Career Education for the Special Needs Individual (3)

Prerequisite: Consent of instructor. This course is intended to provide information to teachers and other personnel charged with the responsibility of delivering career development services to special needs clientele. Topics including designing a K-12 career education curricula, techniques of improving job readiness for the unemployed

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and underemployed, and ways to utilize community employment resources for the handicapped.

345 Introduction to Emotional Disturbances and Learning Disabilities (3)

Prerequisite: SPC ED 313. A comparative approach to these two areas of specialization regarding their history, etiologies, definition, prevalence, and service delivery systems.

347 Teaching in the Learning Disabilities Classroom (3)

Prerequisites: SPC ED 313 and SPC ED 320. An application of the instructional techniques to be utilized with learning disabled students. Instructional techniques, appraisal for instruction, interdisciplinary team work, parental involvement, individualized education plans, and classroom techniques will be presented in this class.

350 Instructional Techniques for the Emotionally Disturbed Student (3)

Prerequisites: SPC ED 313, SPC ED 320, and SPC ED 345. A course designed to instruct students in the management and instructional strategies necessary to educate children with emotional disturbances.

370 Sensory-Motor Development of the Severely Handicapped (3)

Prerequisite: SPC ED 330 or equivalent or consent of instructor. An examination of basic sensory-motor development and associated disorders to enable teachers to work more effectively with occupational and physical therapists. Basic techniques used by therapists are presented together with an exploration of the teacher's role regarding sensory-motor programming. Required for certification for teaching individuals with severe handicaps.

371 Methods and Curricula for Severely Handicapped (3)

Prerequisite: SPC ED 370 or consent of instructor. This course begins with the application of the clinical teaching model to the severely handicapped population regarding objectives, training methods, and program process monitoring. It also includes critical analysis of existing curricula and methods of classroom or living unit organization. Required for certification in Severe Handicapped.

372 Screening and Diagnosis of the Developmentally Delayed (3)

Prerequisites: ED REM 310 or equivalent and SPC ED 313. This course addresses the content, techniques, and special problems related to the assessment of handicapped individuals in the birth-to-five developmental range. Students gain experience in construction, administration, and interpretation of assessment tools used with low functioning handicapped individuals. Required for certification in Severe Handicapped and Early Childhood-Special Education.

382 An Introduction to Gifted Children (3)

Prerequisite: SPC ED 313. This course provides an introduction to gifted children. Their characteristics, cognitive abilities, special abilities, and creativity will be reviewed. Current problems, research, and issues concerning the gifted are covered.

384 The Education of Gifted Children (3)

Prerequisite: SPC ED 313. This course deals with methods, techniques, and curricular modifications necessary for the effective education of gifted children.

390 Student Teaching in Special Education III (5)

Prerequisites: SPC ED 291 or equivalent and admission to student teaching. Clinical teaching experience in special education classrooms in schools under University and school supervision with seminar included. For students who wish an additional student teaching experience.

412 Psychology of Exceptional Children (3)

An in-depth analysis of the unique psychological problems of exceptional children and youth. Current psychological theories and research emphasized.

413 Organizational Foundations for Special Education (3)

Prerequisite: SPC ED 313 or SPC ED 412. A study of organizational issues in special education and their implications for practices and procedures. Specific attention will be given to special education delivery systems, compliance standards, funding sources, and regulatory standards.

416 Current Research in Psychology of Exceptional Children (3)

Prerequisite: Permission of instructor/adviser. A study of current issues, trends, and major research in special education. Areas of investigation shall center around major developments in exceptionalities, situations relative to programming projected needs, and considerations and utilization of investigation of the exceptional individual. Graduate students should have experience or an undergraduate background in exceptionalities prior to admission to this course.

421 Prescriptive Teaching of Exceptional Children (3)

Prerequisite: SPC ED 412. Course will instruct teachers on how to develop and implement prescriptive educational programs for exceptional children and adolescents based upon available information. Students will become familiar with prescriptive systems which will enable them to utilize sources of information for remedial and developmental needs.

430 Theories and Practice in Mental Retardation (3)

Prerequisite: Permission of instructor. An advanced study of the pedagogical and theoretical problems germane to the area of mental retardation with particular emphasis on the application of current research findings to the solution of these problems.

431 Education of Individuals with Mental Retardation (3)

Prerequisite: SPC ED 430. A systematic study of modern educational procedures for students with mental retardation. Methods and materials for educating students with mental retardation are stressed.

443 Learning Disabilities (3)

Prerequisite: SPC ED 412. An advanced study of the pedagogical and theoretical problems germane to the area of learning disabilities with particular emphasis on the

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application of current research findings to the solutions of these problems.

444 Education of Children with Learning Disabilities (3)

Prerequisite: SPC ED 443. A systematic study of modern educational procedures for children with learning disabilities. Methods and materials for educating children with learning disabilities are stressed.

450 Introduction to Behavioral Disorders (3)

Prerequisite: SPC ED 412. An advanced study of the pedagogical and sociological problems germane to behavioral disorders with particular emphasis on the application of current research findings to the solutions of these problems.

452 Education of Behaviorally Disordered Children (3)

Prerequisite: SPC ED 450. A systematic study of modern educational practices for behaviorally disordered children. Methods and materials for educating behaviorally disordered children are stressed.

462 Introduction to Early Childhood Special Education (3)

Prerequisite: SPC ED 412. A study of issues and concepts central to special education for the young handicapped child. Focus will be placed upon program models, screening and assessment procedures, and curriculum concepts. An ecological approach to special education will be emphasized.

463 Curriculum, Methods, and Materials for Early Childhood Special Education (3)

Prerequisites: SPC ED 412 and SPC ED 462. In-depth study of integrated assessment-based curriculum development for preschool handicapped children. Emphasis will be on individualized educational planning and implementation.

485 Community Counseling Practicum (3)

Prerequisite: CNS ED 410 and 411 and Consent of instructor. One hundred clock hours of supervised practice in counseling to provide the opportunity for students to pragmatically integrate and process materials, theories, techniques, and methodologies as they are applied in the counseling profession.

486 Community Counseling Field Experience I (3)

Prerequisite: CNS ED 485 Community Counseling and Consent of instructor. A 300-hour closely supervised field experience under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional counselor role must be demonstrated by the student. The field placement will include on-campus group supervision, off campus site supervision, and on-site counseling activity.

487 Community Counseling Field Experience II (3)

Prerequisite: CNS ED 486 and Consent of instructor. A 300-hour advanced closely supervised field experience under the direction of a graduate faculty member. The course will build upon and extend the Community Counseling Field Experience I. It is expected that the student will demonstrate counseling competencies and skills and ethical practice. The field experience will include on-campus-group supervision, off-campus site supervision, and on-site counseling activity.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

492 Practicum in Special Education (3-6)

Prerequisite: Two courses in area of concentration. A supervised internship in educating exceptional children in a school setting or other appropriate site.

497 Problems (1-10)

Prerequisite: SPC ED 412 or equivalent. Selected problems on student-learner exceptionalities for individuals at the postbaccalaureate level.

Educational Studies

Faculty

Edith M. Young, Chairperson; Associate Professor*
Ed.D., University of Missouri-Columbia

James E. Walter, Associate Professor*
Ph.D., University of Wisconsin-Madison

Charles Granger, Professor*
Ph.D., University of Iowa

Arthur H. Shaffer, Professor*
Ph.D., University of California-Los Angeles

Blanche Touhill, Professor*; Chancellor
Ph.D., St. Louis University

Paul D. Travers, Director, Teacher Education, Professor*
Ed.D., George Peabody College

Harold E. Turner, Professor Emeritus*
Ed.D., George Peabody College

Joy E. Whitener, Dean Emeritus; Professor Emeritus*
Ed.D., Washington University

Charles J. Fazzaro, Associate Professor*
Ed.D., West Virginia University

Richard J. Friedlander, Associate Professor*
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Development Center
Ed.D., Western Michigan University

Jane Zeni, Associate Professor*
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General Information

The faculty of the Department of Educational Studies are housed on the second floor of Marillac Hall. Answers to questions about the department and its offerings may be obtained from the department office, 269 Marillac Hall.

The department coordinates programs that prepare students for teaching these subjects in secondary schools (grades 7-12) and middle schools: biology, chemistry, English, French, German, history, mathematics, music, physics, psychology, social studies, speech, and Spanish. A special feature of these programs is the close interdisciplinary cooperation between the professional School and other University departments. The business education major is offered within the School of Education.

Students may choose to pursue the bachelor's degree in the College of Arts and Sciences plus certification, or the Bachelor of Science in Education degree (B.S.Ed.) which includes Missouri certification. Business education students have only the latter option.

Note The General Assembly enacted a law during 1984 eliminating Life Teaching Certificates after September 1, 1988. The State Board of Education is authorized to develop new standards for one or more renewable professional certificates, based on specific requirements for training and experience. Details regarding these standards are available in the Office of Teacher Education.

At the graduate level the department provides a program leading to the M.Ed. in secondary education, secondary education with emphasis in adult education, certification studies with Adult Basic Education, secondary education with emphasis in reading, and secondary education and certification. It offers master's degree work and advanced certification studies in elementary and secondary school administration, special education administration, and the school superintendency.

Community education is an additional emphasis offered in the educational administration program. Work in educational technology is also available.

Undergraduate Studies

Degree Requirements

Interdisciplinary Program: Bachelor of Science in Education in Secondary Education or Bachelor's Degree in the College of Arts and Sciences

General Education Requirements

Bachelor's degree candidates in secondary education must complete the University General Education Requirements and must meet the Missouri secondary teacher certification general education standards as follows.

Humanities

Three courses required from the following fields: music (excluding applied music), art, foreign language, Western

Educational Studies

and non-Western cultures, philosophy, literature, classical studies, and theatre and drama.

Communication Skills

At least **two** courses in English composition and **one** in oral communications.

Social Studies

Courses in American history and American government, and one additional course selected from the following areas: geography, sociology, economics, anthropology, psychology.

Natural Science

One course in a physical or earth science; one course in a biological science. At least one of these courses must have a laboratory component.

Mathematics

One college-level mathematics course.

Note All of the courses above must be a minimum of two semester hours.

Program Requirements (28 hours required)

The following education and psychology courses meet the state professional education standards:

ED FND 111, The School in Contemporary Society

PSY 271, Adolescent Psychology

ED PSY 312, Psychology of Teaching and Learning

SEC ED 213, Techniques of Secondary School Teaching and Field Experience

SEC ED 290, Secondary School Student Teaching

SPC ED 313, The Psychology and Education of Exceptional Individuals

SEC ED 386, Teaching Reading in Secondary School Content Area

and the appropriate course titled Curriculum and Methods of Teaching _____.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Note Music education students take the following courses instead of SEC ED 290: SEC ED 293, Student Teaching in Music Education K-6, and SEC ED 294, Student Teaching in Music Education 7-12. These two courses must be taken during the same semester.

Area of Concentration: Teaching Fields

Degree candidates must complete 30 to 40 hours of specific subject requirements in one of the following fields: English, foreign language (French, German, or Spanish), mathematics, music, science (biology, chemistry, physics), or social studies education.

Social studies students must complete a major in one of the following disciplines: anthropology, economics, geography, history, political science, psychology, or sociology; and meet these minimum social science requirements: American history, 12 hours; European or world history,

9 hours; United States and/or state government, 6 hours; economics, 3 hours; behavioral science (sociology, anthropology, or psychology), 6 hours; geography, 3 hours; and 2 hours of elective social studies credit.

Total: 120 hours

Bachelor of Science in Education: Secondary Education with Emphasis in Business Education

General Education Requirements Business education majors must complete the University General Education Requirements, Missouri certification requirements, and the following education and psychology courses:

Program Requirements (32 hours required)

ED FND 111, The School in Contemporary Society

PSY 271, Adolescent Psychology

ED PSY 312, Psychology of Teaching and Learning

SEC ED 213, Techniques of Secondary School Teaching and Field Experience

SEC ED 290, Secondary School Student Teaching

SEC ED 204, Seminar: Business Education Student Teaching

SPC ED 313, The Psychology and Education of Exceptional Individuals

SEC ED 386, Teaching Reading in Secondary School Content Areas

Academic Major (36 hours required)

These Secondary Education (SEC ED) courses:

162, Computer Keyboarding and Formatting

261, Methods of Teaching Keyboarding and Formatting

263, Methods of Teaching Accounting

264, Methods of Teaching Basic Business Subjects

***265**, Secretarial Practice

267, The Secondary Business Curriculum

***362**, Shorthand/Alpha Systems: Theory and Application

361, Information Processing: Applications and Techniques of Teaching

367, Methods of Teaching Desktop Publishing Concepts and Procedures

plus these **Business Administration** courses

103, Computers and Information Systems

140, Fundamentals of Financial Accounting

145, Managerial Accounting

156, Legal Environment of Business

256, Business Law I

206, Basic Marketing

and

Econ 51, Principles of Microeconomics

Note Grades of C or better are required in all courses in the academic major. This long standing policy will be rigorously enforced.

*Majors working toward shorthand certification must take these additional courses, and are not required to take BA 206.

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Electives

Electives are to be selected only after consulting with a faculty adviser.

Total: 120 hours

Graduate Studies

Master of Education: Secondary Education

The M.Ed. program in secondary education is flexibly designed to allow for the special interests of teachers, department chairpersons, curriculum workers, instructional supervisors, reading specialists, and those working in adult education. Programs must be planned with advisers and meet the approval of the Department, School, and Graduate School.

Degree Requirements for All Secondary Education Majors

The minimum 32-hour program for all secondary education majors includes the following requirements:

Core Requirements (9 hours)

ED FND 421, Philosophy of Education
SEC ED 415, The Secondary School Curriculum
SEC ED 420, The Improvement of Secondary School Teaching

Exit Requirement (3 hours)

One of the following courses must be taken as part of the last nine hours in the M.Ed. program in secondary education:

ED FND 422, Analysis of Educational Issues
SEC ED 416, Curriculum Construction for Secondary Schools

In addition to the above courses, the following is a third exit course option, limited solely to those in the Adult Education Emphasis or Business Education teaching field:

ADU ED 490, Internship (in Adult Education)

Any of the above courses, when not used to meet the exit requirement, may be included as an elective in the program.

Master of Education: Secondary Education with Emphasis in Curriculum and Instruction

The M.Ed. with an emphasis in curriculum and instruction is designed to enable candidates to further their competencies as teachers or curriculum/instructional leaders.

Degree Requirements (32 hours)

1) **Core Requirements** (9 hours as specified above)

2) **Curriculum/Instruction Core** (8 hours) Courses are to be selected in consultation with an adviser in the curriculum/instruction field from among the following:

SEC ED 315, The Middle Level School
SEC ED 386, Teaching Reading in Secondary School
Content Areas
SEC ED 414, Teaching the Gifted and Talented in Secondary Schools
SEC ED 416, Curriculum Construction for Secondary Schools
SEC ED 422, Individualizing Instruction in Secondary Schools
PHY ED 462, The Physical Education Curriculum

3) **Teaching Field Core** (8 hours)
 Courses approved by the Graduate School for M.Ed. programs are to be selected in consultation with an adviser in secondary education.

4) **Electives**
 Additional courses may be taken in the School of Education and/or curriculum and instruction areas to provide a consistent program upon the recommendation of the adviser.

Master of Education: Secondary Education with Emphasis in Adult Education

The M.Ed. with an emphasis in adult education is designed to enable candidates to further their competencies as teachers, administrators, and program planners in various adult education settings through the study of core courses in adult education, plus a minimum of eight hours of elective work appropriate to the candidates' particular needs. Adult Basic Education (ABE) practitioners can complete course requirements for certification within the scope of or independent from the master's degree program.

Degree Requirements (32 hours)

1) **Core Requirements** (9 hours as specified above)

2) **Adult Education Core** (8 hours)
 Courses are to be selected in consultation with an adviser in the adult education teaching field from among the following courses:

***ADU ED 412**, Foundations of Adult Education
 ***ADU ED 413**, Improvement of Instruction in Adult Education
 ***ADU ED 414**, Curriculum Theory and Development in Adult Education
 ***ED ADM 480**, Administration of Adult and Community Education
ADU ED 490, Internship, or **ADU ED 497**, Problems in Adult Education

3) **Electives**
 Additional courses may be taken in the School of

Educational Studies

Education and/or teaching field to provide a consistent program upon the recommendation of the adviser.

Adult Basic Education Certification

***ADU ED 311**, Teaching Basic Reading Skills to Adults
 ***ELE ED 445**, Problems of Teaching Arithmetic in the Elementary School, or **ELE ED 346**, Advanced Methods in Elementary School Mathematics

*Eight semester hours from these six courses, and three hours of Adult Education electives, in addition to SPC ED 313, Psychology and Education of Exceptional Individuals, are required for five-year certification from the Missouri Department of Elementary and Secondary Education. New requirements will be implemented in 1994 and are currently required for all new ABE teachers.

Adult Basic Education (ABE) Certification

- 1) Requirements for two-year teacher's certificate in ABE:
 - a. A holder of a bachelor's degree from a four-year college or university.
 - b. Annual attendance at Department of Elementary and Secondary Education (DESE) approved Adult Basic Education teacher certification workshops.

(The two-year ABE certificate may be renewed twice. Requirements for a five-year certificate must be completed by the end of the sixth year.)

- 2) Requirements for a five-year teacher's certificate in ABE:
 - a. A holder of a bachelor's degree from a four-year college or university.
 - b. Earn eight semester hours in DESE approved Adult Education classes, institutes, or workshops.

(The five-year ABE certificate may be renewed an unlimited number of times by repeating the requirements during the previous five years.)

Note This would provide certification for (1) ABE teachers who are teaching less than half-time and/or without a contract and/or not in a public school or an accredited private school; and for (2) ABE teachers with bachelor's degrees and experience teaching adults who do not have regular teacher certification. Information is available for Professional Certificates for full-time ABE teachers.

Master of Education: Secondary Education with Emphasis in Reading

The M.Ed. with an emphasis in secondary reading is designed to enable candidates to further their competencies as teachers of reading and to prepare for positions as reading specialists, reading consultants, and/or further graduate study.

Degree requirements (32 hours)

- 1) **Core Requirements** (9 hours as specified above)
- 2) **Reading Core**
 Required courses in reading should be taken in the following sequence:

SEC ED 386, Teaching Reading in Secondary School
 Content Areas

ELE ED 486, Clinical Diagnosis and Treatment of Reading Disabilities

ED REM 422, Individual Assessment of Cognitive Abilities

ELE ED 493, Clinical Methods in Child Study I

ELE ED 494, Clinical Methods in Child Study II

ELE ED 482, Problems and Research in Teaching Elementary School Reading

To complete Missouri reading certification for grades K-12, the following must be taken or have been completed at the undergraduate level. Students should see an adviser.

SPC ED 315, Speech and Language Problems of Exceptional Children, or **ECH ED 331**, Language Acquisition and Development in Early Childhood

SPC ED 320, Behavior Management

CNS ED 327, Personal and Professional Development in Counseling

ED PSY 417, Psychology of the Elementary School Child

ED PSY 418, The Psychology of Adolescence

- 3) The same exit requirement exists as outlined above for all students in the Master of Education degree program in Secondary Education.

Master of Education: Secondary Education and Certification

The M.Ed. in secondary education requires a minimum of 32 hours of graduate credit. Depending upon the area of secondary school specialization, certification may require from 28 to 36 semester hours of undergraduate course work, making a total of over 60 semester hours of graduate and undergraduate work. Under the combined program up to 15 hours of graduate courses may be substituted for the same number of undergraduate courses. Students seeking such certification must obtain advisement from the office of Teacher Education, the Department of Educational Studies, and from the appropriate faculty joint appointee in the Department of Educational Studies and respective Arts and Sciences department.

Degree Requirements

Required and Recommended Courses

1) Professional Requirements

SEC ED 2XX, Curriculum and Methods of Teaching _____

SEC ED 213, Techniques of Secondary School Teaching and Field Experience

SEC ED 290, Secondary School Student Teaching

SEC ED/A&S Dept., 2XX or 3XX Teaching Intern Seminar (1-3)

2) Certification and M.Ed. Requirements

ED PSY 312, The Psychology of Teaching and Learning

SEC ED 386, Teaching Reading in Secondary School
 Content Areas

ED PSY 418, The Psychology of Adolescence

SPC ED 412, Psychology of Exceptional Children

ED FND 421, Philosophy of Education

SEC ED 415, The Secondary School Curriculum

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Electives

Selected graduate courses, including at least eight hours in the teaching specialty or in curriculum/instruction.

Educational Administration Options

The options in educational administration include elementary and secondary school administration and certification for school district administration. They are part of a continuous two-phase, NCATE- and DESE-approved program. In the first phase, students earn the M.Ed. The second phase leads to the completion of a two-year course of study in educational administration and is designated the Advanced Certification Studies (ACS) program. Both phases are correlated with current Missouri requirements for certification as either a principal or director of elementary or secondary education or school superintendent in Missouri schools.

The options in educational administration are more than simply lists of courses. Each is an organized curricular offering.

Responsibility for developing appropriate individual programs rests primarily with students. They are, therefore, encouraged to take full advantage of the program planning assistance provided by advisers, especially during the early phase of the program(s).

Master of Education and Advanced Certification Studies (ACS): Educational Administration

The recommended curriculum for the M.Ed. in Educational Administration is 33 credit hours. The curriculum for Advanced Certification Studies is 60 credit hours.

Requirements

1) Educational Core (Required for M.Ed. and ACS)

ED FND 421, Philosophy of Education
ED FND 435, History of Western Education, or ED FND 330, History of American Education
ED ADM 411, Organizational Theory & Analysis in Education
ED ADM 416, Policymaking in Education

2) Research Core (Required for both M.Ed. and ACS)

*ED ADM 435, Education Administration Policy Research
ED REM 330, Educational Statistics

3) Educational Administration Core (Required for both M.Ed. and ACS)

ED ADM 414, Foundations of Educational Administration
ED ADM 460, School Law
ED ADM 471, School Staff Development & Supervision

4) School Administration Specialization

(Required for both M.Ed. and ACS)**

For Elementary School Administration

ED ADM 441, Elementary School Administration
ELE ED 411, Curricular Issues in the Elementary School, or
ELE ED 411, Curriculum Issues in the Elementary Schools.

For Secondary School Administration

ED ADM 451, Secondary School Administration
SEC ED 415, Secondary School Curriculum, or SEC ED 416, Curriculum Construction for Secondary Schools

5) Internship

(Required for state certification, but not for M.Ed.)
ED ADM 490, Internship

6) Technical Aspects of Educational Administration

(Electives, 12 hours for ACS. This list is suggestive; other approved courses may be used to meet the 12-hour requirement.)

ED ADM 425, Organizational Change in Education
ED ADM 429, The Department Head
ED ADM 430, School District Administration
ED ADM 465, State and Federal Financing of Public Education
ED ADM 466, Principles of Public School Finance in Missouri
ED ADM 475, School Buildings and Sites
ED ADM 480, Administration of Adult and Community Education
ED ADM 481, Programming in Community Education and Adult Education
ED ADM 485, Financing of Community Education
ELE ED 410, Current Research in the Elementary School Curriculum
ELE ED 411, Curricular Issues in the Elementary School
ELE ED 422, Curriculum Construction in the Elementary School
ELE ED 423, Curricular Implementation in the Elementary School
SEC ED 315, The Middle Level School
ELE ED 316, Middle Level School Curriculum
SEC ED 416, Curriculum Construction for Secondary Schools
SEC ED 420, The Improvement of Secondary School Teaching
SEC ED 422, Individualizing Instruction in Secondary Schools
ED TEC 433, Educational Technology Systems Management
ED REM 420, Classroom Measurement and Evaluation

7) Human Aspects of Educational Administration

(Electives, 12 hours for ACS. This list is suggestive; other approved courses may be used to meet 12-hour requirement.)

ED ADM 422, Leadership in Educational Administration
ED ADM 432, Problems in School Public Relations
ED ADM 456, Extracurricular Activities
ED ADM 470, School Personnel Administration
ED ADM 473, Collective Negotiations in Educational Organizations
ED FND 422, Analysis of Educational Issues
ELE ED 425, Elementary School Supervision
SEC ED 425, Secondary School Supervision
ED PSY 418, The Psychology of Adolescence
SPC ED 313, The Psychology and Education of the Exceptional Individual
CNS ED 431, Foundations of School Guidance
CNS ED 317, The Advisory Program in Middle Schools

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- * Exit Requirement for M.Ed. and ACS. This course must be taken within the last nine (9) semester hours of either M.Ed. or ACS.
- ** Students choose either the sequence for elementary school administration or the sequence for secondary school administration.

Master of Education: Educational Administration with Emphasis in Community Education

This is a 32-credit hour program for those students interested in community education.

Degree Requirements

1) Common Educational Foundations (9 hours required)
ED FND 421, Philosophy of Education
***SPEC ED 313**, The Psychology and Education of Exceptional Individuals
ED REM 420, Classroom Measurement and Evaluation or
ED REM 330, Educational Statistics

*Students who have already had an undergraduate course related to Psychology of Exceptional Children need not take SPC ED 313.

2) Administrative Foundations (12 hours required)
ED ADM 411, Organizational Theory and Analyses in Education

For elementary administration community education
ED ADM 441, Elementary School Administration
ELE ED 425, Elementary School Supervision
ELE ED 410, Current Research in the Elementary School Curriculum

For secondary administration community education
ED ADM 451, Secondary School Administration
SEC ED 425, Secondary School Supervision
SEC ED 415, The Secondary School Curriculum, or **SEC ED 416**, Curriculum Construction for Secondary Schools

3) Community Education Emphasis Area (9 hours required)
ED ADM 480, Administration of Community and Adult Education
ED ADM 481, Programming in Community and Adult Education
ED ADM 490, Internship

4) Recommended Electives
ED ADM 485, Financing of Community Education
ED ADM 432, Problems in School Public Relations
ED ADM 460, School Law
ED ADM 485, State and Federal Financing of Public Education
ED ADM 414, Foundations of School Administration

5) Minor Area of Concentration
 (6 hours required for ACS)

Students are expected to demonstrate competence in at least one other field. Other fields may include sociology, political science, business administration (industrial-labor relations or other area), economics, educational research, and other approved fields. Competence may be shown by successful completion of at least six hours in one of these fields.

6) Internship or Field Study (Required ACS only)
ED ADM 490, Internship

Career Outlook

Secondary school teaching positions are more plentiful than in the recent past. Most certificated teachers can find jobs if they are willing to go where there are openings.

Teachers of mathematics and the sciences are in extremely high demand. The fields of humanities and social sciences have somewhat better immediate prospects than in the past. The preparation that teacher education graduates receive enables them to do well in service and sales positions. Job opportunities in the educational and training facets of these fields are good.

People with preparation in secondary education, educational technology, adult education, and educational administration find positions in education/training units in businesses, industries, health care organizations, governmental units, community agencies, and service institutions.

School administration opportunities are available to qualified individuals, particularly those who have completed advanced graduate programs. Community education is an expanding field and will need increasing numbers of people with preparation in that specialty.

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Course Descriptions

Courses in this section are grouped as follows:

Adult Education (ADU ED) Educational Administration (ED ADM) Educational Foundations (ED FND) Educational Technology (ED TEC) and Secondary Education (SEC ED).

Prerequisites may be waived by consent of the department.

Adult Education (ADU ED)

311 Teaching Basic Reading Skills to Adults (3)

A study of the reading process and of the characteristics of adult learners with a focus on instructional techniques and materials useful in upgrading the performance of adults with deficient reading skills.

404 Seminar in Adult Education Research (1-10)

Prerequisites: ADU ED 410 or consent of instructor. A review of current research on various topics in the field of adult education. An in-depth study of these research topics will be conducted. Application to the field of adult education will be considered. Special focus will be placed on assessing and improving competency in educational, corporate and community settings.

410 The Adult Learner (3)

This course is designed for those who help adults learn in a variety of settings. A study will be made of the characteristics of Adult Learners and various theories of how they learn, as well as the implications of these characteristics and theories for Adult Education Research Programming, Curriculum, Planning, and Instructional Practice.

412 Foundations of Adult Education (3)

Prerequisites: ADU ED 410 or consent of instructor. A comprehensive, systematic foundation for adult education. It will relate (a) the pragmatic philosophy and objectives of adult education in America to (b) the continuing education of the adult in a progressive social context.

413 Improvement of Instruction in Adult Education (3)

Prerequisites: ADU ED 410 or consent of instructor. A study of selected methods and instructional techniques appropriate for the teaching of adults. An examination of current research will be made as it relates to the problems of instructing adults.

414 Curriculum Theory and Development in Adult Education (3)

Prerequisites: ADU ED 410 or consent of instructor. A study of curriculum theory and its application to adult education. Particular emphasis will be placed on the development of model curricula for various programs in adult education.

425 Principles of Business Education (3)

Prerequisites: Business education certification and consent of instructor. Designed for the business education teacher, this course examines in depth the principles, practices,

and problems of business education programs. It emphasizes research into historical and philosophical implications, the influence of contemporary attitudes on business education, evaluation of current programs, and development of innovative approaches. It may be applied toward Missouri Vocational Business Education certification.

426 Coordination of Cooperative Vocational Programs (3)

This course deals with student selection procedures. Coordinating vocational instruction and planned employment experiences; research techniques for collecting and analyzing data for process and product evaluation; procedures for implementing new ideas and innovations in cooperative vocational education programs. The course is designed for vocational teachers and for teachers who wish to qualify as coordinators of cooperative vocational programs. This course may be applied toward Missouri Vocational Certification.

427 Improvement of Instruction in Teaching Business Subjects (3)

Prerequisites: Business education certification and consent of instructor. Designed for business education teachers, this course examines current trends in planning, organizing, developing, and evaluating instructional materials relevant to business education classes. Emphasis is placed on research techniques and strategies for selecting and utilizing appropriate curriculum materials, resources, and media to match learning needs. This course may be applied toward Missouri Vocational Certification.

432 Teaching in the Community College (3)

This course is designed for students considering a teaching career in the community college. The main emphasis of the course will be to expose students to the unique features of the community college with respect to the special goals of the institution, variety of degree and nondegree programs, and diversity of community college students. A second objective will be to offer a brief review of teaching techniques that will be useful in the community college classroom.

435 Problems in Teaching College Biology (3)

(Same as Biology 485.) Prerequisites: Teaching experience, 30 semester hours in biology, and consent of the instructor. Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

490 Internship (1-10)

Prerequisites: ADU ED 410 or consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

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497 Problems in Adult Education (1-10)

Prerequisites: ADU ED 410 or consent of instructor. Independent study on topics in adult education.

Educational Administration (ED ADM)

411 Organizational Theory and Analysis in Education (3)

Prerequisite: ED ADM 414 or equivalent. The purpose of this course is to examine organizational theory and its implications for the field of education. A comprehensive survey of the work of scholars in the field of organizational theory will provide students with appropriate conceptual tools necessary to analyze problems in educational organizations.

414 Foundations of School Administration (3)

Emphasis on processes common to all phases of educational administration. Conceptual framework for administration of education, decision making, and organizational theory.

416 Policymaking in Education (3)

Prerequisites: ED FND 421 and ED ADM 411 or equivalent. The purpose of this course is to provide the student with a comprehensive and systematic approach to understanding the nature and function of policy making in education.

422 Leadership in Educational Administration (3)

This course is designed to acquaint the administrator with the factors of groups and interpersonal relationships directly affecting job performance. The consequences of various types of group relationships upon the institution will be studied in detail. The administrator will study various rationales for and methods of improving interpersonal relationships within the institution.

425 Organizational Change in Education (3)

Prerequisite: ED ADM 411 or equivalent. This course deals with (1) developing strategies for assessing educational needs, (2) methods of assessing the school's "organizational health," (3) the designing of educational change strategies involving theory-based models, (4) using systems-analysis techniques to implement educational change, and (5) methods of involving students and staff in incorporating meaningful organizational change strategies in educational institutions.

430 School District Administration (3)

Prerequisite: ED ADM 414 or consent of instructor. Course focuses on current research about school district administration; also deals with major central office issues including: board/superintendent relations, central office organization, the function and authority of assistant superintendents and program directors, and the administrative team approach to school district administration.

432 Problems in School Public Relations (3)

Principles of good school public relations, unique public functions of various school and community groups. Techniques for conducting school public relations.

435 Education Administration Policy Research (3)

Prerequisites: ED ADM 411, ED ADM 414, and ED ADM 416. A study of issues and trends in basic, applied, and action research in educational policy making.

441 Elementary School Administration (3)

Prerequisite: ED ADM 411 or equivalent. This course is a comprehensive, systematic study of the elementary school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of elementary schools.

451 Secondary School Administration (3)

Prerequisite: ED ADM 411 or equivalent. This course is a comprehensive, systematic study of the secondary school principalship. Emphasis is placed on relating theories of learning, teaching, and organization to effective administration of secondary schools.

456 Extracurricular Activities (3)

Activities related to the extracurricular program of secondary schools will be studied in depth. Analysis of appropriate activities will include the nature and purposes of these activities.

460 School Law (3)

Principles of law as derived from court decisions; statutory and constitutional provisions affecting education. Legal status (power and responsibilities) of school board members, superintendents, principals, teachers, and pupils.

465 State and Federal Financing of Public Education (3)

Economic implications of public education. Determination of policy and practice in financing of public schools by local, state, and federal agencies. Developing principles of adequate tax programs and designing systems of state support of public education.

466 Principles of Public School Finance in Missouri (3)

Course is designed to analyze and study critical areas of public school finance at the local and state levels, highlighting the role of such factors as legislative procedures, principles of local and state support, budgeting and accounting procedures, assessment of property, etc.

470 School Personnel Administration (3)

Prerequisite: ED ADM 411 or equivalent. This course is a comprehensive, systematic study of problems in planning, recruitment selection, induction, and retention relative to school personnel.

471 School Staff Development and Supervision (3)

Prerequisite: ED ADM 411 or equivalent. This course provides a systematic examination of the conceptual bases and practical applications of the administration of staff development and supervision programs in a broad spectrum of educational settings. The course explores organizations of several relevant theories and conceptual models including Social Systems Theory and Organizational Development (OD). Students will be introduced to a variety of administrative techniques used to assess needs; plan, deliver, and evaluate staff development; and supervision programs in education.

473 Collective Negotiations in Educational Organizations (3)

This course focuses on the concepts, issues, and processes involved with collective negotiations (bargaining) in American educational organizations. The major issues

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addressed in the course include recognition procedures, bargaining unit determination, the scope of negotiations, the proposal and counterproposal, compromise, impasse procedures, and master contract management.

475 School Buildings and Sites (3)

Course is designed to acquaint the administrator with methods and procedures for projecting the future building and facility needs of a public school district and for supervising actual planning of facility construction. Maximizing utilization of current facilities will be studied in detail.

480 Administration of Adult and Community Education (3)

A course designed to familiarize the student with the structure, purpose, and processes of community education with particular emphasis being placed on the administrative theories and functions of adult education.

481 Programming in Community and Adult Education (3)

Prerequisite: ED ADM 480. Study and analysis of basic situations in which community and adult educational programming take place. Within this framework, application will be made of a fundamental series of steps essential to sound educational programming.

485 Financing of Community Education (3)

The student will develop the necessary skills needed to construct an operational budget for the administration of community education programs. Emphasis will be placed on developing a support base from federal, state, and local funding resources. The student will be exposed to proposal writing and funding procedures.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

Educational Foundations (ED FND)

111 The School in Contemporary Society (3)

The introductory course in teacher education. An examination of the organization and purpose of the school in its social setting. Selected representative educational themes and issues will be studied. Required of students admitted to the School of Education. Prerequisite to other professional courses.

251 Black Americans in Education (3)

An examination and analysis of conditions affecting the education of black Americans and their schools, with emphasis on relationships between schools and the black community, and needed changes in education.

330 History of American Education (3)

Prerequisite: A course in American history or consent of instructor. An overview of the evolutionary development

of American educational theory and practice from the early colonial period to the present. Attention is also given to selected issues in professional education.

332 Progressivism and Modern American Education (3)

Relationship between American progressive school theory and contemporary classroom practices, including the open classroom, the community school, the alternate school, open admissions, and learning by individual contract. Trends will be interpreted in the light of various roles of the classroom teacher in the modern school.

340 Comparative Education (3)

A study of selected Western and non-Western educational themes and issues viewed in the context of their respective cultures.

410 Development and Organization of Urban School Systems (3)

An examination and analysis of the development and existing conditions affecting urban education, with emphasis on current efforts to bring about quality education in urban areas. A review of current projects and research, as well as the effect of these projects upon the school systems, would be included.

421 Philosophy of Education (3)

A study of the fundamentals of education in the light of modern science and philosophy.

422 Analysis of Educational Issues (3)

Prerequisite: A course in philosophy of education or a course in history of education, or consent of instructor. A critical examination of issues about the elementary and secondary schools. This is done through the analysis of the procedures, resources, and goals that guide school policies and practices.

435 History of Western Education (3)

A course designed to survey the educational development of Western civilization from approximately the eighth century BC until the present. Salient educational theory and practice will be considered in their appropriate social context.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

Educational Technology (ED TEC)

245 Audiovisual Equipment Operation for Classroom Teachers (1)

An entry-level course for all teacher education students. May be taken concurrently with ED TEC 246. A self-paced, modularized, and criterion referenced course. Students

Educational Studies

will demonstrate competence in operating standard audiovisual equipment normally found in the schools.

246 Preparation of Inexpensive Materials for the Classroom (1)

An entry-level course for teacher education students. May be taken concurrently with ED TEC 245. A lecture-demonstration laboratory course in material preparation for classroom use.

247 Integration of Media and Materials in Instructional Planning (1)

Prerequisites: ED TEC 246, and for secondary education students, SEC ED 213. Course concentrates on the integration of media and materials in lesson planning. Through lecture, demonstration, and individualized instruction, the student designs an instructional unit and prepares appropriate material for that unit. ED TEC 246 must be taken prior to, or concurrently with, this course.

248 Utilization of Computer-Based Materials in Instruction (1)

Utilizing a series of computer-based education modules, the instructional uses of the computer are explained and demonstrated. Students develop practical experience in using and evaluating computer materials for classroom use.

340 Selection and Utilization of Educational Media (3)

Introduction to the selection, use, and evaluation of audiovisual materials and equipment including films, slides, transparencies, projectors, globes, charts, maps, bulletin boards, plus programmed materials, information retrieval systems, and instructional television.

345 Preparation of Graphic Materials for Audiovisual Education (3)

Prerequisite: ED TEC 340 or consent of instructor. Not open to lower division students. A lecture-demonstration-laboratory course that emphasizes the graphic arts component of audiovisual material production. Theories of learning and communication are used in the design and production of materials used for classroom settings.

346 Instructional Television (3)

Prerequisite: ED TEC 340 or consent of instructor. Not open to lower division students. A lecture-demonstration laboratory course designed to concentrate on the use of instructional television in formal and informal learning situations. Basic script writing, management of ITV systems, and design and production of low-budget programs will be emphasized.

353 Principles of Photographic Production for Education (3)

Prerequisite: ED TEC 340 or consent of instructor. A lecture-demonstration-laboratory course which stresses the application of theories of learning, perception, and retention to the visual medium of still photography. Emphasis on designing and producing photographic material that enhances the teaching/learning process.

354 Principles of Motion Picture Production for Education (3)

Prerequisite: ED TEC 340 or consent of instructor. A lecture-demonstration laboratory course. Emphasis on application

of theories of learning, perception, and retention as they relate to motion picture production. Special attention will be given to the design and production of motion picture material that enhances the learning process.

404 Seminar in Educational Technology Research (3)

Prerequisites: ED TEC 340 and twelve hours of graduate work in educational technology. A review of research in educational technology with individual in-depth study. The student selects a research problem in conjunction with the instructor and completes a review project. Open to graduate students who have completed twelve hours of work in educational technology.

410 Computer-Based Graphics and Text Design and Production (3)

Prerequisite: Education 301 or permission of the instructor. A lecture-demonstration-laboratory course that emphasizes the theoretical and practical design of graphic and textual material through the use of computer-based graphics programs. Emphasis will be placed on the utilization of commercial software to produce graphic designs and desktop publishing projects such as newsletters, workbooks, and other textual materials.

412 Applications of Computers in Education (3)

Prerequisite: EDUC 301 or permission of instructor. Uses and capabilities of computers in the teaching, administration, and counseling areas of education. Familiarization with computing facilities and package programs.

415 Computer-Based Education: Authoring Software I (3)

Prerequisite: Education 301 or permission of the instructor. A lecture-demonstration-laboratory course that emphasizes the theoretical and practical design of computer-based educational materials. Students will develop practical experience in utilizing programming shells and authoring languages in the development of curricular-based CBE programs.

432 Educational Technology Systems Design (3)

Prerequisite: ED TEC 340. A lecture-demonstration course in the application of learning theory to the design of audiovisual materials. Emphasis on educational technology systems design, objectives, constraints, limitations, and evaluation. Methods of analyzing target populations and instructional demands along with decision-making models will be reviewed.

433 Educational Technology Systems Management (3)

Prerequisite: ED TEC 340. Basic principles of management in design and operation of media programs and systems in various educational settings. Emphasis on strategies and alternative structures for achieving and evaluating functions of media centers.

435 Diffusion and Adoption of Innovations in Educational Technology (3)

Prerequisite: ED TEC 340. A lecture course designed to provide an overview of the diffusion and adoption of technical innovations in the educational system. This course will include the technological, sociological, psychological, and political aspects of the process of diffusion and adoption.

Educational Studies

Various models, techniques, and applications of the diffusion and adoption process are emphasized.

446 Advanced Instructional Television Production (3)
Prerequisite: ED TEC 340 and ED TEC 346. Advanced management, script writing, and production of ITV programs. Laboratory activities in production of systematically designed instruction. Each student will produce ITV programs involving writing, production of graphics, directing, editing, and validating the programs.

490 Internship (1-10)
Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

493 Practicum in Educational Technology (3)
Prerequisite: ED TEC 340 or consent of instructor. Focus is on the application of principles of instructional development to teaching problems in educational technology. Selecting, developing, adapting, and using instructional technology appropriate to the specific teaching problems is an integral part of this course.

497 Problems (1-10)
Prerequisite: ED TEC 340 or consent of instructor. Individual study on topics pertaining to educational technology.

Secondary Education (SEC ED)

162 Computer Keyboarding and Formatting (3)
Prerequisite: Intermediate typewriting or equivalent. Review of keyboarding techniques and skills; development of speed and accuracy; instruction in the preparation of business and professional papers and forms with emphasis on formatting and information processing skills.

204 Seminar: Business Education Student Teaching (1)
Prerequisites: Completion of all required courses in major and/or certification emphasis area. To be taken concurrently with student teaching. Application of theory, methods, and techniques to the teaching of business subjects in grades 7-12.

208 Mathematics Teaching Intern Seminar (1)
Prerequisite: Concurrent enrollment in SEC ED 290. A seminar in the integration of mathematics curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary Student Teaching, SEC ED 290.

213 Techniques of Secondary School Teaching and Field Experience (4)
Prerequisites: ED FND 111 and admission to the Teacher Education Program. Activities and interaction of teachers and students in secondary schools. Included also is an analysis of teaching, learning, and field observations in secondary classrooms. Recommended that SEC ED 213 be taken during the first semester of the junior year prior to special methods courses.

232 The Curriculum and Methods of Teaching English (3)
(Same as English 262.) Prerequisites: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the English courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Includes field experiences. The course prepares students for reflective teaching by relating course readings to field experiences and theory to practice. To be taken prior to student teaching. This course must be completed in residence.

240 Curriculum and Methods of Teaching Physical Sciences (3)
(Same as Chemistry 280 and Physics 280.) Prerequisite: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the physical science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of science. To be taken prior to student teaching. This course must be completed in residence.

246 The Curriculum and Methods of Teaching Mathematics (3)
Prerequisites: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of the mathematics courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of mathematics. To be taken prior to student teaching. This course must be completed in residence.

255 The Curriculum and Methods of Teaching History and Social Studies (3)
(Same as History 255.) Prerequisite: Junior standing and SEC ED 213. A study of the scope and sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is directed also toward learning the techniques and research tools of the scholar in the fields of history and social studies. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence.

256 Social Studies Teaching Intern Seminar (1)
(Same as History 256.) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of educational philosophy, social studies curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, SEC ED 290.

261 Methods of Teaching Keyboarding and Formatting (3)
Prerequisite: Intermediate Typewriting or equivalent. Instruction in the methods and techniques used to teach keyboarding and document formatting.

Educational Studies

263 Methods of Teaching Accounting (3)

Prerequisites: BA 140, BA 145, or equivalent. Methods and techniques of teaching data processing and accounting in the secondary schools.

264 Methods of Teaching Basic Business Subjects (3)

Prerequisites: Econ 51 or equivalent, BA 206 and/or BA 256. Methods and techniques of teaching basic business, business law, economics, consumer economics, and business principles and management in the secondary school curriculum.

265 Secretarial Practice (3)

Prerequisites: SEC ED 162 and consent of instructor. Study of secretarial office procedures; office-style dictation for transcription; word processing; office machines; records management.

267 The Secondary Business Curriculum (3)

Prerequisite: ED FND 111 or equivalent or consent of instructor. Study of the scope and sequence of business education courses in the high school curriculum. Attention is directed toward the history of business education, curricular change, standards, evaluation, and research in the field of business education.

270 English Teaching Intern Seminar (1)

(Same as English 270.) Prerequisite: Concurrent enrollment in SEC ED 290. A seminar in the integration of English curricula, educational philosophy, teaching strategies, and instructional technology in the classroom setting. To be taken concurrently with Secondary School Student Teaching, SEC ED 290.

273 The Curriculum and Methods of Teaching Art (3)

Prerequisites: SEC ED 213 and a near major in the subject matter. A study of the scope and sequence of art courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of art. To be taken concurrently with student teaching. This course must be completed in residence.

274 Curriculum and Methods of Teaching Foreign Language (3)

(Same as FLL 264.) Prerequisites: SEC ED 213 and passing the departmental language skill test. A study of the scope and sequence of the foreign language courses in the school curriculum with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is also directed toward learning the techniques and research tools of the scholar in the field of foreign language. To be taken prior to student teaching. This course must be completed in residence.

275 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)

(Same as Music 267.) Prerequisites: Music 131, Music 257/ELE ED 277, and ED FND 111; concurrent registration in Music 261, Music 268/SEC ED 276 or Music 269/SEC ED 277 and Music 270/SEC ED 278 or Music 271/SEC ED 279. For the music education major. A study of the secondary school music program: curricular objectives, philosophy,

and general administrative procedures common to all secondary music classes. This course must be completed in residence.

276 Curriculum and Methods of Teaching Instrumental Music I (2)

(Same as Music 268.) Prerequisites: Music 131, 145, 151, 161, ED FND 111, two of the following: Music 25, 26, 27, 28. Concurrent registration in Music 257/ELE ED 277. A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music education program. Topics include student recruitment, the elementary band/orchestra, small group instruction, jazz ensemble, and marching band. This course must be completed in residence.

277 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)

Prerequisites: Music 131, Music 257/ELE ED 277, and ED FND 111. (Same as Music 269.) concurrent registration in Music 267/SEC ED 275 and Music 271/SEC ED 279. For the music education major. A study of the middle school/ junior high school general music program emphasizing a conceptually based curriculum, objectives, methodologies, materials, innovations, classroom organization, and management. This course must be completed in residence.

278 Curriculum and Methods of Teaching Instrumental Music II (2)

Prerequisites: Music 131, 152a, 162, Music 257/ELE ED 277, Music 268/SEC ED 276, ED FND 111, three of the following: Music 25, 26, 27, 28. (Same as Music 270.) Concurrent registration in Music 267/SEC ED 275. A continuation of Music 268/SEC ED 276. Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation. This course must be completed in residence.

279 Curriculum and Methods of Teaching Secondary Choral Music (2)

(Same as Music 271.) Prerequisites: Music 131, Music 257/ELE ED 277, and ED FND 111; concurrent registration in Music 261, Music 267/SEC ED 275, Music 269/SEC ED 277. For the music education major. A study of the secondary school choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes. This course must be completed in residence.

285 Curriculum and Methods of Teaching Life Sciences (4)

(Same as Biology 285.) Prerequisites: SEC ED 213 and a near major in biology. A study of the scope and sequence of the life science courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. The analysis of teaching/learning and field experience observations in secondary school classrooms will be integrated into classroom activities and discussions. This course must be completed in residence.

286 Laboratory in Teaching Life Sciences (2)

(Same as Biology 286.) Prerequisite: SEC ED 213. Discussion, development, utilization, and evaluation of equipment,

Educational Studies

materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285/SEC ED 285.

290 Secondary School Student Teaching (12)

Prerequisites: SEC ED 213 and admission to student teaching. Clinical teaching experience in secondary school classrooms under University and school supervision. To be taken after appropriate curriculum and methods course.

293 Student Teaching in Music Education, K-6 (5)

Prerequisites: ELE ED 210, SEC ED 213, Music 257/ELE ED 277, Music 267/SEC ED 275, Music 118, Music 268/SEC ED 276, Music 270/SEC ED 278 (instrumental emphasis majors); Music 120, Music 269/SEC ED 277, Music 271/SEC ED 279 (Choral/vocal emphasis majors); and admission to student teaching. Must be taken "in block" with SEC ED 294 and must immediately precede it in the semester. Clinical teaching experience in music education settings in the schools under University and school supervision with seminar included. Required of all majors in music education.

294 Student Teaching in Music Education, 7-12 (5)

Prerequisite: SEC ED 293. Must be taken "in block" with SEC ED 293 and must immediately follow it in the semester. Clinical teaching experience in music education settings in the schools under University and school supervision with seminar included. Assignments will be in different settings from those of SEC ED 293. Required of all majors in music education.

305 Writing for Teachers (3)

(Same as English 305.) Prerequisite: English 210 or a comparable course in advanced composition. Designed for prospective as well as in-service teachers, the course includes: (1) writing—short papers to be shared in workshop groups; (2) reading—current theory and research on writing and the implications for teachers; (3) teaching—classroom activities that foster growth in writing.

312 Secondary School Curriculum (3)

Prerequisite: SEC ED 213. Sources, scope, and organization of the curriculum, modern trends, and methods of investigation.

315 The Middle Level School (3)

Prerequisites: ED FND 111 or equivalent and admission to Teacher Education Program. An in-depth study of the philosophical and historical bases of the goals and organization of middle level schools, including a review of research as the bases for current trends and practices.

360 Administration and Supervision of Office Personnel (3)

Prerequisite: Consent of instructor. An advanced course in office administration and supervision designed to meet the needs of business personnel involved in administrative office management work; emphasis on updating leadership and human relations skills, organizing, planning, controlling office services, and business data processing systems.

361 Information Processing: Applications and Techniques of Teaching (3)

Prerequisite: SEC ED 162, SEC ED 261, or equivalent, or

consent of instructor. The course will focus on the needs of preservice and in-service teachers who instruct courses in information processing. Special emphasis placed on organizing and managing an information processing lab, software applications, integration of information processing concepts into existing courses, teaching strategies, and current information processing research.

362 Teaching Alpha Writing Systems: Theory and Application (3)

Prerequisite: Consent of instructor. A study of alphabetic shorthand writing systems. Instruction in the theory and application of alpha writing systems. Emphasis on teaching techniques, learning activities, evaluation, testing, and current research.

367 Methods of Teaching Desktop Publishing Concepts and Procedures (3)

Prerequisite: SEC ED 162; SEC ED 261 or consent of instructor. This course will focus on the integration of text and graphics using graphic design and electronic page assembly with a microcomputer-based system. Special emphasis placed on Desktop Publishing concepts, methods, and techniques. Attention is directed toward teaching techniques, learning activities, evaluation and current research.

374 Foreign Language Teaching Seminar (2)

(Same as FLL 364.) Prerequisite: Concurrent enrollment in SEC ED 290 or consent of instructor. A practicum course in the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of SEC ED 274, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with SEC ED 290, Student Teaching.

386 Teaching Reading in Secondary School Content Areas (3)

Prerequisite: ED FND 111 or equivalent. Methods and materials for improving reading and study strategies in content area classes in upper grades.

391 Field Study in Secondary Education (1-10)

Identification of specific problems in the area of secondary education. Course is conducted as a field study in the public schools. A maximum of eight credit hours may be applied toward an advanced degree contingent upon adviser approval.

393 Student Teaching in Music Education, K-12 (5)

Prerequisite: SEC ED 294 or equivalent and admission to student teaching. Clinical teaching experience in music education settings in the schools under University and school supervision with seminar included. For students who wish an additional student teaching experience.

399 Science Teaching Intern Seminar (3)

(Same as Biology 399.) Prerequisites: SEC ED 285 and SEC ED 286. Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, SEC ED 290.

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404 Seminar (1-10)

413 Secondary Teaching with Microcomputers (3)

Prerequisite: EDUC 301 or consent of instructor. A course designed for teachers, department heads, and school administrators. Research and theory on microcomputer-assisted instruction as a teaching method in the secondary schools will be presented. Both hardware and software suitable for microcomputers will be used and analyzed.

414 Teaching the Gifted/Talented Student in Secondary School (3)

A survey of research and theory on teaching the gifted/talented student in secondary school. Ways to identify the gifted/talented with emphasis on teaching the gifted/talented in both heterogeneous and homogenous secondary classrooms. Models of gifted/talented programs in a school setting.

415 The Secondary School Curriculum (3)

For secondary school principals, teachers, and superintendents. Present methods in curricular change and methods of curricular investigation.

416 Curriculum Construction for Secondary Schools (3)

Prerequisite: SEC ED 415 or consent of instructor. Designed for those engaged in curriculum revision work and construction of new secondary school courses.

420 The Improvement of Secondary School Teaching (3)

For secondary school teachers, principals, and superintendents with considerable training in education and experience in teaching. Recent developments in secondary school teaching.

422 Individualizing Instruction in Secondary Schools (3)

This course surveys a variety of theoretical models and research findings related to individualized instruction in the secondary school and is designed for teaching and administrative personnel.

425 Secondary School Supervision (3)

Methods of improving instruction in junior and senior high schools.

427 Supervision of Clinical Experiences in Teacher Education (3)

Prerequisites: Teaching experience and consent of instructor. A consideration of the clinical phase of the teacher education program, with special emphasis on student teaching. Examination of role responsibilities and supervisory practices. Study of professional literature for research findings, theoretical formulations, and recent developments in the field.

429 The Department Head (3)

This course emphasizes the role of the department chairperson as an educational leader. Theoretical concepts are related to sound practice. The potential for the job is discussed, as well as the roadblocks to successful execution. Appropriate for practicing department chairpersons, school administrators, or classroom teachers interested in acquainting themselves with this position.

430 Problems of Teaching English in the Secondary School (3)

A review of recent developments in the teaching of secondary English. Special attention is given to research involving instructional problems in urban and suburban schools. The course is designed for teachers, department heads, and supervisors in secondary English programs.

436 Gateway Writing Project (1-6)

(Same as English 490.) An intensive course in the writing process and the writing curriculum, designed for experienced teachers. Readings of current theory and research will be related to participants' experience as writers and as teachers. Topics may vary. May be repeated for credit. No more than six hours may be applied toward the M.Ed. Counts toward the Certificate in Writing.

452 Problems of Teaching Social Studies in the Secondary Schools (3)

A review of recent developments in the teaching of secondary school social studies. Special attention is given to research and scholarship involving instructional and curricular problems, especially in the metropolitan St. Louis area. Emphasis is placed upon development of effective materials, techniques, and resources. The course is designed primarily for teachers and supervisors in secondary school social studies programs.

486 Techniques in Teaching Biology for Graduate Students (2)

(Same as Biology 486.) Prerequisites: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student teacher interactions. Recommended for all graduate students with teaching assistantships.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

Elementary and Early Childhood Education

Faculty

Helene J. Sherman, Chairperson; Associate Professor*
Ed.D., University of Missouri-St. Louis
Richard W. Burnett, Professor Emeritus
Ed.D., Indiana University
Joan Gilley, Lecturer
M.Ed., University of Missouri-St. Louis
Allison K. Hoewisch, Assistant Professor*
Ph.D., University of Southern Mississippi
William C. Kyle, Professor*
Ph.D., University of Iowa
Carole A. Murphy, Associate Professor*
Ed.D., Texas A & M University
Richard Pontius, Assistant Professor*
Ph.D., Ohio State University
Wallace Z. Ramsey, Professor Emeritus
Ed.D., University of Missouri-Columbia
Lloyd I. Richardson, Jr., Associate Professor*
Ph.D., George Peabody College
Cyrus Rodgers, Assistant Professor*
Ed.D., University of Missouri-St. Louis
Thomas R. Schnell, Associate Professor*
Ph.D., Southern Illinois University-Carbondale
Doris A. Trojcek, Professor Emeritus
Ed.D., Indiana University
Gwendolyn Turner, Associate Professor*
Ed.D., University of Arkansas
Huber M. Walsh, Professor Emeritus
Ed.D., University of California-Los Angeles
Melva Ware, Associate Professor
Ph.D., St. Louis University

*members of Graduate Faculty

General Information

The faculty of the Department of Elementary and Early Childhood Education have their offices on the third floor of Marillac Hall. Questions about departmental matters should be directed to 369 Marillac Hall.

The department coordinates programs leading to the B.S. in Education degree in early childhood education and elementary education. The B.S.Ed. in elementary education may also be tailored to the middle school/ junior high teaching certificate. A special feature of these programs is the many opportunities to work with children in schools as part of the professional course work.

Note The State Board of Education developed standards for renewable professional certificates, based on specific requirements for training and experience. Details regarding these standards are available in the Office of Undergraduate Studies in Education.

For graduate students, the Department of Elementary and Early Childhood Education offers three programs leading to the M.Ed. in elementary education: generalized or specialized elementary education; elementary education with certification in reading; and elementary education with teaching certification.

Undergraduate Studies

General Education Requirements

Elementary Education (1-8)

English and Communication (9 hours)
English 10, Composition
English 210, Advanced Expository Writing
Communication: 3 hours

Mathematics (6 hours)
Math 50, Structure of Mathematical Systems I
and
Math 151, Structure of Mathematical Systems II

Science
Biological Science: includes lab (5 hours)
Biology 130: 3 hours
Physical Science: includes lab (4 hours)

Humanities (8 hours)
Three courses from **two** of the following fields:
art, music, philosophy, and literature.

Social Science (21 hours)
Psych 3, General Psychology
Psych 270, Child Psychology
PolSci 11, Introduction to American Politics
or equivalent

and one of the following **history** courses:

History 3, American Civilization
History 4, American Civilization

and the following **courses**:

PolSci 11, Introduction to American Politics
PolSci 85, Global Ecology
Econ 40, Introduction to the American Economy or
Econ 305, Macroeconomics for the School Curriculum
or
Econ 306, Microeconomics for the School Curriculum
Sociology 10, Introduction to Sociology, or any
anthropology course

Early Childhood Education (P-3)

General education requirements are the same as for Elementary Education except that Mathematics 151, and economics are not required.

Middle School/Junior High (5-9)

General education requirements are the same as for Elementary Education except that Psychology 271, Adolescent Psychology, is taken in lieu of Psychology 270, Child Psychology.

Elementary and Early Childhood Education

Degree Requirements

Bachelor of Science in Education: Early Childhood Education

The early childhood program is designed for students wishing to teach and direct programs for children from pre-kindergarten through grade three. Students electing this program will work directly with young children as a part of their professional courses.

General Education Requirements

Students are required to take the general education requirements as indicated for Early Childhood Education above.

Program Requirements

ED FND 111, The School in Contemporary Society
ED PSY 312, Psychology of Teaching and Learning
SPC ED 313, The Psychology and Education of Exceptional Individuals

and these **Elementary Education (ELE ED)** courses:

330, Children's Literature and Reading
336, Teaching Language Arts and Reading, N-9
385, Teaching Reading in the Elementary School

plus these **Early Childhood Education (ECH ED)** courses:

290, Student Teaching in Early Childhood Education I
291, Student Teaching in Early Childhood Education II

Note ECH ED 290 and ECH ED 291 must be taken during the same semester.

312, Introduction to Early Childhood Education
317, Assessing Individual Needs for Early Childhood
331, Language Acquisition and Development in Early Childhood
332, Early Literacy
346, The Acquisition of Mathematical Concepts
313, Curriculum and Practice: Infant/Toddler
314, Curriculum and Practice: Preschool
315, Curriculum and Practice: Primary
303, Curriculum and Practice Laboratory: Infant/Toddler
304, Curriculum and Practice Laboratory: Preschool
305, Curriculum and Practice Laboratory: Primary

Related Area Requirement

PHY ED 130, Elements of Health Education
PHY ED 282, Physical Growth and Motor Development

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Post-degree certification students may take ED FND 330, History of American Education, or ED FND 421, Philosophy of Education, in lieu of ED FND 111.

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the Office of Undergraduate Teacher Education, 155 Marillac Hall.

Total: 120 hours

Bachelor of Science in Education: Elementary Education

The elementary education program prepares students to teach in grades one through six.

General Education Requirements

Students are required to take the general education requirements as indicated for Elementary Education above.

Related Area Requirements

PHY ED 130, Elements of Health Education
PHY ED 165, Physical Education Activities for the Elementary School
ELE ED 177, Elementary School Music
ELE ED 179, (Art 139), Art Activities for Elementary School

Program Requirements

EDUC 101, Introduction to Classroom Teaching
ED FND 111, The School in Contemporary Society
ED PSY 312, Psychology of Teaching and Learning
SPC ED 313, The Psychology and Education of Exceptional Individuals

and these **Elementary Education (ELE ED)** courses:

246, Teaching Mathematics in the Elementary School
253, Teaching of Social Studies in the Elementary School
***290**, Elementary School Student Teaching I
***291**, Elementary School Student Teaching II
330, Children's Literature and Reading
336, Teaching Language Arts and Reading, N-9
341, Teaching of Science in the Elementary School
385, Teaching Reading in the Elementary School
389, The Analysis and Correction of Reading Problems in the Classroom

***Note** ELE ED 290 and ELE ED 291 must be taken during the same semester.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Post-degree certification students may take ED FND 330, History of American Education, or ED FND 421, Philosophy of Education, in lieu of ED FND 111.

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the Office of Undergraduate Teacher Education, 155 Marillac Hall.

Total: 120 hours

Bachelor of Science in Education: Elementary Education (Middle School/Junior High Certification)

This area of specialization in elementary education prepares students to teach in grades 5-9.

General Education Requirements

Students are required to take the general education requirements as indicated for Middle School/Junior High above.

Elementary and Early Childhood Education

Related Area Requirement
PHY ED 132, Personal Health

Program Requirements

ELE ED 101, Introduction to Classroom Teaching
ED FND 111, The School in Contemporary Society
ED PSY 312, Psychology of Teaching and Learning
SPC ED 313, The Psychology and Education of Exceptional Individuals

and these education courses:

ELE ED 389, The Analysis and Correction of Reading Problems in the Classroom
ELE ED 316, Middle Level Curriculum and Instruction
SEC ED 315, The Middle Level School
SEC ED 386, Teaching Reading in Secondary School Content Areas
SEC ED 305, Writing for Teachers
CNS ED 317, The Advisor-Advisee Program in Middle School
SPC ED 320, Behavior Management
ELE ED 290, Elementary School Student Teaching I
ELE ED 291, Elementary School Student Teaching II

Area of Concentration for State Certification

Middle School 5-9 requires a minimum of 21 hours for certification in the specific content of social studies and a minimum of 21 hours in another selected area with the appropriate methods course for each area. Students may elect, however, to do one area with a minimum of 30 hours plus the methods course.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Post-degree certification students may take ED FND 421, Philosophy of Education, in lieu of ED FND 111.

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the Office of Undergraduate Teacher Education, 155 Marillac Hall.

Total: 120 hours

Graduate Studies

Master of Education: Elementary Education

General Curricular Program or Specialization in Selected Curricular Areas

The M.Ed. student in elementary education may elect either of these programs. Please note, however, that in either case the degree is the Master of Education in Elementary Education. Diplomas and transcripts do not show areas of specialization nor are special certificates awarded.

1) Core Competencies (12 hours)

To include ELE ED 410, Current Research in the Elementary School Curriculum; ELE ED 411, Curricular

Issues in the Elementary School; and six hours selected, in consultation with advisers, from among cognate fields or professional education.

2) Content Competencies (12 hours)

Students desiring to specialize through a sequence of courses should select at least nine hours in one of the following areas: Children's Literature, Early Childhood, Language Arts, Mathematics Education, Reading, Science Education, Social Studies Education, or Special Education. Students who elect a general sequence should take no more than six hours in any one area.

3) Curricular Applications Competencies (9 hours)

Students must select, in consultation with their advisers, a measurement course, and complete the following: ELE ED 422, Curriculum Construction in Elementary Schools, and ELE ED 423, Curriculum Implementation in the Elementary School.

Upon completion of ELE ED 410 and ELE ED 411 in phase one, each candidate selects a curricular area or areas, identifies an adviser from the elementary and early childhood education faculty, and plans appropriate course sequences. A candidate enrolling in the specialist program should select an adviser in the area of specialization.

The sequence of courses, ELE ED 410 and ELE ED 411 should be taken at the beginning of the program; ELE ED 422 and ELE ED 423 constitute the final two program courses. Students should note that ELE ED 411 is typically offered only during the Winter and Summer Semesters, ELE ED 422 is offered only during the Fall Semester and ELE ED 423 only during the Winter Semester.

Electives should be selected according to candidates' needs and/or interests.

Emphasis in Reading

The M.Ed. program with emphasis in reading is designed to enable candidates to further their competencies as reading teachers and prepares them for positions as remedial reading specialists, reading consultants, and/or for further graduate study. The minimum required and recommended courses are as follows:

1) Core Requirements

At least one graduate-level course in each of the following areas: learning psychology; research, statistics, and measurements; and elementary curriculum.

2) Courses in Reading

The following required courses in reading should be taken in sequence. Courses denoted by asterisks are required for certification in remedial reading by Missouri teacher certification regulations. Students, with their advisers' permission, may substitute other courses for any requirement if they have had a recent upper-class undergraduate course covering the same material.

Required are:

*ELE ED 385, Teaching Reading in the Elementary School
*SEC ED 386, Teaching Reading in Secondary School Content Areas

Elementary and Early Childhood Education

these Elementary Education (ELE ED) courses:

*486, Clinical Diagnosis and Treatment of Reading Disabilities

*493, Clinical Methods in Child Study I

*494, Clinical Methods in Child Study II

Note ELE ED 493 is offered in Fall and Summer Semesters;
ELE ED 494 is offered in the Winter and Summer.

and also:

ELE ED 482, Problems and Research in Teaching Elementary School Reading (offered only in the Winter Semester).

*ED REM 420, Classroom Measurement and Evaluation

*SPC ED 315, Speech and Language Problems, or

*ECH ED 331, Language Acquisition and Development

*SPC ED 320, Behavioral Management

*CNS ED 310, Introduction to the Counseling Profession

*ED PSY 417, Psychology of the Elementary School Child

*ED PSY 418, Psychology of Adolescence

Note SPC ED 412, Psychology of Exceptional Children, is required for certification if it has not been taken previously at the undergraduate or graduate level. It is not a degree requirement.

3) Electives

Following is a list of possible elective courses. Other courses may be selected from cognate fields after conferring with an adviser in reading.

English 220, Development of the English Language

ED FND 421, Philosophy of Education

ADU ED 311, Teaching Basic Reading Skills to Adults

ELE ED 484, Developmental Reading (K-13)

ELE ED 488, Supervision of School Reading Programs

Certification Options

A combined M.Ed. and certification option exists. Options include Elementary Education (1-8), Early Childhood Education (P-3), and Middle School/Junior High (4-9). Students should consult certification advisers. Graduate credit will not be given for courses at the 100 or 200 level.

Career Outlook

Undergraduate and graduate degrees in Early Childhood Education and Elementary Education are most directly applicable to teaching at the level appropriate to the program emphasis. Increasing specialization of teaching assignments and downward extensions of "ages of schooling" continue to open employment opportunities. As in the past, early childhood and elementary education graduates at all degree levels also continue to be attractive candidates for employment in many positions which require (or are well suited to) training in social and behavioral sciences. Positions in constant contact with and service to the general public such as sales, service, public relations, and general business are most common examples. Future expansions of opportunities in schools are tied to population growth, increased specialization of services, and reduction in ratios between professional staff and children served. Many presently employed teachers will retire within the next 5-10 years; consequently, a shortage of teachers is anticipated.

Elementary and Early Childhood Education

Course Descriptions

Courses in this section are grouped as follows: Early Childhood Education (ECH ED) and Elementary Education (ELE ED).

Prerequisites may be waived by consent of the department.

Early Childhood Education (ECH ED)

290 Student Teaching in Early Childhood Education I (5)
Prerequisites: ED FND 111, Psychology 270, ECH ED 312, ECH ED 333, ELE ED 385, ELE ED 336, Communication 40, English 210, ED PSY 312, ELE ED 230, ELE ED 389, ECH ED 321, ECH ED 331, ECH ED 317, ECH ED 346, and ECH ED 314; and admission to student teaching. Must be taken with ECH ED 291, and must immediately precede ECH ED 291 in the semester. Clinical teaching experience in early childhood education classrooms in the schools under University and school supervision. Required for all majors in early childhood education.

291 Student Teaching in Early Childhood Education II (5)
Prerequisite: ECH ED 290. Must be taken "in block" with ECH ED 205 and ECH ED 290 and must follow ECH ED 290 in the semester. Clinical teaching experience in early childhood education classrooms in the schools under University and school supervision. Assignments will be in different school districts, buildings serving families of different socio-economic and cultural backgrounds, and at different age/grade levels from those of the ECH ED 290 assignments. Required of all majors in early childhood education.

303 Curriculum and Practice Laboratory: Infant/Toddler (1)
Classroom experience in infant or toddler classrooms under direction of university personnel. Must be taken concurrently with ECH ED 313, Curriculum and Practice: Infant/Toddler.

304 Curriculum and Practice Laboratory: Preschool (1)
Classroom experience in preschool classrooms under direction of university personnel. Must be taken concurrently with ECH ED 314, Curriculum and Practice: Preschool.

305 Curriculum and Practice Laboratory: Primary (1)
Classroom experience in primary classrooms under direction of university personnel. Must be taken concurrently with ECH ED 315, Curriculum and Practice: Primary.

312 Introduction to Early Childhood Education (3)
Prerequisites: ED FND 111 and ED PSY 312. Study of basic principles underlying good schools for young children. Students will use theoretical base as well as on-site observations to develop an awareness of teaching-learning strategies appropriate for the developmental needs of children from birth through age eight. Scheduling, classroom arrangement, and child management practices will be considered. Throughout the course, students will be expected to begin developing their own philosophy of early childhood education.

313 Curriculum and Practice: Infant/Toddler (2)

Prerequisite: ECH ED 312. Focuses on planning integrated curriculum for child from birth to 30 months. Includes working with parents and community resources. Lab required.

314 Curriculum and Practice: Preschool Education (2)

Prerequisite: ECH ED 312. Focuses on planning integrated curriculum for the preschool classroom with emphasis on science, social studies, creative activities and technology. Working with parents and parent education emphasized. Lab required.

315 Curriculum and Practice: Primary Education (2)

Prerequisite: ECH ED 312. Focuses on planning integrated curriculum for the primary classroom with emphasis on science, social studies, creative activities and technology. Working with parents and parent education emphasized. Lab required.

317 Assessing Individual Needs for Early Childhood Instruction (3)

Prerequisites: ECH ED 312. Techniques of observing children and using assessment instruments to plan an individualized program for early childhood. Practicum experience required.

321 Parent and Community Resources in Early Childhood Education (3)

Prerequisite: Admission to the School of Education or graduate status. Competencies for working with parents and community agencies will be developed through a study of community and community resources. Procedures for parent participation and use of service agencies in the education of all young children, including those with special needs, will be examined.

331 Language Acquisition and Development in Early Childhood (3)

Prerequisite: ED PSY 312. Development of language and the effects environmental and cultural factors have on the acquisition process. Identification of language problems for purpose of referral. Includes preschool classroom practices to support language development. Practicum experiences included.

332 Early Literacy (3)

Prerequisites: ECH ED 312 and ECH ED 331. Study of children as they construct literacy knowledge from birth to early elementary. Development of meaningful and developmentally appropriate activities in which reading and writing are used to support children's skills. Criteria for choosing and assessing literature as a vehicle for literacy for children from birth to eight will be addressed.

341 Exploring the Physical World with Young Children (3)

Prerequisites: ECH ED 312 and completion of science requirements in general education. A study of and experiences with materials, techniques, and resources for broadening the child's awareness and understanding of science.

346 The Acquisition of Mathematical Concepts (3)

Prerequisites: ELE ED 246 or equivalent and consent of instructor. Applications of the major theorists (Bruner,

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Piaget, Gagne, etc.) to mathematics for children of mental ages 3-8. Considerations suggested by research and implications in the areas of logical thinking, pre-number ideas, geometry, topology, problem solving, and arithmetical operations.

351 Exploring the Social World With Young Child (3)

Prerequisites: ECH ED 312 and completion of social science requirements in general education. A study of and experience with materials, techniques, and resources for furthering the child's mastery of the skills of communication; understanding of people, social roles, society, and various cultures; and ability to develop satisfying relationships with peers and adults.

390 Student Teaching in Early Childhood Education III (5)

Prerequisites: ECH ED 291 or equivalent and admission to student teaching. Clinical teaching experience in early childhood education classrooms in the schools under University and school supervision with seminar included. For students who wish an additional student teaching experience.

412 Foundations of Early Childhood Education (3)

Prerequisite: A course in child psychology or equivalent. A study of the various types of early childhood programs and the philosophy upon which they are based. Attention will also be directed to the implementation of such programs, problems of parent involvement, and the social environment of the children.

413 The Educational Role of Play (3)

Prerequisite: ECH ED 312 or equivalent. Emphasizes play as a constructive process with applications to cognitive and social development. Special attention to facilitating play in early childhood classrooms.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

Prerequisite: Graduate standing. Individual study on topics pertaining to early childhood education.

Elementary Education (ELE ED)

82 Effective Reading and Study Skills (2)

Designed to increase reading rate and comprehension and to develop study techniques appropriate to the purpose and difficulty of materials. Use is made of mechanical pacer, comprehension tests, vocabulary materials, and lecture demonstrations. No credit toward a degree.

177 Elementary School Music (2)

Prerequisite: Consent of department. The role of the classroom teacher in the development of the elementary school general music program; selection of music,

demonstration and practice of methods, and study of resources. This course will not apply toward requirements for a music major.

179 Art Activities for Elementary Schools (3)

(Same as Art 134.) A study of art principles; provides laboratory experiences with various media and materials. Stresses curriculum planning and developments of the elementary school program in art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

192 Educational Laboratory/Field Experience (1-3)

A laboratory/field experience requiring systematic observation and/or participation in appropriate educational settings. To precede student teaching. May be repeated to maximum of three hours.

246 Teaching Mathematics in the Elementary School (3)

Prerequisites: ED FND 111, junior standing, and completion of mathematics requirements in general education. Organization and implementation of a modern elementary school mathematics program. A field experience involving several visits to local elementary schools is a required assignment of the course.

253 Teaching of Social Studies in the Elementary School (3)

Prerequisites: ED FND 111, junior standing, and completion of social science requirements in general education. Study of elementary school social studies emphasizing the current social studies curricular content, methods of teaching, and instructional materials. Analysis of forces affecting objectives, materials, and teaching techniques.

277 Curriculum and Methods of Teaching Elementary School Music (3)

(Same as Music Education 257.) Prerequisites: Music 131 and ED FND 111. For the music education major. A study of the elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources. This course must be completed in residence.

290 Elementary School Student Teaching I (5)

Prerequisites: ED FND 111, ELE ED 101, Psych 270, ELE ED 336, ELE ED 385, Comm 40, English 210, ED PSY 312, ELE ED 230, ELE ED 341, ELE ED 253, ELE ED 246, ELE ED 389, and admission to student teaching. Must be taken with ELE ED 291, and must immediately precede ELE ED 291 in the semester. Clinical teaching experience in elementary school classrooms under University and school supervision. Required for all majors in elementary education.

291 Elementary School Student Teaching II (5)

Prerequisite: ELE ED 290. Must be taken "in block" with ELE ED 205 and ELE ED 290, and must immediately follow ELE ED 290 in the semester. Clinical teaching experience in elementary school classrooms under University and school supervision. Assignments will be in different school districts, buildings serving families of different socio-economic and cultural backgrounds, and at different grade levels from those of the ELE ED 290 assignments. Required for all majors in elementary education.

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310 Elementary School Curriculum (3)

Prerequisites: ED FND 111 and junior standing. Study of modern education with regard to objectives, content, and methods in elementary school curriculum.

316 Middle Level Curriculum and Instruction (3)

Prerequisites: ED PSY 312 and admission to Teacher Education Program. Preparation for teaching and learning in a middle school, grades 5–9. Content focuses on curriculum development, methods, techniques, materials, planning, organization, and assessment in middle level education for early adolescents.

330 Children's Literature and Reading (3)

Prerequisite: Junior standing. A course designed to provide a knowledge of the various types of literature for young people, including books, magazines, comics, television, and films; criteria for evaluating and selecting material; uses of material in the classroom and home; and motivating reading for enjoyment and information, bibliotherapy, and communication.

336 Teaching Language Arts and Reading N-9 (3)

Prerequisites: Six hours of English/Communication; ED PSY 312. Involves study of methods and materials for implementing a total language arts program, including reading in the elementary school. Emphasis is placed on using the language experience approach in teaching listening, reading, spelling, handwriting, grammar, and spoken or written composition as basic skills.

341 Teaching Science in the Elementary School (3)

Prerequisites: Completion of science requirements in general education, ED FND 111, and upper-level standing. An analysis of teaching science to elementary school children with emphasis on current science education trends, science curricular materials, and strategies of instruction.

342 Teaching Remedial Mathematics (3)

Prerequisite: ELE ED 246. Methods for diagnosing and remediating mathematical skills and concepts of the special needs learner. Course requires testing and tutoring assignments in area school districts outside of scheduled University class time.

346 Advanced Methods in Elementary School Mathematics (3)

Prerequisites: ELE ED 246 and consent of instructor. Review, evaluate, develop, and provide classroom trial of instructional components prepared for teaching mathematics. Course will develop greater depth of preparation in: elementary program content; programs for exceptional children; and curricular extensions such as transformational geometry, rational numbers, and intuitive algebra.

385 Teaching Reading in the Elementary School (3)

Prerequisites: ED PSY 312 and junior standing. Systematic study of methods for teaching elementary school reading with greatest emphasis on teaching word recognition, vocabulary, and comprehension. Ten hours of observation-participation is required.

387 Teaching Reading and Language Arts to Culturally Diverse Children (3)

Prerequisites: ED FND 111 and senior standing. Systematic study of the problems of teaching reading and related language arts in ghetto schools. Attention is given to the ways in which the selection of materials and methodology of teaching relating to inner-city children is influenced by their physical and psychological needs, their experience backgrounds, their spoken language patterns, their cultural heritage, and the sociology of their environment.

389 The Analysis and Correction of Reading Problems in the Classroom (3)

Prerequisites: ELE ED 385 or SEC ED 386, or equivalent. Study of causes of reading difficulties and procedures that may be used to analyze and correct them in the group setting. Ten hours of diagnostic tutoring is required.

390 Elementary School Student Teaching III (5)

Prerequisites: ELE ED 291 or equivalent and admission to student teaching. Clinical teaching experience in elementary school classrooms under University and school supervision with seminar included. For students who wish an additional student teaching experience.

405 Seminar (1-10)

410 Current Research in the Elementary School Curriculum (3)

A systematic examination of research related to elementary school curriculum. Students will be expected to become effective consumers of educational research and to utilize appropriate research findings in their decision-making processes when planning instruction.

411 Curricular Issues in the Elementary School (3)

Prerequisite: ELE ED 410. Selected contemporary problems which affect elementary classroom decisions. Computer literacy values, meeting individual needs, and dealing with discipline are studied through investigative discussions, reading, and a research paper.

412 Microcomputers in Elementary Education (3)

Focuses on principles and procedures for using microcomputers for instructional and classroom management activities in the elementary classroom.

422 Curriculum Construction in Elementary Schools (3)

Prerequisite: ELE ED 410. A study of the elementary curriculum with regard to selection of objectives and content and to provisions for curricular change.

423 Curricular Implementation in the Elementary School (3)

Prerequisite: ELE ED 422. Culminating experience for curricular project in ELE ED 422. Course will include procedures and techniques for curricular design implementation in the field.

425 Elementary School Supervision (3)

Organized to study such problems in field of supervision as will meet needs of superintendents, principals, and special supervisors.

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427 Supervision of Clinical Experiences in Teacher Education (3)

Prerequisite: Teaching experience and consent of instructor. A consideration of the clinical phase of the teacher education program, with special emphasis on student teaching. Examination of role responsibilities and supervisory practices. Study of professional literature for research findings, theoretical formulation, and recent developments in the field.

430 Problems of Teaching the Language Arts (3)

Procedures used in teaching integrated language arts in elementary schools.

432 Problems and Research in Elementary School Language Arts (3)

Prerequisites: ELE ED 430, ED REM 431, and six hours of English. A systematic study of research in teaching speaking, listening, written composition, handwriting, spelling, and linguistics as it focuses on the problems of teaching these skills in the elementary school. Attention is given to innovations in the field.

436 Children's Literature I: Survey and Analysis (3)

Prerequisite: ELE ED 330 or equivalent. A survey of children's literature published in the last ten years. Special emphasis will be placed on the relationship between children's literature and contemporary issues of society. Students will experience the materials themselves rather than reading about books. In addition, students will begin to study the literary elements that make literature interesting and meaningful for children.

437 Children's Literature II: Selection and Functions (3)

Prerequisite: ELE ED 330 or equivalent. A study of literary elements that make literature interesting and meaningful for children will be completed. Further emphasis will focus on the application of trade books for children as resources in school curriculum planning. Children's Literature II may be taken either before or after Children's Literature I.

441 Problems and Research in Teaching Elementary School Science (3)

Prerequisites: Eight hours of science, ELE ED 341, and ED PSY 411. A thorough examination of research related to elementary school science instruction with particular emphasis on innovative programs. Includes methods of investigation and techniques for interpreting the professional literature.

443 Teaching Physical Science in the Elementary School (3)

Activity-oriented experiences with basic physical science concepts, laboratory skills, and techniques that are appropriate for elementary school teachers. The physical science concepts in elementary school curricula will be analyzed in depth.

444 Environmental Studies for Elementary Teachers (3)

Activity-oriented training in developing environmental awareness, field and/or laboratory skills and techniques, and the use of elementary environmental curricula. Materials and activities appropriate for one's students and locale will be developed.

445 Problems of Teaching Mathematics in the Elementary School (3)

A study of the mathematics program in the elementary school from the viewpoint of goals, content, techniques, and evaluation.

446 Curriculum and Methods of Teaching Measurement in Mathematics: Metric and Standard Systems (3)

Prerequisite: ECH ED 346 or ELE ED 246. Curricular development and implementation on reflecting recent research findings. Content, materials, methods of teaching the general topic: measurement. Applications in both the metric and standard systems.

447 Problems and Research in Teaching Elementary School Mathematics (3)

Prerequisite: ELE ED 445. A thorough examination of research related to recurrent problems in elementary school mathematics instruction, as well as current problems arising within modern programs. Includes methodology appropriate to investigation of such problems and techniques for assessment of the literature.

448 Diagnosis and Remediation of Disabilities in Learning Mathematics (3)

Prerequisite: ELE ED 445. Causes of mathematical disabilities. Materials and techniques for diagnoses and corrective programs for children and youth.

450 Problems of Teaching Social Studies in the Elementary School (3)

A classroom-oriented study of curricular and instructional problems encountered in social studies. Emphasis is placed upon development of materials, techniques, and resources.

452 Problems and Research in Teaching Elementary School Social Studies (3)

Prerequisite: ELE ED 450. An advanced study of pedagogical problems germane to social studies education with particular emphasis on application of research findings to the solution of classroom problems.

482 Problems and Research in Teaching Elementary School Reading (3)

Prerequisite: ELE ED 385 or equivalent. Systematic study of research as it focuses on the problems of teaching reading in the elementary school. Attention is given to innovations in the field.

484 Developmental Reading (K-13) (3)

Prerequisite: ELE ED 385 or SEC ED 386, or equivalent. Designed to update classroom teachers' skills in reading instruction. Study of basic reading instruction at all grade levels with special emphasis on current instruction programs, innovative approaches to reading instruction, basic techniques, commercial reading materials, and recent research findings which have a bearing on methodology.

486 Clinical Diagnosis and Treatment of Reading Disabilities (3)

Prerequisites: A graduate course in reading and in

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measurement or statistics. Etiology of specific reading disability; procedures that are used to diagnose and treat in the clinical setting.

488 Supervision of School Reading Programs (3)

Prerequisite: ELE ED 385 or SEC ED 386. Processes and techniques of developing, evaluating, and/or modifying the reading program in a school or district. The course would enable those seeking positions as consultants, coordinators, and directors of reading to conform with standards specified by the International Reading Association.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

493 Clinical Methods in Child Study I (3)

Prerequisites: ELE ED 486 and ED REM 422. Clinical experience in diagnosing learning problems, especially reading disability, in school children.

494 Clinical Methods in Child Study II (3)

Prerequisite: ELE ED 493. Clinical experience in applying remedial procedures to school children with learning problems, especially reading disability.

495 Supervision of Practicum in Clinical Reading (3)

Prerequisites: ELE ED 385 or SEC ED 385; ELE ED 486, ELE ED 493, ELE ED 494; and ED REM 422. Supervising graduate students in diagnosis and remedial process within the reading clinic.

497 Problems (1-10)

Selected problems to meet the needs of individual students.

Physical Education

Faculty

Bruce A. Clark, Associate Professor*

Ph.D., University of Illinois

Linda Gagen, Lecturer

M.Ed., Kent State University

Nancy Getchell, Assistant Professor*

Ph.D., University of Wisconsin-Madison

Kathleen M. Haywood, Associate Dean of Instruction:

Director of Graduate Studies, Professor*

Ph.D., University of Illinois-Urbana-Champaign

Thomas J. Loughrey, Associate Professor*

Ph.D., University of Iowa

Charles G. Smith, Associate Professor*; Athletic Director

Emeritus

M.S., Washington University

*members of Graduate Faculty

General Information

The Physical Education Program is housed on the second floor of the Mark Twain Building. Information about offerings and related matters may be obtained in the program office, 234 Mark Twain.

The program coordinates work in physical education. At the undergraduate level this work leads to the B.S. in Education degree with emphasis in either PK-9 or PK-12 physical education.

Note: The State Board of Education developed standards for renewable professional certificates, based on specific requirements for training and experience. Details regarding these standards are available in the Office of Teacher Education.

The master of education degree in elementary and secondary education provides courses for graduate students who choose physical education as their teaching field. Graduate students should consult their advisers about the requirements.

Undergraduate Studies

Bachelor of Science in Education: Physical Education

General Education Requirements (42 hours required):

Humanities

At least one course from two of the following fields: music (excluding applied music), art, foreign language, Western and non-Western cultures, philosophy, literature, classical studies, and theatre and drama.

Communication Skills

At least two courses in English composition and one in oral communications.

Social Studies

Courses in American history, American government, and psychology.

Natural Science

One course in a physical or earth science; one course in a biological science. At least one of these courses must have a laboratory component.

Mathematics

One college-level mathematics course.

Note: All of the courses above must be a minimum of two semester hours.

Electives 11-14 hours

PK-9

The following courses in teaching of skills are required in **Physical Education (PHY ED), 14 hours:**

220, Teaching of Skills: Movement & Rhythms

221, Teaching of Skills: Dance

222, Teaching of Skills: Grades PK-4

223, Teaching of Skills: Grades 5-9

The following theory of **Physical Education (PHY ED)** courses are required (**31 hours**):

234, Teaching of Wellness & Health Related Fitness

261, Physical Activity for the Exceptional Learner

267, Performance Analysis in Physical Education

275, Psychological Aspects of Physical Education

277, Historical/Philosophical Foundations of Physical Education and Sport

280, Human Anatomy and Physiology, or Biology 113, Human Physiology and Anatomy I

282, Physical Growth and Motor Development

283, Kinesiology

284, Physiology of Human Exercise

285, Sports Medicine

The following Professional Education courses are required (**31 hours**):

ED FND 111, The School in Contemporary Society

EDUC 101, Introduction to Classroom Teaching

PSY 270, Child Psychology

ED PSY 312, Psychology of Teaching and Learning

SPC ED 313, The Psychology and Education of Exceptional Individuals

SEC ED 386, Teaching Reading in Secondary School Content Areas

PHY ED 268, The Curriculum and Methods of Teaching Physical Education

PHY ED 290, Student Teaching in Physical Education: PK-5

PHY ED 291, Student Teaching in Physical Education: 5-9

Total: 124 hours

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the Office of

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Total: 120 hours

Grades PK through 12 Emphasis

The following courses in teaching of skills are required in Physical Education (PHY ED), 18 hours:

- 220, Teaching of Skills: Movement & Rhythms
- 221, Teaching of Skills: Dance
- 222, Teaching of Skills: Grades PK-4
- 223, Teaching of Skills: Grades 5-9
- 224, Teaching of Skills: Grades 9-12

The following theory of Physical Education (PHY ED) courses are required (33 hours):

- 234, Teaching of Wellness & Health Related Fitness
- 261, Physical Activity for the Exceptional Learner
- 267, Performance Analysis in Physical Education
- 275, Psychological Aspects of Physical Education
- 276, Sociological Foundations of Physical Education and Sport
- 277, Historical/Philosophical Foundations of Physical Education and Sport
- 280, Human Anatomy and Physiology
- 282, Physical Growth and Motor Development
- 283, Kinesiology
- 284, Physiology of Human Exercise
- 285, Sports Medicine

The following Professional Education courses are required (37 hours):

- ED FND 111, The School in Contemporary Society
- ED 101, Introduction to Classroom Teaching
- SEC ED 213, Techniques of Secondary School Teaching and Field Experience
- PSY 270, Child Psychology
- PSY 271, Adolescent Psychology
- ED PSY 312, The Psychology of Teaching and Learning
- SPC ED 313, Psychology and Education of Exceptional Individuals
- SEC ED 386, Teaching Reading in Secondary School Content Areas
- PHY ED 268, The Curriculum and Methods of Teaching Physical Education

Two of the following three:

- PHY ED 290, Student Teaching in Physical Education PK-5
- PHY ED 291, Student Teaching in Physical Education 5-9
- PHY ED 292, Student Teaching in Physical Education 9-12

Total: 133 hours

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a C (2.0). A C- grade is not acceptable.

Changes in teacher certification requirements in this area are upcoming. To obtain the latest information on requirement changes or to find out whether the new requirements will apply to you, contact the Office of

Undergraduate Teacher Education, 155 Marillac Hall.

Athletic Coaching Minor

An Athletic Coaching Minor is available (minimum of 20 hours). The following courses are required:

- PHY ED 280, Human Anatomy and Physiology (this course is a prerequisite to PHY ED 283, PHY ED 284, and PHY ED 285)
- PHY ED 285, Sports Medicine
- PHY ED 275, Psychological Aspects of Physical Education
- PHY ED 283, Kinesiology
- PHY ED 284, Physiology of Human Exercise
- PHY ED 224, Teaching of Skills: Grades 9-12
- PHY ED 312, Management of Sports Programs
- PHY ED 330, Prescribing Physical Activity

All courses apply to, but do not complete, teaching certification in Missouri.

Graduate Studies

Master of Education: Elementary or Secondary Education with Physical Education as Teaching Field

A significant number of graduate students choose physical education as the teaching field within one of the Master of Education degree options. Most are currently employed as teachers of health and/or physical education. Certification requirements in Missouri mandate the completion of a master's degree to professionalize the certificate. Therefore, a full complement of graduate courses relating to teaching in physical education is available to meet this need. For many who need to pursue teacher certification in physical education while pursuing the master's degree, most course work needed to meet state certification requirements can be taken in the master's program. For those employed outside of education, an emphasis in Exercise Science is also available, providing a foundation of course work designed to prepare a person in this area. Specific information is available regarding each of these degree programs. Please consult with your graduate adviser to discuss the specific options and requirements.

Career Outlook

The employment outlook for physical educators in the schools continues to be very strong and positive, especially in the elementary and middle school levels. Recent placement years have yielded full employment opportunities to UM-St. Louis graduates. Rising school enrollments and the expected retirement of a significant portion of currently employed teachers signal optimistic outlooks for the next few years. In addition to elementary, middle school, and high school physical education teaching, more limited opportunities exist in athletic training, dance, research sports management, and exercise leadership fields serving persons of all categories.

Physical Education

Course Descriptions

Prerequisites may be waived by consent of the department or the instructor.

124 Principles and Practice in First Aid and Cardiopulmonary Resuscitation (1)

The course provides theory and supervised practice in first aid and cardiopulmonary resuscitation leading to American Red Cross certification in those areas.

130 Teaching Health in the Elementary School (3)

Prerequisites: ED FND 111 and admission to the School of Education. A study of health programs in the elementary school. Emphasis is given to the teacher's responsibilities in the areas of health services, healthful school environment, and instruction in a comprehensive school health program.

132 Personal Health (3)

A study of factors that contribute to physical and mental well-being at all stages of the life cycle. Particular attention will be given to the identification and analysis of individual health behaviors.

134 Personal Physical Fitness (3)

A study of the relationship between vigorous physical activity and individual well-being. Emphasis will be placed on an individualized analysis of health fitness, resulting in a prescribed program to develop optimal levels of physical fitness, including aerobic fitness, strength, muscular endurance, flexibility, body composition, and lifetime sports considerations.

165 Physical Education Activities in the Elementary School (3)

Objectives of physical education for the elementary school child with applications of choice of activities, organization of program, theory, and practices.

190 Clinical Experience in Physical Gerontology (3)

(Same as Gerontology 190.) Early supervised experience in gerontological physical activity programming. Seminar precedes and accompanies clinical experience.

193 Clinical Experience in Youth Sport Programs (3)

Supervised clinical experience in youth sport programs. Seminar precedes and accompanies clinical experience.

204 Special Topics in Physical Education (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, field study, or research.

220 Teaching of Skills: Movement and Rhythms (3)

Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching fundamental movement skills and rhythmical activities. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

221 Teaching of Skills: Dance (3)

Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching dance in school physical education programs. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials. Dance forms studied will be folk, square, ballroom, modern, jazz and creative.

222 Teaching of Skills: Grades PK-4 (4)

Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching developmental games, education gymnastics and perceptual-motor activities. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

223 Teaching of Skills: Grades 5-9 (4)

Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching track and field, outdoor education, soccer, softball, flag football, basketball, and volleyball. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

224 Teaching of Skills: Grades 9-12 (4)

Prerequisite: Junior Standing. Study of skill analysis and techniques of teaching racquet sports, aquatics, bowling, golf, archery and team handball. Emphasis will be given to biomechanical analysis of movement, application of motor learning concepts, and design and preparation of appropriate instructional experience and materials.

234 Teaching Wellness and Health-Related Fitness (4)

Prerequisite: PHY ED 280 or the equivalent, or consent of the instructor. Study and techniques of teaching wellness and health-related physical fitness concepts across the life span. Evaluation, interpretation, and application of wellness concepts to the individual and groups.

261 Physical Activity for the Exceptional Learner (2)

Prerequisites: SPC ED 311 and SPC ED 313. A study of the special physical activity and exercise needs, interests, and problems of the exceptional learner, with considerable emphasis on the development of methods and competencies in modifying physical activities.

267 Performance Analysis in Physical Education (3)

Prerequisite: College-Level Mathematics. A study of quantitative and qualitative approaches, processes and instruments used in assessing student progress in physical education activities. Emphasis will be given to the application of statistical methods to the results of evaluations of human motor performance and the interpretation of those results, as well as to the construction and administration of measurement instruments.

268 Curriculum and Methods of Teaching Physical Education (3)

Prerequisite: PHY ED 101 or SEC ED 213. Study of the scope and sequence of the school program in physical education with emphasis on planning processes, content

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selection, management procedures, instructional strategies, and program assessment.

275 Psychological Aspects of Physical Education (3)
Prerequisites: Psychology 3. A study of the following aspects of psychology as they influence performance in sport and physical activity: learning, retention, transfer, practice, feedback, motivation, anxiety, perception, motor control, social facilitation, cohesion, leadership, and reinforcement.

276 Sociocultural Aspects of Physical Education and Sport (2)
Prerequisite: Junior standing. Study of the theoretical, methodological, experimental, and applied foundations of sport and physical activity programs in society and the schools. Applied issues included cultural, political, economical, legal, and educational aspects of sport and physical activity programs.

277 Historical & Philosophical Foundations of Physical Education and Sport PK-4 (2)
Prerequisite: Junior Standing. A study of the history of physical education and sport programs, philosophical influences and issues related to the programs and applications of the knowledge base to current programs.

280 Human Anatomy and Physiology (5)
Prerequisite: Biology 1 and Biology 3, or consent of instructor. Study of the basic aspects of human anatomy and physiology and their relationship to concepts in sport and physical activity. Two hours of laboratory per week.

282 Physical Growth and Motor Development (3)
Prerequisite: Psychology 270 or Psychology 271. An examination of the physical growth and aging, and motor development of the human being over the life span. Emphasis on evaluative tools, techniques, and studies of research findings. Laboratory field experience for observing individuals. Attention is directed toward acquisition of basic skills, perceptual-motor development, fitness development, and age-related changes in information processing. A required course for physical education majors; an elective course for early childhood, special, and elementary education majors.

283 Kinesiology (3)
Prerequisite: PHY ED 280. Study of the biomechanics of human motion with particular application to performance in sport activities.

284 Physiology of Human Exercise (3)
Prerequisite: PHY ED 280. Study of the physiological effects of human exercise, training, and sport activities upon the human body; understanding and evaluation of physical fitness components, with consideration given also to areas including work, fatigue, nutrition, age, sex, and environment.

285 Sports Medicine (3)
Prerequisite: PHY ED 280 or equivalent. A study of the prevention and care of athletic/sport participation injuries. Emphasis is given to proper conditioning and training of

the sport participant and on emergency responses, including CPR certification.

290 Student Teaching in Physical Education: PK-5 (5)
Prerequisites: Admission to Student Teaching. Clinical teaching experience in physical education settings in the schools under University and school supervision. Required for all majors in physical education receiving certification in Physical Education, Grades PK-5.

291 Student Teaching in Physical Education 5-9 (5)
Prerequisite: Admission to Student Teaching. Clinical teaching experience in physical education settings in the schools under University and school supervision. Required for all majors in Physical Education, Grades 5-9.

292 Student Teaching in Physical Education: 9-12 (5)
Prerequisite: Admission to Student Teaching. Clinical teaching experience in physical education settings in the schools under University and school supervision. Required for all majors in physical education receiving certification in Physical Education, Grades 9-12.

312 Management of Sports Programs (3)
Prerequisite: Consent of instructor. A study of administrative theory, roles, responsibilities, and functions in the management of sports programs.

330 Prescribing Physical Activity (3)
(Same as Gerontology 330.) Prerequisite: PHY ED 280 or consent of instructor. Prescription of physical activity for individualized and group programming based upon physical fitness assessment. Health, nutrition, age, physical fitness, and testing aspects are considered in developing specialized exercise programming based upon current physiological and biomechanical research.

380 Nutrition for Human Performance (3)
A study of human nutrition and its relationship to human performance. Consideration is given to nutrients—function, food source, health concerns and implications, and energy intake and expenditure. Special consideration is given to the following: body composition including weight gain and loss, ergogenic aids, competitive athletes, older adults, children and teens, pregnant women, disease risk, fluid and electrolyte balance, and specific sport activities.

390 Student Teaching in Physical Education III (5)
Prerequisites: PHY ED 291 or equivalent and admission to student teaching. Clinical teaching experience in physical education settings in the school under University and school supervision with seminar included. For students who wish an additional student teaching experience.

392 Internship in Physical Gerontology (1-10)
Prerequisites: PHY ED 190 or consent of instructor. (Same as Gerontology 392) Supervised clinical experience in selected gerontological settings as a physical education practitioner under the supervision of university and program professionals. Internship may include two or more separate experiences completed concurrently or sequentially and involve planning of instruction,

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participant and program evaluation, research, and related activities.

462 The Physical Education Curriculum (3)

Prerequisite: Consent of instructor. A study of current practices, problems, trends, and research involved in the analysis and development of the physical education curriculum.

464 Analysis of Teaching in Physical Education (3)

Prerequisite: Consent of instructor. A study of trends and research relating to teaching methodology, teacher effectiveness, and supervision of instruction in physical education. Emphasis will be given to the application of research on teacher effectiveness in the instructional process in physical education.

474 Psychological Dynamics of Sport Performance (3)

Prerequisite: PHY ED 275 or consent of instructor. Application of specific principles of social psychology to the teaching of physical education and sport and of mental aspects of peak physical performance. Explores the techniques of improving team and individual performance in interscholastic and elite competition through sport psychology. Attention is given to motivation, competitive anxiety, attitude, aggression, team cohesion and leadership, exercise adherence, personality, individual differences, and gender roles as they pertain to sport performance.

475 Motor Learning and Control (3)

Prerequisite: PHY ED 275 or consent of instructor. Application of specific principles of learning and the control of movement to the teaching of motor skills in physical education and sport. Surveys neurologic systems involved in perception and motor performance. Explores theoretical perspectives, including open versus closed loop control, schema theory, information processing, and dynamical systems theory. Attention is given to efficiency of learning skills by accommodating transfer of training, utilizing feedback, manipulating practice schedules, and promoting retention.

476 Social Inquiry of Sport (3)

Prerequisite: PHY ED 276 or consent of instructor. A study of basic social processes in sport, such as socialization, social facilitation, and assimilation.

478 Problems and Research in Physical Education (3)

A study of potential research problems and research processes in specific physical education subdisciplines. A research project will be completed in the student's physical education subdiscipline interest area.

482 Life Span Perceptual and Motor Development (3)

Prerequisite: PHY ED 282 or consent of instructor. A study of sensory and perceptual development and change, and the age-related qualitative and quantitative changes in motor skill. Both current theory and current empirical findings are stressed. Attention is given to methods of structuring learning environments to maximize development. Study is from a life span perspective.

483 Biomechanics of Sport Techniques (3)

Prerequisite: PHY ED 283 or consent of instructor. A study of the biomechanical concepts important to analysis of techniques used in selected sports. Explores recent research findings on efficient sports techniques. Provides experience in the analysis of skill performance.

484 Physiological Bases of Physical Performance (3)

Prerequisites: PHY ED 280 and PHY ED 284 or consent of instructor. Physiological bases and contemporary trends in the study of human performance and exercise stress; will analyze research literature and study experimental strategies with the focus upon application to teaching and coaching.

485 Theory of Exercise and Cardiovascular Disease Risk Factor Management (3)

Prerequisite: Completion of PHY ED 484 or equivalent. A study of the effects of exercise on the basic epidemiology, physiology, and management of unavoidable and avoidable cardiovascular risk factors. Special attention will be given to the examination of the effect of exercise in the management of cardiovascular disease risk.

490 Internship (1-10)

Prerequisite: Consent of instructor. Closely supervised experience in a field setting under the direction of a graduate faculty member. An appropriate level of competence and evidence of growth in the professional role must be demonstrated by the intern. The internship will include planning, research, evaluation, and related professional activities.

497 Problems (1-10)

Prerequisite: Consent of instructor. Selected problems to meet the needs of individual students.

EVENING COLLEGE

UM-St. Louis 1997-98 Bulletin

Evening College

Administration

Everette E. Nance, Dean
Ed.D., Western Michigan University
Harry Gaffney, Associate Dean
Ph.D., St. Louis University

General Information

The Evening College provides undergraduate degree programs for students who, for various reasons, choose to attend evening classes. Twenty-six degree programs are offered through the Evening College. Courses needed as prerequisites for graduate programs are available. In addition, persons who want to maintain their professional competence or broaden their educational background without pursuing degree work will find a broad array of courses which may be taken for credit or on an audit basis.

Recognizing the value of continuing education and career advancement, many St. Louis institutions, businesses, and industries encourage their employees to avail themselves of the educational opportunities offered by the Evening College. The Veterans Administration has approved either full-time or part-time study for educational benefits.

Since most Evening College students are employed full time, they normally carry less than a full academic load. To enable students to carry as many courses as they wish, the Evening College schedules classes after 5:00 p.m. Classes and degree programs are conducted according to the same standards as the day program.

Course Areas

The Evening College offers courses in 28 academic areas: anthropology, art, astronomy, biology, business administration, chemistry, communication, computer science, criminology and criminal justice, cytotechnology, economics, education, English, French, geography, geology, German, history, mathematics, medical technology, music, philosophy, physics, political science, psychology, sociology, social work, and Spanish.

Academic Advising and Program Planning New students are encouraged to consult with an academic adviser to develop programs appropriate to their needs. Appointments may be made by calling the Evening College, 516-5162.

Transfer students or students with 40 or more credit hours who wish to be assigned advisers and to graduate from the Evening College must file a Declaration-of-Major form.

Facilities The facilities of the University of Missouri-St. Louis, including the computer center, library, laboratories, cafeteria, bookstore, health service, placement service, and admissions office, are open in the evening. Evening College students are also eligible to participate in any of the University sports programs that interest them. The athletic facilities of the Mark Twain Building are available.

Alpha Sigma Lambda The Beta Epsilon Chapter of Alpha Sigma Lambda is a national honorary scholastic society for Evening College students. To be eligible for membership,

a student must have completed at least four semesters of college or university work, completed a minimum of 30 semester hours in the Evening College, have a cumulative grade point average of 3.2, and be enrolled in the Evening College.

Degree Programs

General Education Requirements All candidates for a degree through the Evening College must meet the University general education requirements.

Bachelor of Arts Majors available for the B.A. degree are biology, chemistry, communication, economics, English, history, mathematics, physics, political science, psychology, and sociology. For further information, consult the appropriate departmental section of the College of Arts and Sciences portion of this Bulletin.

Bachelor of Science The B.S. degree is available in applied mathematics, biology, chemistry, computer science, criminology and criminal justice, economics, physics, and sociology. For further information, consult the appropriate departmental section of the College of Arts and Sciences portion of this Bulletin.

Specialized Bachelor's Degrees Also available are the Bachelor of Science in Accounting (B.S.A.), Bachelor of Science in Business Administration (B.S.B.A.), the Bachelor of Science in Education (B.S.Ed.), and the Bachelor of Science in Public Administration (B.S.P.A.). The B.S. in Education offers specialization in any of the following: early childhood education, elementary education, middle school/junior high school, special education, and secondary education (in 11 teaching areas). Students should consult the appropriate departmental section of the College of Arts and Sciences portion of this Bulletin or the sections for the School of Business Administration or the School of Education.

Bachelor of Social Work The B.S.W. degree program is designed to prepare persons for employment in social welfare agencies, schools, hospitals, correctional institutions, or day care, geriatric, or rehabilitation centers. Individuals currently working in social welfare settings can improve their skills or increase their opportunities for job advancement. For further information, consult the Social Work section of this Bulletin.

Bachelor of General Studies Degree

The Bachelor of General Studies degree (B.G.S.) is also offered through the Evening College. It is designed to provide mature students with a meaningful alternative to traditional degree programs. It appeals to a variety of students whose circumstances, goals, and aspirations are different from those of the "typical" college student. The B.G.S. program provides the flexibility needed to enable students, with careful advisement, to develop individualized programs of study.

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Some of the educational goals pursued by students in the program are designed to reflect students' interests in the fields of public relations, corporate communication, clinical laboratory science, cytotechnology and exercise science.

The Evening College, in cooperation with the Jewish Hospital College of Nursing and Allied Health, has made courses in clinical laboratory science and cytotechnology available for students.

Admission Requirements for the B.G.S. Program

Candidates for the B.G.S. degree must be admitted to the Evening College and must complete an application for admission to the program. Applications must be approved by the General Studies Committee and the Evening College dean. The criteria for admission are:

- 1) Students must be mature, their programs of study reasonable and be in good academic standing.
- 2) Students should have a broad education and must have demonstrated the equivalent of academic proficiency required for any other undergraduate degree at UM-St. Louis.
- 3) Study programs should be structured to meet students' unique educational goals and should not be readily available under any other UM-St. Louis degree program.
- 4) The degree will better qualify the recipients to deal with their life goals than if they had some other degree.

Degree Requirements for the B.G.S. Program

General Education Requirements

Students must complete the University's general education requirements. For details refer to the General Education Requirements section of this Bulletin.

Personal Emphasis Area In consultation with a faculty adviser, students shall develop a personal emphasis area of at least 30 advanced semester hours of graded credit that meets their educational goals. Graded credit consists of degree credit courses in which the student received a letter grade of A, A-, B+, B, B-, C+, C, C-, D+, D, D-. Regardless of the focus, theme, or purpose, the personal emphasis area should result from self-examination and contribute to self-realization and an advanced level of academic competence and achievement. The program must be approved by the faculty adviser, dean, and General Studies Committee. Students and advisers periodically review the program and make appropriate modifications where necessary, subject to the dean's approval.

Hour and Grade Requirements The degree requires completion of 120 semester hours with a 2.0 grade point average overall and in the personal emphasis area. No more than 30 hours may be taken in any one department without written consent of the departmental chairperson. At least 45 hours must be earned in courses beyond the introductory level. A minimum of 24 hours of graded credit must be completed in residence at UM-St. Louis, of which

15 hours must be in the personal emphasis area. No more than 18 hours may be taken on a satisfactory/unsatisfactory basis. Each candidate must be in residence for 24 of the last 30 hours of graded credit (exclusive of courses taken on a satisfactory/unsatisfactory basis).

Credit for Experience, Special Projects, Examinations, and Non-Traditional Forms of Study Credit may be earned through the College Level Examination Program in accordance with University policy or through examinations proposed or approved by University departments. Credit also may be earned through correspondence study, supervised independent research study, and college-level courses offered by television or similar education media. Students are responsible for obtaining approval for credit applied under this option.

Students may receive credit for vocational experience, community service projects, or cultural activities after they have completed 24 hours of course work in residence.

Vocational Experience Credit may be granted for vocational experience when related to the personal emphasis area. Credit cannot exceed three semester hours for each year of experience with a maximum of 12 hours allowed only in exceptional circumstances. Petitions for vocational experience credit must be accompanied by a job description verified by the employer or similar appropriate evidence. Credit may be granted only upon recommendation of the adviser and approvals of the dean and the General Studies Committee.

Community Service Projects/Cultural Activities Credit not exceeding six hours may be earned for participation in approved community service projects or cultural activities. The projects or activities must be formulated by the student and carried out under the supervision of a faculty member with the approval of the adviser, dean, and General Studies Committee. Students must submit a written report approved by the supervisor upon completion of the projects or activities.

Credit for vocational experience or community service/cultural activities may be applied toward the credits required for the degree but may not be used to complete the personal emphasis area or general education requirements. Students must file a degree application form in the Evening College at least one year before the expected graduation date.

Minors

Minor in Employee Training and Development

The Evening College and the School of Business Administration offer a minor in employee training and development. The requirements are:

BA 318, or **Psych 318**, Industrial and Organizational Psychology

BA 319, Employee Training and Development

ED PSY 312, Psychology of Teaching and Learning

ED TEC 340, Selection and Utilization of Educational Media
Psych 219, Research Methods

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One additional course selected from these approved electives:

BA 309, Personnel Management
Comm 141, Business and Professional Speaking
Sociology 354, Occupations and Their Work Settings

Students should consult with an adviser when planning their programs. A 2.0 grade point average is required for the minor. No courses may be taken on a satisfactory/unsatisfactory basis. At least 12 credits of those required must be completed in residence at UM-St. Louis.

This minor is designed for personnel managers in small companies and training managers or personnel specialists in larger companies. The required 18 hours, including the approved elective course, enable the student to be exposed to different skills essential for the occupational area.

Other Minors

Minors are also available in biology, black studies, business administration, chemistry, communication, computer science, criminology and criminal justice, economics, English, history, legal studies, mathematics, political science, psychology, sociology, and urban studies. For currently offered minors, consult your adviser.

Certificates

Certificate programs are available in biochemistry, gerontology, women's studies, and writing. For more information consult the Certificate Programs section of this Bulletin.

Career Outlook

Many graduates of the Evening College have found their careers advanced upon obtaining their degree. Some have entered new careers in mid-life and others have found personal satisfaction in the acquisition of knowledge for its own sake. The Evening College staff consists of advisers with extensive experience concerning adult students' needs. For an appointment, call the Evening College office.



**INTER-SCHOOL
STUDIES**

UM-St. Louis 1997-98 Bulletin



Public Policy Administration Graduate Degree Program

Faculty

Andrew D. Glassberg, Director of MPPA Program;
Associate Professor of Public Policy Administration and
Political Science*

Ph.D., Yale University

E. Terrence Jones, Professor of Public Policy
Administration and Political Science*

Ph.D., Georgetown University

Carol W. Kohfeld, Professor of Public Policy
Administration and Political Science*

Ph.D., Washington University

George J. McCall, Professor of Public Policy
Administration and Sociology*

Ph.D., Harvard University

Eugene J. Meehan, Curators' Professor Emeritus of Public
Policy Administration and Political Science*

Ph.D., London School of Economics

Donald Phares, Professor of Public Policy Administration
and Economics*

Ph.D., Syracuse University

J. Fred Springer, Professor of Public Policy Administration
and Political Science*

Ph.D., University of California-Davis

Dennis L. Dossett, Associate Professor of Public Policy
Administration and Management*

Ph.D., University of Washington

Michele M. Hoyman, Associate Professor of Public Policy
Administration and Political Science*

Ph.D., University of Michigan

Timothy D. McBride, Associate Professor of Public Policy
Administration, Gerontology, and Economics*

Ph.D., University of Wisconsin-Madison

Anne E. Winkler, Associate Professor of Public Policy
Administration and Economics*

Ph.D., University of Illinois

J. Germain Gros, Assistant Professor of Public Policy
Administration and Political Science

Ph.D., University of California-Berkeley

James M. Krueger, C.P.A., Assistant Professor of Public
Policy Administration and Accounting*; Associate Vice
Chancellor for Budgeting and Academic Planning

D.B.A., Indiana University

John McClusky, Director of Non-Profit Management and
Leadership Program*

Ph.D., University of California-Berkeley

*members of Graduate Faculty

The Master's Program in Public Policy Administration (MPPA) is an interdisciplinary program designed to prepare students for managerial positions in the public sector or in agencies having substantial interaction with the public sector. The program is a unit of the Graduate School and is accredited by the National Association of Schools of Public Affairs and Administration. Faculty are on joint appointment in public policy administration and in either economics, political science, sociology, or business administration. The program includes courses in policy analysis, public administration, management, accounting, and economics in the basic curriculum.

The MPPA program at the University of Missouri-St. Louis differs from existing programs available in the Missouri-Illinois region in its interdisciplinary nature and emphasis on the development of analytic and administrative skills. It is designed to meet the needs of prospective full-time students, as well as those who wish to earn a degree in the evening while continuing to work.

In addition to the distinguished doctoral-level faculty in public policy administration, students have access to courses and faculty in business and other social sciences, in the Center for Metropolitan Studies, and in the Center for International Studies. The MPPA Program serves as editorial home of the *American Review of Public Administration*.

The full facilities of the Office of Computing, including the urban data program, are available. UM-St. Louis is also a member of the Inter-University Consortium for Political and Social Research.

Admission Requirements

Applicants to the MPPA program must meet the general requirements for admission to Graduate School as explained in the Graduate Study section of this Bulletin. Students entering the MPPA program may be required to take up to nine hours of prerequisites in mathematics, accounting, and social science. Up to three hours of graduate-level work at UM-St. Louis, taken to meet prerequisite requirements, may be applied to the 40 hours required for the MPPA degree.

Degree Requirements

The program includes 40 hours, 25 in the core curriculum sequence and 15 in a special field chosen by students in consultation with their advisers.

Prerequisites

Students must demonstrate competency in microcomputer-based applications, including spreadsheets and data bases. These competencies must be acquired at the beginning of the degree program, if students are not already familiar with these applications. Competency may be demonstrated by examination, or by successfully completing approved short courses in spreadsheets and data bases, or by completing PPA 480, Management Information Systems.

Core Curriculum

All candidates for the MPPA degree must complete 25 hours in the core curriculum sequence composed of the following public policy administration courses:

Administration

440, Proseminar in Public Policy Administration

460, Organizational Behavior and Administrative Processes

Accounting and Budgeting

418, Governmental Budgeting and Financial Control

Economics

421, Public Sector Microeconomics

Public Policy Administration Graduate Degree Program

Policy Analysis

410, Introduction to Policy Analysis

419, Cases in Public Policy Analysis

Statistics and Applications

401, Introduction to Policy Research

475, Introduction to Evaluation Research Methods

Exit Project

499, Exit Project Research

A thesis is not required, but students must complete written analyses as part of their course work and/or internships. There is also a one credit hour exit project (PPA 499) examining a problem in public policy administration in the final semester. PPA 419 is a capstone course and should be taken toward the end of the program.

Students may select one of six focus areas in which to concentrate their advanced studies: (1) Public Sector Human Resource Management, (2) Public Policy Analysis, (3) Public Policy Processes, (4) Health Policy, (5) Individualized Policy, and (6) Nonprofit Organization Management. Possible fields for the latter include financial administration, health care policy, criminal justice policy, and urban policy. Specific requirements for each focus area are as follows:

PUBLIC SECTOR HUMAN RESOURCE MANAGEMENT FOCUS AREA (15 HOURS)

a. Required Courses (6 hours)

Management 461, Managing Human Resources

PPA 449, Human Resources in the Public Sector

b. Choose one of the following courses (3 hours); additional courses may be applied toward optional electives (c).

Management 462, Advanced Organizational Behavior and Administrative Processes

Management 466, Personnel Administration: Theory and Practice

Psych 452, Survey of Industrial/Organizational Psychology

c. Optional Electives (6 hours—may include courses listed but not counted in (b)).

PPA 495, Internship (up to 6 hours).

Management 463, Organizational Training

Management 464, Compensation

Management 467, Dynamics of Interpersonal Relations

Psych 429, Psychometric Theory

Econ 480, Labor Economics: Theory and Public Policy

PUBLIC POLICY ANALYSIS FOCUS AREA (15 HOURS)

a. Required Course (3 hours)

PPA 365, Introduction to Econometrics or **Political Science 402**, Intermediate Techniques in Policy Research

b. Choose two of the following courses (6 hours); additional courses may be applied toward optional electives (c).

PolSci 411, Seminar in Policy Analysis

PolSci 422, Law, Courts, and Public Policy

Sociology 304, Survey Research Practicum

Sociology 331, Qualitative Methods in Social Research

c. Optional Electives (6 hours—may include courses listed but not counted in (b)).

PPA 495, Internship (up to 6 hours).

Econ 366, Applied Econometrics or **PolSci 403**, Advanced Techniques in Policy Research

Econ 317, Public Finance: State and Local

Econ 450, Topics in Managerial Economic Analysis

Econ 470, The Political Economy of Metropolitan Areas

Econ 480, Labor Economics: Theory and Public Policy

Econ 490, Advanced Topics in Economic Analysis

PUBLIC POLICY PROCESSES FOCUS AREA (15 HOURS)

Required Electives

a. Required Course (3 hours)

PolSci 442, The Policy Process

b. Choose two of the following courses (6 hours); additional courses may be applied toward optional electives (c).

PolSci 420, Proseminar in Public Law

PolSci 430, Proseminar in American Politics

PolSci 432, Intergovernmental Relations

PolSci 470, Proseminar in Urban Politics

PolSci 448, Political Economy and Public Policy

Sociology 430, Policy Mediation Processes

c. Optional Electives (6 hours—may include courses listed but not counted in (b) above).

PPA 495, Internship (up to 6 hours).

Econ 470, The Political Economy of Metropolitan Areas

Econ 480, Labor Economics: Theory and Public Policy

Econ 450, Topics in Managerial Economic Analysis

Econ 317, Public Finance: State and Local

Econ 490, Advanced Topics in Economic Analysis

HEALTH POLICY FOCUS AREA (15 HOURS)

a. Required Courses (9 hours)

PPA 443, Health Care Policy

PPA 446, Selected Topics in Health Care Policy: Comparative Health Policy

Econ 471, Political Economy of Health Care or

Econ 472, Health Economics

b. Optional electives (6 hours)

PPA 446, Selected Topics in Health Care Policy

Econ 472, Health Economics

Sociology 447, Health Policy and the Elderly

Social Work 420, Medical Social Work

Gerontology 376/Psych 376, Mental Health and Aging

Gerontology 401/Nursing 401, Health and Wellness

in the Elderly

Gerontology 441, Aging and Health Behavior

INDIVIDUALIZED POLICY FOCUS AREA (15 HOURS)

Prior to completion of 15 hours in the MPPA program, the student must present a proposal of specific course work for 15 credit hours of optional electives for approval by the MPPA faculty. No more than 9 hours in a given area (e.g., Financial Administration, Health Policy, Criminal Justice Policy, Urban Policy) may be applied toward degree requirements. The fifteen hours may include PPA 495 (Internship) for up to 6 hours.

Public Policy Administration Graduate Degree Program

NONPROFIT ORGANIZATION MANAGEMENT FOCUS AREA

a. Required Courses (9 hours)

- PPA 391-A**, Management Issues in Non-Profit Organizations: Staff Management Issues (1)
PPA 391-B, Management Issues in Non-Profit Organizations: Legal Issues in Governing and Non-Profit Organizations (1)
PPA 391-C, Management Issues in Non-Profit Organizations: Financial Issues (1)
PPA 394, Leadership and Management in Non-Profit Organizations (3)
PPA 396, American Philanthropy and Non-Profit Resource Development (3)

b) Optional Electives (6 hours)

- PPA 495**, Internship (up to 6 hours)
PPA 496, Human Resources in the Public Sector (3)
Sociology 424, Conflict Management in Organizations (3)
Sociology 426, Community and Regional Conflict Intervention (3)
Sociology 430, Policy Mediation Processes (3)
Sociology 444, Social Policy and Community Planning (3)
BA 343, Accounting for Governmental and Nonprofit Entities (3)
BA 405, Managerial Communication (3)
BA 410, Managerial Economic Analysis (3)
BA 412, Public Policies Toward Business (3)
BA , MKT 470, Contemporary Marketing Concepts (3)
Psych 412, Social Psychology (3)

Internships

There currently exists a need for well-trained policy administrators and analysts. Frequent contact is maintained with public practitioners and public officials in the St. Louis metropolitan area, providing valuable input for program development, creation of a wide variety of internship possibilities, and assistance with a vigorous placement program for MPPA graduates. Interns may be placed in planning agencies, city managers' offices, administrative departments, or budgeting offices.

MPPA students employed in public agencies may receive up to six hours of credit for internships in those agencies. To do so, students must develop, in consultation with their advisers, special research projects outside the scope of their regular employment duties. Credit is granted after successful completion of the project and a written paper at the end of the semester.

Career Outlook

The current outlook for graduates of the interdisciplinary Master's Degree in Public Policy Administration program is quite promising. Recent graduates of this program have found careers as budget analysts, personnel analysts, transportation planners, and human resources planners with local, regional, state, and federal agencies.

Public Policy Administration Graduate Degree Program

Course Descriptions

365 Introduction to Econometrics (3)

(Same as Econ 365.) Prerequisites: Econ 52; Econ 251 or BA 410; Econ 265 or MS/S 481 or PPA 401; Math 80 or 101. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

391-A Management Issues in Non-Profit Organizations: Staff Management Issues (1)

(Same as Social Work 391-A) Prerequisite: Junior Standing. This course addresses issues involved in managing staff in non-profit organizations. The course will cover the following topics:

- Fundamentals of staff supervision: balancing supervisory processes with counseling and coaching;
- Effective internal communications and decision making: including planning and leading meetings, cultural diversity, and creative conflict management,
- Preparing, hiring and coaching people to work in stressful environments.

391-B Management Issues in Non-Profit Organizations: Legal Issues in Governing and Non-Profit Organizations (1)

(Same as Social Work 391-B) Prerequisite: Junior Standing. This course addresses legal issues involved in managing and governing non-profit organizations. The course will cover the following topics:

- The Board as steward of the organization
- Director and officer liability
- Tax laws concerning charitable giving
- Legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees)

391-C Management Issues in Non-Profit Organizations: Financial Issues (1)

(Same as Social Work 391-C) Prerequisite: Junior Standing. This course addresses financial issues involved in governing and managing non-profit organizations. The course will cover the following topics:

- Cash flow analysis
- Budgeting
- Cost accounting (determining costs for programs and services)
- Understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

394 Leadership and Management in Nonprofit Organizations (3)

(Same as PolSci 394, Social Work 308, and Sociology 308.) Prerequisite: Junior standing. This course addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent

sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include:

- 1) the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations
- 2) governance and management of NPOs;
- 3) resource mobilization; and
- 4) program development management and evaluation.

396 American Philanthropy and Non-Profit Resource Development (3)

(Same as Social Work 396) This course addresses the history, philosophy, roles, and scope of philanthropy in the United States, including its role in the non-profit, voluntary sector of democratic society. It further examines the contemporary philanthropic landscape, giving special attention to the economic, political, and social/cultural forces which impact philanthropy and charitable giving, both by institution and individuals. The course also studies the effective planning and management of development programs within a non-profit organization.

401 Introduction to Policy Research (3)

(Same as PolSci 401.) Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

410 Introduction to Policy Analysis (3)

(Same as PolSci 410.) Systematic development of a critical/analytic base for dealing with public policy.

415 Directed Reading and Research in Public Policy (1-10)

(Same as PolSci 415.) Prerequisite: Consent of Instructor. Independent study through readings, reports, research projects, and conferences. May be repeated for credit, provided the subject matter is different.

417 Income and Pension Policy for the Aged (3)

(Same as PolSci 417 and Gerontology 417.) Prerequisite: Graduate standing or consent of instructor. Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

418 Governmental Budgeting and Financial Control (3)

(Same as BA 418.) Prerequisite: BA 440. A study of municipal and federal financial control and budgeting procedures with emphasis on public policy. The impact of financial control on top management decisions and the effect of budget strategies on the allocations of public funds.

419 Cases in Public Policy Analysis (3)

(Same as PolSci 419.) Intensive analysis of several public policy cases. Cases will be problem-solving exercises in areas such as personnel management, program financing, budget preparation, and planning.

421 Public Sector Microeconomics (3)

(Same as Econ 421.) Prerequisites: Econ 251, or BA 410, or equivalent. Application of tools of intermediate

Public Policy Administration Graduate Degree Program

microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g., externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

434 Seminar in City Administration (3)

This course provides an overview of the working environment of a city administrator and is jointly sponsored by the local city managers association. Professional city personnel make presentations to the students on six major topics: political structure, organizational structure, service delivery, finance, personnel policies and practices, and leadership. The course provides direct observation of city council meetings, visits to various city facilities, exposure to different philosophies and styles of city management, and provides students a chance to assemble facts, evaluate options, and present policy recommendations for real problems that local administrators face.

440 Proseminar in Public Administration (3)

(Same as PolSci 440.) Examination of major approaches to analyzing public policies and their administration. Emphasis is on the effects of administrative organization and procedures on policy decisions and their impacts. Specific topics may include administrative accountability, intergovernmental relations, public-private interaction, implementation processes, bureaucratic expertise, the legal environment of public policy administration, and public service and merit issues.

443 Health Care Policy (3)

(Same as PolSci 443, and Gerontology 443.) Prerequisites: Graduate standing and consent of instructor. Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444 Seminar in Public Policy and Aging (3)

(Same as Gerontology 444 and PolSci 444.) Prerequisite: Consent of instructor. The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

446 Selected Topics in Health Care Policy (3)

(Same as PolSci and Sociology 446.) Prerequisite: Consent of instructor. The study of specialized issues and methods relating to health care policy. May be repeated for credit, provided the subject matter is different.

449 Human Resources in the Public Sector (3)

(Same as PolSci 449.) Prerequisite: PPA 460 or consent of instructor. This course presents an overview of personnel and labor relations in the public sector. The course has particular emphasis on issues which are unique to the

public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

460 Organizational Behavior and Administrative Processes (3)

(Same as Management 460.) The theoretical and research contribution of the behavioral sciences to management and administration are examined and applied to selected organizational situations. Areas to be considered from the standpoint of both individual and organizational performance are communication, motivation, conflict, decision making, goal setting, leadership, organizational design, climate, development, and control. Utilizing a systems perspective, the course attempts to develop in each student an ability to analyze and solve organizational problems.

475 Introduction to Evaluation Research Methods (3)

(Same as Psych 475, Sociology 475, and CCJ 475) Prerequisites: At least one course in Research Design and Statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental designs.

480 Management Information Systems (3)

(Same as MS/IS 480.) Prerequisite: Econ 301. An overview of management information systems is presented, including various information systems concepts and technologies. Students are introduced to a mainframe operating system, a microcomputer-based operating system and a programming language. Students are also exposed to several common microcomputer-based software packages.

495 Internship (1-6)

Independent study involving work with an appropriate public or private agency.

499 Exit Project Research (1)

Prerequisites: Completion of or simultaneous enrollment in other degree requirement courses. The exit project is viewed as the capstone of the MPPA program. As such, it is meant to be undertaken toward the end of a student's program, usually during the final semester. Its purpose is to provide evidence to the faculty that the degree candidate has mastered the skills acquired in the various courses completed during residence at the University and can apply them to the analysis of a practical research problem.

Gerontology

Faculty

Robert J. Calsyn, Director; Professor* of Psychology and Gerontology

Ph.D., Northwestern University

Carl J. Bassi, Associate Professor* of Optometry

Ph.D., Vanderbilt University

Anna Biggs, Lecturer Barnes College of Nursing

Ph.D., University of Colorado Health Sciences Center

Bruce Clark, Associate Professor* of Physical Education

Ph.D., University of Illinois

K. Peter Etzkorn, Professor* of Sociology

Ph.D., Princeton University

Norman Flax, Associate Professor* of Social Work

Ph.D., St. Louis University

Joan Hashimi, Associate Professor* of Social Work

Ph.D., Washington University

Margo-Lea Hurwicz, Associate Professor* of Anthropology and Gerontology

Ph.D., University of California-Los Angeles

W. Howard McAlister, Associate Professor* of Optometry

O.D., Ohio State University

Timothy D. McBride, Associate Professor* of Public Policy Administration, Economics, and Gerontology

Ph.D., University of Wisconsin-Madison

Ann M. Steffen, Assistant Professor* of Psychology

Ph.D., Indiana University

Nanora L. Sweet, Senior Lecturer of English

M.A., University of Missouri-Columbia

Nina Tumosa, Assistant Professor* of Optometry

Ph.D., State University of New York at Albany (SUNYA)

Chikako Usui, Associate Professor* of Sociology and Gerontology

Ph.D., Stanford University

Timothy A. Wingert, Associate Professor* of Optometry

O.D., Illinois College of Optometry

Myra Aud, Adjunct Lecturer,

M.S.N., St. Louis University

Richard P. Johnson, Adjunct Professor

Ph.D., University of Florida

Kathleen O'Brien, Adjunct Lecturer,

M.S.W., Washington University

*members of Graduate Faculty

Faculty from 10 departments and schools are involved in the undergraduate and graduate programs in gerontology.

Master of Science in Gerontology

The Master of Science Degree in Gerontology program is a multidisciplinary program designed to prepare students for management or direct service positions working with the aged. The program of study includes courses from a variety of departments including anthropology, biology, nursing, political science, psychology, sociology, social work, physical education, English, public policy administration, and optometry. Courses are offered primarily in the evening to accommodate part-time, as well as full-time, students.

Admission Requirements

Program applicants must have the following:

1. Baccalaureate degree
2. 3.0 or (B) average (students with exceptions should contact the Director of the Gerontology Program)
3. Official transcripts of all previous undergraduate/graduate work
4. Three letters of recommendation

In addition students must meet the other general requirements for admission to the Graduate School as explained in the Graduate Study section of the Bulletin.

Degree Requirements

The students are required to complete 45 credit hours including 27 hours in gerontology courses, a three-hour research methods course, and a 15-hour specialization that is individually tailored to the student's career goals. Depending on the student's prior course work in gerontology, up to fifteen hours of credit may be waived. The required courses are listed below.

Gerontology Distribution Requirements

- A. Public Policy and Aging—6 credits**
Gerontology (Public Policy Administration, Political Science) 443, Health Care Policy
Gerontology (Public Policy Administration, Political Science) 417, Income and Pension Policy for the Aged or **Gerontology (Sociology) 449**, Issues in Retirement
- B. Health Behavior of the Elderly—2 credits**
Gerontology (Nursing) 401, Health and Wellness in the Elderly, or **Gerontology 441**, Aging and Health Behavior
- C. Physiological Theories of Aging—3 credits**
Biology 311, Physiology of Aging
- D. Psychological Aspects of Aging—3 credits**
Gerontology (Psych) 373, Psychology of Aging, or **Gerontology (Psych) 376**, Mental Health and Aging
- E. Sociocultural Aspects of Aging—3 credits**
Gerontology (Sociology) 361, Sociology of Aging, or **Gerontology (Anthro) 440**, Cultural Aspects of Aging
- F. Gerontology 494**, Integrative Research in Gerontology—3 credits
- G. Gerontology 495**, Practicum in Gerontology—3 credits.
- H. Electives in Gerontology**, 3-4 Credits depending on courses taken to meet gerontology distribution requirements.

Other Requirements

- A. Graduate level statistics course**, approved by the Director of Gerontology. Acceptable courses include Public Policy Administration (Political Science) 401, Introduction to Policy Research; ED REM 432, Educational and Research Methods II, 3 credits.

Gerontology

B. Specialization Area—15 credits

Each student develops a 15-hour specialization area with the guidance of the Director of Gerontology. Most specialization areas focus on administration or counseling.

Graduate Certificate in Gerontology

The Graduate Certificate in Gerontology is designed for those students who wish to receive postbaccalaureate training in gerontology. The Graduate Certificate in Gerontology can be taken by itself or in conjunction with pursuit of a graduate degree in another field. Eighteen credit hours are required.

Admission Requirements

Program applicants must have the following:

1. Baccalaureate degree
2. 2.75 grade point average (students with exceptions should contact the director of the Gerontology Program)
3. Official transcripts of all previous undergraduate/graduate work
4. Two letters of recommendation

Distribution Requirements

A. Public Policy—3 credits

Gerontology (Public Policy Administration, Political Science) 443, Health Care Policy, or **Gerontology (Public Policy Administration, Political Science) 417**, Income and Pension Policy for the Aged, or **Gerontology (Sociology) 449**, Issues in Retirement

B. Health and Physical Aspects of Aging—2 credits

Gerontology (Nursing) 401, Health and Wellness in the Elderly, or **Gerontology 441**, Aging and Health Behavior, or **Biology 311**, Physiology of Aging, or **Gerontology 458 (Optometry 558)**, Geriatric Optometry, or **Gerontology (Optometry) 497**, Interdisciplinary Geriatric Care

C. Psychological Aspects of Aging—3 credits

Gerontology (Psych) 373, Psychology of Aging, or **Gerontology (Psych) 376**, Mental Health and Aging

D. Sociocultural Aspects of Aging—3 credits

Gerontology (Sociology) 361, Sociology of Aging, or **Gerontology (Anthro) 440**, Cultural Aspects of Aging

E. Electives in Gerontology—6-7 credits depending on courses taken to meet distribution requirements listed above.

Graduate Certificate in Gerontological Social Work

The Graduate Certificate in Gerontological Social Work is a program designed for students who wish to pursue advanced study in Social Work practice with the elderly. While the program draws from several disciplines, the focus is on practice and/or administration in gerontological

settings. The program can be taken by itself or in conjunction with the pursuit of a graduate degree in another field.

Admission Requirements

Program applicants must have the following:

1. Baccalaureate degree
2. 2.75 grade point average (students with exceptions should contact the director of the Gerontology program)
3. Official transcripts of all previous undergraduate/graduate work
4. Two letters of recommendation

Certificate Requirements

Eighteen credit hours are required to complete the certificate. Students must complete 15 hours of required core courses and three hours of gerontology electives at the 300 level or above.

Required Core Courses

Gerontology 316, Clinical Gerontology, or **Social Work 316**, Clinical Gerontology

Gerontology 373, Psychology of Aging, or **Psych 373**, Psychology of Aging

Gerontology 361, Social Gerontology, or **Sociology 361**, Social Gerontology

Gerontology 444, Public Policy and Aging, or **Political Science 444** Public Policy and Aging

Social Work 412, Research Design in Social Work

Social Work 491, Professional Leadership Practice

Undergraduate Certificate in Gerontological Studies

A Certificate in Gerontological Studies, a multidisciplinary course of study, is available at the University of Missouri-St. Louis. This program provides an opportunity for students to obtain a focused specialty in gerontology in addition to their majors. It utilizes offerings in the College of Arts and Sciences and the Schools of Business Administration, Nursing, and Education. It is appropriate for students in the College of Arts and Sciences or any of the Schools of the University.

Certificate Requirements

A student may earn the Certificate in Gerontological Studies by completing a total of fifteen hours. Courses must be chosen from at least two of the following four topic areas. No more than three credit hours from Research/Practicum Experience courses will be allowed. The student must have the approval of the Director of the Gerontology Program before enrolling in the course. Courses taken to fulfill the requirements may not be taken on a satisfactory/unsatisfactory basis. New courses continually are added, so it is advisable to check with the Director each term. Many courses are cross-listed and also have a Gerontology designation.

Gerontology

HUMANITIES

English 13, Topics in Literature: Images of Age in Literature

Gerontology 156, Medical Ethics, or **Philosophy 156**,
Medical Ethics

Natural Sciences and Mathematics

Gerontology 111, Issues in Geriatric Health Care,
or **Biology 111**, Issues in Geriatric Health Care, or

Nursing 111, Issues in Geriatric Health Care
Biology 311, Physiology of Aging

SOCIAL SCIENCES

Gerontology 272, Adult Development and Aging, or
Psych 272, Adult Development and Aging

Gerontology 280, The Psychology of Death and Dying,
or **Psych 280**, The Psychology of Death and Dying

Gerontology 373, The Psychology of Aging, or
Psych 373, The Psychology of Aging

Gerontology 316, Clinical Gerontology, or
Social Work 316 Clinical Gerontology

Gerontology 361, Social Gerontology, or
Sociology 361, Social Gerontology

EDUCATION

Gerontology 190, Clinical Experience in Physical
Gerontology, or **PHY ED 190**, Clinical Experience in
Physical Gerontology

Gerontology 392, Internship in Physical Gerontology, or
PHY ED 392, Internship in Physical Gerontology

Gerontology 330, Prescribing Physical Activity, or **PHY
ED 330**, Prescribing Physical Activity

Career Outlook

The increasing number of elderly in the population has greatly expanded job opportunities in gerontology in the last decade, and job prospects for the future are equally bright. Career possibilities include nursing home administration, administration and planning of community-based programs for the elderly, recreational programming, and counseling of the elderly.

Gerontology

Course Descriptions

15 Images of the Elderly in Film (3)

(Same as English 15.) Analysis of the portrayal of older adults in various films. Class discussions focus on the style and thematic content of the film, as well as intergenerational relationships.

16 Images of Age in Literature (3)

(Same as English 16.) Reading and discussion of literature that portrays aging and old age in various settings. Emphasis is on contemporary novels, but poetry and drama such as *King Lear* are read as well. Discussion and short essays enable consideration of how literature helps in the study of aging and also how the process of aging can be a creative force within literature.

60 Aging in America (3)

(Same as Interdisciplinary 60.) An introduction to the major issues, research, problems, and current service approaches in the study of the aging process. An overview of information useful for students in the arts and sciences, business, education, and nursing schools.

111 Issues in Geriatric Health Care (2)

(Same as Nursing 111 and Biology 111.) A course designed to acquaint the student with aspects of chronic disease frequent in later life, as well as a synopsis of biological aging processes. Disease symptomology aspects of health maintenance and medical intervention with an older adult population will be discussed. In addition, issues in health care delivery will also be explored.

120 Special Topics in Gerontology (1-3)

(Same as Interdisciplinary 120.) Selected topics dealing with various aspects of gerontology. The specific contents of this course will vary from semester to semester. The course may be repeated for credit with permission of the Gerontology director.

156 Medical Ethics (3)

(Same as Philosophy 156.) An examination of ethical issues in medical practice and research and in public policies affecting health care. Topics include abortion, euthanasia, medical experimentation, informed consent, and the right to health care.

190 Clinical Experience in Physical Gerontology (3)

(Same as PHY ED 190.) Prerequisite: Consent of instructor. Early supervised experience in gerontological physical activity programming. Seminar precedes and accompanies clinical experience.

215 Growing Old in Other Cultures (3)

(Same as Anthro 215.) This course examines the wide ranging variability in the roles of older people across different cultures and the effects these have on older people, their families, and their societies.

272 Adult Development and Aging (3)

(Same as Psych 272.) Personality, social, and physiological

development from the onset of early adulthood through maturity and old age.

280 The Psychology of Death and Dying (3)

(Same as Psych 280.) This course will address the psychological aspects of death and dying for both adults and children. The psychological reactions of terminally ill patients and their families will also be examined, and therapeutic interventions will be discussed.

316 Physiology of Aging (3)

(Same as Biology 311) Prerequisite: Biology 11, 12 and 213 or equivalent, or consent of instructor. An overview of the aging process in animal populations with special emphasis on physiological changes that occur with human aging. Current theories as to the mechanism of aging are considered and critically evaluated in view of recent research findings. Premature aging diseases and age-related diseases are discussed. Three hours of lecture per week.

316 Clinical Gerontology (3)

(Same as Social Work 316.) Prerequisite: Social Work 280 or Psych 268. This course includes (1) an examination of the social, economic, health, and psychological problems specific to an older adult population; (2) consideration of special needs of the frail elderly, to include problems in long-term care; and (3) the special practice skills (individual, group) needed for intervention with older adults.

330 Prescribing Physical Activity (3)

(Same as PHY ED 330.) Prerequisite: PHY ED 280 or consent of instructor. Prescription of physical activity for individualized and group programming based upon physical fitness assessment. Health, nutrition, age, physical fitness, and testing aspects are considered in developing specialized exercise programming based upon current physiological and biomechanical research.

361 Social Gerontology (3)

(Same as Sociology 361.) Prerequisite: Sociology 10 and junior standing or consent of instructor. Topics include sociological theories of aging, technological and social change and its effects on the environment of older people, and prejudice and discrimination against the elderly.

373 Psychology of Aging (3)

(Same as Psych 373.) Prerequisite: Nine hours of Psychology or consent of instructor. This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.

376 Mental Health and Aging (3)

(Same as Psych 376.) Prerequisites: Consent of instructor plus Psychology 272, 373, or graduate student status. A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and in treatment approaches for elders.

392 Internship in Physical Gerontology (1-10)

Prerequisite: PHYS ED/GER 190 or consent of instructor. (Same as PHYS ED 392). Supervised clinical experience in selected gerontological settings as a physical education

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practitioner under the supervision of University and program professionals. Internship may include two or more separate experiences completed concurrently or sequentially and involve planning of instruction, participant and program evaluation, research, and related activities.

401 Health and Wellness in the Elderly (2)

(Same as Nursing 401.) Prerequisite: Graduate standing. Factors contributing to longevity and health in old age, including genetic predisposition, lifestyle, culture and environment, are related to aspects of maintaining health and promoting wellness. Through a holistic approach, explores aspects of nutrition, exercise, and activity, prevention of hazards to health, maintaining self-responsibility, managing stress, and meeting continued developmental, emotional, and spiritual needs. Considers intervention and support to promote health and wellness in the elderly.

417 Income and Pension Policy for the Aged (3)

(Same as Public Policy Administration 417 and PolSci 417.) Prerequisite: Graduate standing or consent of instructor. Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

440 Cultural Aspects of Aging (3)

(Same as Anthro 440.) Focuses on the variety of solutions encountered in different sociocultural contexts for dealing with the problems, challenges, and opportunities of growing old. It is organized around topics that are of concern to both anthropology and social gerontology: the status of the aged, intergenerational relations, aging in modernizing societies, ethnic dimensions of aging in complex societies, health in later life, death and dying. Both in-depth case studies and cross-cultural comparisons are examined in an effort to arrive at a culturally informed assessment of factors affecting aging and the aged in the United States.

441 Aging and Health Behavior (3)

Prerequisite: Graduate standing. This course examines sociocultural influences on health care practices of older adults. The role of social support and other social resources in the health behavior of older adults is emphasized. Topics include self-care decisions, formal service utilization, family caregiving, and planned interventions for older adults.

442 Minority Aging (3)

(Same as Sociology 442.) Prerequisite: Sociology 361 or consent of instructor. The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

443 Health Care Policy (3)

(Same as PolSci 443 and Public Policy Administration 443.)

Prerequisites: Graduate standing and consent of instructor. Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

444 Seminar in Public Policy and Aging (3)

(Same as Public Policy Administration 444 and PolSci 444.) Prerequisite: Consent of instructor. The study of specialized issues and methods related to federal, state, and local policies that affect the elderly. Potential policy areas to be covered include housing, taxation, mental health, transportation, etc. May be repeated for credit, provided the subject matter is different.

445 Sociological Dimensions of Chronic Illness (3)

(Same as Sociology 445.) Prerequisite: Sociology 400 or consent of instructor. The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

449 Issues in Retirement (3)

(Same as Sociology 449.) Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States. It considers experiences of older persons in retirement—its processes, causes, and consequences—in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

458 Geriatric Optometry (2)

(Same as Optometry 558.) Special examination and management considerations of the geriatric patient will be discussed. Psychological, physiological, social, and demographic aspects of aging, as well as ocular changes associated with the aging process will be taught.

490 Directed Study (1-3)

Prerequisite: Consent of instructor. Designed to give the student an opportunity to pursue a more in-depth study of a problem area in gerontology than is normally covered in more formal courses. May be repeated for a total of six credit hours.

494 Integrative Research Seminar in Gerontology (3)

(Same as Psychology 494.) Prerequisite: A graduate level research methods course (e.g., PPA 401). This seminar requires students to critically examine research in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation, and qualitative methods.

495 Practicum in Gerontology (3)

(Same as Psychology 495.) Prerequisite: Consent of instructor. This course provides supervised work experience in an agency that serves the elderly.

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496 Gerontology Colloquium (1)

(Same as Psychology 496.) Presentation of current topics in gerontology by faculty and invited speakers. May be repeated for a total of three credits.

497 Interdisciplinary Geriatric Care (2)

(Same as Optometry 497.) Prerequisite: Consent of instructor. Interdisciplinary approaches that address the medical and social needs of the elderly will be examined. Information about geriatric care and social issues affecting the well-being of older adults will be provided. Clinical, theoretical, and educational perspectives will be presented.

498 Advanced Seminar in Gerontology (3)

Prerequisite: Graduate standing. This course will provide in-depth analysis of specialized topics in gerontology which are not covered in required courses. (Course may be repeated for a maximum of nine credits, assuming topics are different.)

499 Topics in Gerontology (1-2)

Prerequisite: Graduate standing. Analysis of a current problem in gerontology. (Course may be repeated for maximum of five credits, assuming topics are different).

International Studies

International Studies Certificates Undergraduate

The Center for International Studies offers, in cooperation with the College of Arts and Sciences, certificate programs in Africana, East Asian, European, Latin American, and International Studies, and in cooperation with the College and the School of Business Administration, the International Business certificate. Students seeking certificates (except African Diaspora or International Business) must take an independent study course (three hours) in which a research paper will be written focusing upon some aspect of the particular field or on one of the fields offered in the program.

Interested students should petition for one of these certificates through the Center for International Studies by the first semester of the senior year. For further information, contact the Center at 516-5753.

Requirements for Each Program

Africana Studies Certificate

Students seeking the Africana Studies Certificate have two options: an emphasis in African Studies and an emphasis in African Diaspora Studies.

I. African Studies:

- 1) At least one course in two of the following four areas for a total of nine hours:

Area 1: Anthropology
124, Cultures of Africa

Area 2: Art and Art History
117, African Art

Area 3: History
81, African Civilization to 1800
82, African Civilization Since 1800

Area 4: Political Science
258, African Politics

- 2) One course in two of the following areas, a total of six hours:

Area 1: Anthropology
234, Cultural Continuity and Change in Sub-saharan Africa
235, Women in Sub-saharan Africa

Area 2: Art and Art History
*215, Topics in Tribal Arts

* Note: Students should take Art History 215 only when the topic is appropriate to Africa.

Area 3: History
380, West Africa to 1800
381, West Africa Since 1800
382, History of Southern Africa

Area 4: Sociology
245, Sociology of South Africa

- 3) An independent study course (three hours) in which a research paper will be written on some aspect of African Studies

II. African Diaspora Studies

- 1) **Interdisciplinary 40: The Black World (3)**
- 2) One course from each of the following areas, a total of six hours.

Area 1: Africa
Anthro 124: Cultures of Africa
History 81: African Civilization to 1800
History 82: African Civilization Since 1800

Area 2: Diaspora
Anthro 05: Human Origins
History 83: The African Diaspora to 1800
History 84: The African Diaspora Since 1800
History 202: Black History in the United States
History 212: African-American History: From Civil Rights to Black Power

3. At least one course from each of the following areas, a total of six hours:

Area 1: Africa
Anthro 234: Cultural Continuity and Change in Sub-saharan Africa
Anthro 235: Women in Sub-saharan Africa
Art History 117: African Art
History 380: West Africa to 1800
History 381: West Africa Since 1800
History 382: History of Southern Africa
PolSci 258: African Politics
Sociology 245: Sociology of South Africa

Area 2: Diaspora
Comm 332: Intercultural Communication
English 70: African-American Literature
History 385: African Diaspora to 1800
History 386: African Diaspora Since 1800
Music 6: Introduction to African-American Music
PolSci 232: African Americans and the Political System
***Psych 392:** Selected Topics in Psychology:
African-American Psychology
Sociology 360: Sociology of Minority Groups

* Note: Students should take Psychology 392 only when the African American Psychology topic is offered.

International Studies

East Asian Studies Certificate

- 1) First- and second-year Chinese, Japanese, Korean, or other appropriate Asian language (20 hours taken in four semesters).
- 2) **History 61** and **History 62**, East Asian Civilization
- 3) One course in three of the following six areas, a total of nine hours:

Area 1: Anthropology
110, Cultures of Asia

Area 2: Art and Art History
107, The Arts of China
108, The Arts of Japan
208, Topics in Asian Art

Area 3: History
162, The Chinese Revolution: Readings in Chinese Literature
361, Modern Japan: 1850 to Present
362, Modern China: 1800 to Present
*393, Senior Seminar

***Note** Students should take History 393 only when the topic is appropriate to East Asia.

Area 4 Music
9, Non-Western Music I
10, Non-Western Music II

Area 5: Philosophy
120, Asian Philosophy

Area 6: Political Science
155, East Asian Politics
*359, Studies in Comparative Politics
*388, Studies in International Relations

***Note** Students should take PolSci 359 or PolSci 388 only when the specific topic is appropriate.

European Studies Certificate

- 1) Four semesters of college work or the equivalent in a modern European foreign language.
- 2) **History 32**, Topics in European Civilization: 1715 to the Present.
- 3) One course each from at least four of the following eight areas, a total of 12 hours. Students should consult advisers at the Center to determine how these courses can best be arranged to meet their interests.

Area 1: Art and Art History
135, Renaissance Art
145, Baroque Art
235, Topics in Renaissance Art
245, Topics in Seventeenth- and Eighteenth-Century European Art
255, Topics in Nineteenth- and Twentieth-Century European Art

Area 2: Economics
238, Comparative Economic Systems

Area 3: English
127, Survey of European Literature from 1650 to the Second World War
128, The Contemporary World in Literature
132, English Literature II
323, Continental Fiction
346, Restoration and Eighteenth-Century Drama
364, The Eighteenth-Century English Novel
365, The Nineteenth-Century English Novel
372, Literature of the Late Nineteenth and Early Twentieth Centuries
383, Modern British Fiction

Area 4: History
31, Topics in European Civilization: Emergence of Western Europe to 1715
341, The Age of the Renaissance
342, The Age of Reformation
332e, Europe from the French Revolution to World War I, 1789-1914
351, Contemporary France: Since 1870
352, Germany in the Modern Age
354 History of Russia From 1917-Present
333d, Europe in the Twentieth Century
333e, Contemporary Europe, 1939-Present

Area 5: Foreign Languages and Literatures

FRENCH
110, Modern French Literature in Translation
150, European Literature in Translation: Special Topics
211, Contemporary French Culture
281, French Literature II: Nineteenth and Twentieth Centuries
341, Seventeenth-Century French Theatre and Poetry
342, Seventeenth-Century French Prose
353, Eighteenth-Century French Literature
354, Eighteenth-Century French Theatre and Novel
362, Nineteenth-Century French Novel
371, Twentieth-Century French Novel
375, Modern French Theatre

GERMAN
110, Masterpieces of German Literature in Translation
150, European Literature in Translation: Special Topics
201, Masterpieces of German Literature
202, The German *Novelle* and Drama
210, German Culture and Civilization
315, German Classicism and Romanticism
320, German Realism and Naturalism
345, Modern German Literature
397, Survey of German Literature Part I
398, Survey of German Literature Part II

SPANISH
110, Spanish Literature in Translation
150, European Literature in Translation: Special Topics
310, Spanish Literature from 1898 to 1939
315, Spanish Literature from 1939 to the Present
320, Realism and Naturalism in the Nineteenth-Century Spanish Novel

International Studies

- 321, Poetry and Drama of the Nineteenth Century
325, Poetry and Drama of the Golden Age

Area 6: Music

- 322, Music of the Renaissance
323, Music of the Baroque
324, Music of the Classic Period
325, Music of the Romantic Period

Area 7: Philosophy

- 103, Early Modern Philosophy
104, Kant and Nineteenth-Century Philosophy
105, Twentieth-Century Philosophy
205, The Rationalists
206, The British Empiricists

Area 8: Political Science

- 251, Comparative Politics of Europe
256, Russia and the New Republics
284, European International Relations
*351, Comparative Public Policy and Administration
*359, Studies in Comparative Politics
*388, Studies in International Relations
*Note Students should take PolSci 351, 359, or 388 only when the topic is appropriately European.

Latin American Studies Certificate

- 1) Thirteen credit hours or the equivalent in Spanish.
- 2) Either **History 71**, Latin American Civilization, or **Spanish 211**, Hispanic Culture and Civilization: Spanish America.
- 3) A total of 12 hours from at least three of the following areas:

Area 1: Anthropology

- 134, The Inca, Aztec, and Maya
140, Cultures of Mexico and Central America
145, Indians of South America

Area 2: Art and Art History

- 119, Pre-Columbian Art of Mexico and Central America

Area 3: History

- 371, History of Latin America: To 1808
372, History of Latin America: Since 1808

Area 4: Political Science

- 253, Political Systems of South America
254, Political Systems of Mexico, Central America, and the Caribbean
*359, Studies in Comparative Politics

*Note Students should take PolSci 359 only when the topic is appropriate to Latin America.

Area 5: Spanish

- 111, Spanish-American Literature in Translation
211, Hispanic Culture and Civilization: Spanish America
281, Introduction to Hispanic Literature: Spanish America
340, Spanish-American Literature of the Nineteenth Century
341, Modernismo
345, Spanish-American Literature of the Twentieth Century

- 351, Spanish-American Fiction in the Twentieth Century
360, Spanish-American Poetry from Modernismo to the Present

International Studies Certificate

- 1) Satisfactory completion of the language requirements for the degree program in which the student is enrolled.
- 2) PolSci 180, World Politics.
- 3) A total of 12 hours from at least three of the following nine areas:

Area 1: Anthropology

- 201, Comparative Economic Behavior
202, Culture, Politics, and Social Organization

Area 2: Biology

- 120, Environmental Biology

Area 3: Business Administration

- 316, International Marketing
317, International Management
380, International Finance

Area 4: Communication

- 332, Intercultural Communication
354, Comparative Telecommunication Systems
356, International Communication

Area 5: Economics

- 230, International Economic Analysis
231, International Finance
238, Comparative Economic Systems
331, International Economic Analysis: Finance

Area 6: Geography

- 102, World Regions

Area 7: History

- 332e, Europe from the French Revolution to World War I, 1789-1914
333d, Europe in the Twentieth Century
333e, Contemporary Europe, 1939-present

Area 8: Political Science

- 80, Global Issues
282, United States Foreign Policy
285, International Organizations and Global Problem Solving
289, Middle Eastern Politics
385, International Law
386, Studies in War and Peace
388, Studies in International Relations

Area 9: Sociology

- 314, Social Change
342, World Population and Ecology
354, Sociology of Business and Work Settings

International Studies

International Business Certificate

- 1) Students must complete a minimum of 12 hours in the Business Internship Program in London or in some other approved overseas study program.
- 2) One course from Area 1 and one from Area 2, a total of six hours.

Area 1: Business Administration:

316, International Marketing
317, International Management
380, International Finance

Area 2: International Studies:

Anthro 238: Culture and Business in East Asia
Econ 230: International Economic Analysis
Econ 231: International Finance
Econ 238: Comparative Economic Systems
Econ 240: Economic Development
PolSci 283: International Political Economy
PolSci 388: Studies in International Relations.
(International Relations of East Asia)
Sociology 241: Selected Topics in Macro-sociology.
(Work and Industry in Japan)
Sociology 354: Sociology of Business and Work Settings

In lieu of a course from Area 2, students may substitute one course (3 hours) at the advanced level of a foreign language. Advanced level is defined as a course beyond the 13 hour introductory language sequence.

- 3) An independent study course is not required for this certificate option.

Note: Students participating in other approved overseas study programs such as Hogeschool Holland Business School, Ecole Superieure de Commerce de Saint Etienne, or Université Jean Moulin, may also qualify to apply 12 credit hours toward the International Business Certificate.

International Studies Certificate Graduate

A Graduate Certificate in International Studies is a program of study featuring advanced, multidisciplinary course work designed for individuals, including teachers and other professionals, who wish to expand their knowledge and understanding of international and cross-cultural affairs. The Certificate is sponsored by the Center for International Studies, and the Departments of Economics, History, Foreign Languages and Literatures, and Political Science. A broad set of course offerings is available in these and other departments, with the flexibility for students to tailor the program to their particular interests and needs. The program has been developed as a vehicle for bringing together the resources of a distinguished faculty in international studies and for providing an opportunity for further graduate learning. For further information, contact the Center for International Studies at 516-5753.

Applicants to the Certificate program must meet the general requirements for admission to Graduate School as

explained in the graduate study section of this Bulletin. The Certificate is awarded after completion of 18 hours, including a minimum of 12 hours drawn from a list of core courses and an additional six hours selected from a wide variety of offerings in eight different disciplines. No more than 12 hours may be from any one discipline. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the Certificate when appropriate.

Requirements

Students must complete at least 12 hours chosen from the following list of core courses:

Anthropology

425, Peoples and Cultures of Southeast Asia
430, Global Refugee Crisis

Business Administration

416, International Finance, Investment, and Commercial Relations
417, International Business Operations
443, International Accounting

Economics

430, International Trade
431, International Monetary Analysis

History

420, Readings in East Asian History
425, Readings in Latin American History
430, Readings in African History
431, Readings in European History

Political Science

450, Proseminar in Comparative Politics
451, Seminar in Comparative Politics
480, Proseminar in International Relations
481, Seminar in International Relations
488, Studies in International Relations

Sociology

410, Comparative Social Structures

Students may complete an additional six hours chosen from the following:

Business Administration

316, International Marketing
317, International Management
380, International Finance

Communication

332, Intercultural Communication
354, Comparative Telecommunication Systems
356, International Communication

Criminology and Criminal Justice

305, Comparative Criminology and Criminal Justice

Economics

331, International Economic Analysis: Finance
395, Special Readings

International Studies

English

323, Continental Fiction

History

314, American Foreign and Military Affairs, 1900-Present

320, History of Feminism in Western Society

332c, Modern France: to 1870

332e, Europe from the French Revolution to World War I, 1789-1914

333d, Europe in the Twentieth Century

333e, Contemporary Europe, 1939-Present

351, Contemporary France: Since 1870

352, Germany in the Modern Age

353, Russian History to 1917

354, History of Russia from 1917-Present

355, History of Spain

361, Modern Japan: 1850 to Present

362, Modern China: 1800 to Present

372, History of Latin America: Since 1808

381, West Africa: Since 1800

382, History of Southern Africa

390, Special Readings

Foreign Languages and Literatures

French 362, Nineteenth-Century French Novel

French 365, Modern French Poetry

French 371, Twentieth-Century French Novel

French 375, Modern French Theatre

German 315, German Classicism and Romanticism

German 320, German Realism and Naturalism

German 345, Modern German Literature

German 398, Survey of German Literature Part II

Spanish 310, Spanish Literature from 1898-1939

Spanish 315, Spanish Literature from 1939 to Present

Spanish 320, Realism and Naturalism in the Nineteenth-Century Spanish Novel

Spanish 321, Poetry and Drama of the Nineteenth Century

Spanish 340, Spanish-American Literature of the Nineteenth Century

Spanish 341, Modernismo

Spanish 345, Spanish-American Literature of the Twentieth Century

Spanish 351, Spanish-American Fiction in the Twentieth Century

Spanish 360, Spanish-American Poetry from Modernismo to the Present

Music

325, Music of the Romantic Period

326, Music of the Twentieth Century

Political Science

351, Comparative Public Policy and Administration

359, Studies in Comparative Politics

385, International Law

386, Studies in War and Peace

388, Studies in International Relations

485, Directed Readings and Research in International Relations

Sociology

342, World Population and Ecology

**BARNES COLLEGE
OF NURSING**



College of Nursing

Faculty

Jerry Durham, Dean; Professor*
Ph.D., St. Louis University

Connie K. Koch, Assistant Professor*; Associate Dean
Ed.D., Southern Illinois University-Edwardsville

Dotty Akerson, Clinical Associate Professor
MSN, St. Louis University

Janice M. Attala, Associate Professor*
Ph.D., Southern Illinois University-Carbondale

Margaret Jean Auffarth, Clinical Instructor
MSN, University of Missouri-Kansas City

Jean Bachman, Associate Professor*, Director for Graduate Affairs
D.S.N., University of Alabama

Bertha Ballard, Clinical Assistant Professor
MSN, St. Louis University

Anna J. Biggs, Clinical Professor
Ph.D., University of Colorado

Deborah Birk, Clinical Instructor
MSN, Southern Illinois University-Edwardsville

Donna Bridgman Musser, Clinical Assistant Professor
M.S.N., Southern Illinois University-Edwardsville

Wilma Calvert, Clinical Assistant Professor
MSN, University of Oklahoma

Virginia Drake, Associate Professor*
DNSc, Catholic University of America

Gretchen Drinkard, Clinical Associate Professor
MSN, FNP, University of Missouri-Columbia

Marianne Fox, Clinical Assistant Professor
MSN, Webster University

Patricia Freed, Assistant Professor
EdD, Southern Illinois University-Edwardsville

Kay Gaehle, Clinical Assistant Professor
MSN, St. Louis University

Dawn Garzon, Clinical Instructor
MSN, PNP, University of Florida

June Hertell, Clinical Assistant Professor
MSN, St. Louis University

Joyce Hunter, Clinical Assistant Professor
MSN, St. Louis University

Ruth L. Jenkins, Associate Professor*
Ph.D., St. Louis University

Mary Ann Baroni-Kaestner, Clinical Assistant Professor
MSN, St. Louis University

Gail Lewis, Clinical Associate Professor
MSN, University of Nebraska

Sandy Lindquist, Clinical Associate Professor
Ph.D., St. Louis University

Nancy Magnuson, Student Health Administrator and Clinical Professor
DSN, University of Alabama at Birmingham

Shirley A. Martin, Dean; Professor Emeritus*
Ph.D., St. Louis University

Judith Maserang, Clinical Professor*
Ph.D., St. Louis University

Maryellen McSweeney, Professor*
Ph.D., University of California-Berkeley

Shirley Moore, Associate Professor*
Ph.D., St. Louis University

Teri Murray, Clinical Assistant Professor
Ph.D., St. Louis University

Jean Nelson, Clinical Assistant Professor
MSN, Southern Illinois University-Edwardsville

Susan Panzarine, Associate Professor*
Ph.D, University of Utah

Robyn Rice, Clinical Associate Professor
MSN, Southern Illinois University-Edwardsville

Shirley Saunders, Clinical Assistant Professor
MSN, St. Louis University

Linda Sherman, Clinical Associate Professor
MSN, Southern Illinois University-Edwardsville

James Steele, Clinical Assistant Professor
MSN, University of Missouri-St. Louis

Linda Steele, Clinical Professor*
Ph.D, ANP, University of Texas at Austin

JoAnn Steel, Clinical Instructor
MSN, St. Louis University

Mary Jo Stralka, Clinical Associate Professor
Ph.D, PNP St. Louis University

Lanette Tanaka, Clinical Assistant Professor
MSN, St. Louis University

Margaret Ulione, Assistant Professor*
Ph.D., University of Maryland

Georgia Urban, Clinical Assistant Professor
MSN, St. Louis University

Carlotta Wider, Clinical Instructor
MSN, University of Missouri-Kansas City

Valerie Yancey, Clinical Associate Professor
MSN, St. Louis University

Marilyn M. Dickerson, Adjunct Assistant Professor**
MA, PNP

Carol W. Trotter, Adjunct Assistant Professor**
RNC, MPH, NNP

Lyn Vargo, Adjunct Assistant Professor**
RNC, MSN, NNP

* Members of Graduate Faculty

** Affiliated Adjunct Faculty

General Information

Barnes College of Nursing offers nursing studies at the undergraduate and graduate levels. Knowledge and skills needed to complete the professional licensure examination to become a registered nurse are available through a basic baccalaureate option. Nurses who have obtained their basic nursing education through associate degree or diploma nursing programs may complete the BSN Completion option without repetition of previous nursing education. The Master of Science in Nursing program is offered in cooperation with the School of Nursing at University of Missouri-Kansas City. The PhD in Nursing is offered in cooperation with the Schools of Nursing at University of Missouri-Columbia and Kansas City. Admission to the PhD is available at the post BSN and MSN levels.

Undergraduate Studies

The Barnes College of Nursing provides course work leading to the Bachelor of Science in Nursing. The program is accredited by National League for Nursing and the Missouri Board of Nursing. The undergraduate program offers two means for achieving the bachelor's degree in nursing:

- studies which are preparatory for completion of the professional nurse licensure examination.

College of Nursing

- advanced placement for the professional registered nurse without repetition of fundamental nursing courses (B.S.N. completion).

Admission Policies

Basic Baccalaureate

- 1) Admission to the University (see Undergraduate Admission and Application Procedure section in this Bulletin);
- 2) Cumulative high school grade point average of 2.5 (4.0 scale);
- 3) Rank in upper third of high school class;
- 4) High school course work required in Chemistry and Biology
- 5) "B" average preferred for high school course work in English Composition, Algebra I and II, Geometry, Chemistry, and Biology.

B.S.N. Completion

- 1) Admission to the University (see Undergraduate Admission and Application Procedure section in this Bulletin);
 - 2) Graduate of either a NLN accredited diploma or associate degree program in nursing;
 - 3) Evidence of current licensure as a registered nurse with eligibility for licensure in Missouri;
 - 4) Cumulative grade point average of 2.5 (4.0 scale)* on all previous college-level course work;
 - 5) Minimum of 30 hours of college credit applicable to a degree.
 - 6) Validation of basic nursing knowledge (total of 30 credits granted).
- * Cumulative GPA of 3.0 required of individuals seeking accelerated access to MSN option.

Acceptance into the B.S.N. Program

Following the completion of the University's admission requirement, the Admissions Committee of the College of Nursing will review the application for acceptance into the program.

Students are required to furnish their own transportation to and from campus and clinical agencies. Students must have automobile access for all community experiences throughout the program.

For specific information regarding the B.S.N. degree program, please contact Nursing Student Services and Records office at (314) 516-6066.

Credit by Transfer and Examination

Credit may be granted for selected general studies. See Admission and Application Procedure section in this Bulletin for credit information.

Graduates of diploma nursing programs will be awarded 30 college credits for successful validation of basic nursing knowledge as part of the admission process. A processing fee is assessed for this procedure.

Degree Requirements

The Bachelor of Science in Nursing degree requires

comprehensive course work in general education and nursing. A minimum of 125 credit hours is required for graduation from the basic baccalaureate program option.

Satisfactory/Unsatisfactory

Undergraduate nursing majors may not take required related area general education or nursing courses on a satisfactory/unsatisfactory basis.

General Education Requirements

All nursing majors must complete all general education requirements of the University as outlined in this *Bulletin* (see Undergraduate Studies, General Education Requirements). The College's required general education requirements are in keeping with those of the University. See a curriculum planning guide for specific courses and proper sequencing.

Within the general education requirements, the following are related area requirements for the nursing major:

Basic Baccalaureate

1) Natural science course work

Biology 110, Human Biology or equivalent
Biology 113, Human Physiology and Anatomy I
Biology 114, Human Physiology and Anatomy II
Biology 116, General Microbiology
Chem 1, General Chemistry

2) Behavioral science course work

Sociology 10, Introduction to Sociology
Psych 3, General Psychology
Psych 268, Human Growth and Behavior
Econ 40, Introduction to American Economy
Anthro/Advanced Sociology, 3 semester hours of choice

3) Statistics selected from one of the following:

BA 131, Elementary Statistics
Math 31, Elementary Statistical Methods
Nursing 373, Quantitative Analysis in the Health Sciences
Psych 201, Psychological Statistics
Sociology 220, Sociological Statistics

B.S.N. Completion

1) Natural science course work

Biology 213, Vertebrate Physiology
Chem 2, General Organic Chemistry

2) Statistics selected from one of the following:

BA 131, Elementary Statistics
Math 31, Elementary Statistical Methods
Nursing 373, Quantitative Analysis in the Health Sciences
Psych 201, Psychological Statistics
Sociology 220, Sociological Statistics

Nursing Requirements

Basic Baccalaureate

The following are **required** nursing courses:

- Demonstration of basic computer literacy
- 100**, Nursing as Human Caring
- ***101**, Application of the Human Caring Process
- ***102**, Human Caring Process for the Developing Family

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105, Professional Relationships: Communicating with Care
 110, Nutrition and Health Promotion
 115, Pathophysiology
 120, Introduction to Pharmacology
 *230, Human Caring in Illness: Threats to Survival Needs
 *232, Human Caring in Illness: Threats to Functional, Integrative and Growth-Seeking Needs
 *235, Assessment of Clients in Health and Illness
 240, Ethics of Human Caring
 326, Nursing Research
 *345, Management of Clients with Complex Needs
 *355, Leadership in Health Care Delivery Systems
 360, Nursing Seminar

BSN Completion

The following are required nursing courses:
 *200, Dimensions of Professional Nursing Practice
 *217, Information Systems Utilized in Health Care
 *220, Health Assessment
 *236, Families and Communities
 316, Management and Leadership in Nursing
 326, Nursing Research
 *340, Synthesis in Nursing Practice
 350, Contemporary Nursing Issues
 *Includes a laboratory and/or clinical component.

Graduate Studies

Cooperative Graduate Programs in Nursing

Master of Science in Nursing

The College of Nursing at St. Louis, in cooperation with the School of Nursing at University of Missouri-Kansas City, offers graduate nursing studies in three areas of clinical specialization:

Health Care of the Adult
 Health Care of Children
 Health Care of Women

This graduate program offers students two ways of completing the Master of Science in Nursing Degree: one means is through completion of a minimum of 36 credit hours with functional role emphasis in administration, education, or clinical specialization; the second concentrates on the functional role of practitioner with completion of a minimum of 43 credit hours. Those selecting the practitioner functional role option will be eligible to complete national certification examinations.

Admission Requirements

Applicants must meet the following:

- 1) B.S.N. from NLN-accredited nursing program or B.S.N. program comparable to UM-St. Louis College of Nursing's B.S.N. program.
- 2) Minimum cumulative grade point average of 3.0 (4.0 scale).
- 3) Current professional nurse licensure with eligibility for licensure in Missouri.
- 4) Basic cardiac life support certification.
- 5) Successful completion of an undergraduate descriptive and inferential statistics course.

- 6) Successful completion of an undergraduate health assessment course.
- 7) Nurse practitioner functional option is available on a limited basis and requires a two-step admission process: initial admission to the M.S.N. followed by application to the practitioner functional role.

Degree Requirements

Core Courses (completed by all students)

*404, Health Assessment for Advanced Nursing Practice
 445, Foundations of Advanced Nursing Practice
 448, Pathophysiology for Advanced Nursing Practice
 450, Theoretical Foundations in Nursing
 455, Quantitative Methods in Nursing Research
 *472, Advanced Practice Nursing: Synthesis Practicum

Emphasis Courses* (Students must complete one course from each focal area.)

Health Promotion Focus

460A, Health Promotion and Protection in Adult Health Nursing
 460C, Health Promotion in the Nursing Care of Children
 460W, Women's Health Care I

Acute and Chronic Nursing Care Focus

461A, Acute and Chronic Adult Health Nursing
 461C, Acute and Chronic Child Health Nursing
 461W, Women's Health Care II

Functional Role Courses

Role Foundation (Students must complete one course.)

471NA, Role of the Nurse Administrator
 471NE, Role of the Nurse Educator
 471NS/NP, Role of the Clinical Specialist/Nurse Practitioner

Role Enactment (Practitioner functional role only)

*464, Ambulatory Care Management
 407, Pharmacology for Advanced Nursing

Elective (Completed by all students)

Students complete three hours which support the chosen functional role. Course work may be taken within the College of Nursing or from an approved list available from the Student Services Office in the College of Nursing.

Culminating Research Activity

(All students complete seminar course. Students choose either project or thesis.)

477, Thesis/Directed Research Seminar
 478, Directed Research
 479, Research Thesis
 *Includes a clinical component

Ph.D. in Nursing The College of Nursing at St. Louis, in cooperation with the Schools of Nursing at Columbia and Kansas City, offers doctoral studies in three substantive areas:

Health Promotion and Protection—Addresses modes of delivery in nursing that are supportive-educative, encompassing concepts which promote and maintain

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health as well as concepts which focus on reducing risk for injury or illness.

Health Restoration and Support—Addresses human responses to acute, critical, and chronic health conditions.

Health Care Systems—Focuses on nursing and health care systems with both health promotion and protection, and health restoration and support considered.

The Ph.D. is designed to promote scholarly inquiry within the discipline of nursing. Each program of study is individualized to best reflect the research interests of the student. Course work in research and inquiry, nursing theory and analysis, and nursing applied science are focal in the program.

Admission Requirements

Applicants must meet the following:

- 1) Graduate of NLN Baccalaureate program or equivalent with 3.2 minimum GPA (4.0 scale).
- 2) Graduate of NLN Master's program or equivalent with 3.5 minimum GPA (4.0 scale).
- 3) Graduate Record Examination (composite score of 1500 or better desired).
- 4) Three letters of reference.
- 5) Original essay (3–7 pages) addressing doctoral study and research interests related to Health Promotion and Protection, Health Restoration and Support, and/or Health Care Systems.
- 6) Interview by invitation contingent on ranking related to above criteria.

Degree Requirements

While each program of study is individualized, B.S.N graduates complete a minimum of 60 hours of graduate level course work. MSN graduate course work which supports the chosen substantive area is individually evaluated to determine eligibility for transfer. The following defines the overall structure of the program:

Modes of Inquiry

Research and Inquiry, 8–16 hours external to the College of Nursing, such as advanced statistics, research design, computer applications, philosophical foundations of science.

Nursing Research and Inquiry, 8–16 hours within the College of Nursing, such as advanced quantitative nursing research design, advanced qualitative nursing research design, health survey methods, issues in research design, doctoral seminar.

Dissertation, 12 hours.

Nursing Content Areas

Nursing Theory Analysis and Development, 8–16 hours within the College of Nursing which advance the chosen substantive area, such as conceptual structures, nursing practice models, theory development, theoretical foundations, doctoral seminar.

Nursing Applied Sciences, 8–16 hours within selected substantive area.

Collateral Support Courses, 12 hours external to the College of Nursing which support selected substantive area.

Professional Organizations

American Nurses Association

Students, as registered nurses, are eligible for membership in the American Nurses Association. Membership and participation in this professional organization is strongly urged for all nurses practicing today. Nurses, as the largest group of health professionals, have a responsibility to assume leadership positions in the determination of health care policy, and this activity can best be accomplished by participating in the professional organization.

Sigma Theta Tau

The College is an official chapter—Nu Chi—of Sigma Theta Tau International Honor Society. Membership is offered by invitation to those students graduating the upper third of their class and to those recognized as outstanding community nursing leaders.

Student Nurses' Association

The College of Nursing is a constituent of the national Student Nurses' Association. The purpose of this organization is to provide a means for nursing students in the basic baccalaureate program the opportunity to connect with the nursing profession prior to licensure.

Continuing Education-Extension

Continuing education offerings in the field of nursing are currently presented to provide nurses with new information, techniques, and trends within the nursing profession.

Credit courses which will apply to the B.S.N. program are offered at various off-campus sites.

College of Nursing

Course Descriptions

All previous level nursing courses must be successfully satisfied prior to progressing to the next level nursing courses.

100 Nursing as Human Caring (2)

Offers an introduction to the history and theoretical development of nursing. Examines the profession as an art and a science. Presents theory of human caring as it applies to nursing practice.

101 Application of the Human Caring Process (7)

Prerequisites: Biology 113; Biology 114; Psych 3; Nursing 100. Introduces a caring framework for nursing practice with acquisition of basic psychomotor and critical thinking skills. Application of caring factors with emphasis on health promotion and illness prevention. Includes a clinical component.

102 Human Caring Process for the Developing Family (7)

Prerequisites: Sociology 10; Psych 268; Nursing 101; Nursing 105. Provides a holistic perspective on family health care. Emphasis on health promotion and maintenance across family life cycles. Includes a clinical component.

105 Professional Relationships: Communicating with Care (3)

Prerequisite: English 10. Assists in the development of communication abilities utilized in professional nursing. Introduces interpersonal skills which enable the student to develop effective human caring relationships with clients and colleagues.

110 Nutrition and Health Promotion (3)

Prerequisites: Biology 113 and 114. Examines nutritional needs throughout the life span with emphasis on nutritional principles related to health promotion and illness prevention. Includes discussion of dietary requirements associated with illness states.

111 Issues in Geriatric Health Care (2)

(Same as Biology 111 and Gerontology 111.) A course designed to acquaint the student with aspects of chronic disease frequent in later life, as well as a synopsis of biological aging processes. Disease symptomatology aspects of health maintenance and medical intervention with an older adult population will be discussed. In addition, issues in health care delivery will also be explored.

115 Pathophysiology (3)

Prerequisites: Biology 113; 114; 116; and Chem 1. Studies the nature of disease, its causes and the bodily changes which accompany it. Includes study of general principles of disease, specific diseases of individual organs and systems, and the clinical implications.

120 Introduction to Pharmacology (3)

Prerequisites: Biology 113; 114; 116; and Chemistry 1. Surveys general classifications of drugs. Emphasizes general principles of drug action and toxicity, as well as clinical considerations and application.

200 Dimensions of Professional Nursing Practice (6)

Prerequisites: Admission to the College of Nursing as RN. This transition practicum course for the registered nurse who successfully completed an associate degree or diploma nursing program investigates the roles and responsibilities of the professional nurse within a rapidly changing health care system. Key issues are explored with emphasis on health promotion and primary prevention.

217 Information Systems Utilized in Health Care (4)

Prerequisite: Admission to College of Nursing as an RN or consent of instructor. This laboratory course establishes competency in health information systems. The course incorporates the impact of information systems on health care delivery.

220 Health Assessment (4)

Prerequisites: Nursing 200 and Nursing 217. This laboratory course focuses on the knowledge, communication abilities, and technical skills necessary for comprehensive assessment of individuals of all ages.

224 Marriage and the Family (3)

(Same as Sociology 224.) Prerequisite: Sociology 10 or consent of instructor. The study of patterns of close relationships, and how these relationships are influenced by larger social forces. Topics include: love, dating, mate selection, cohabitation, alternative lifestyles, working families, parenting, single mothers, families in crisis, domestic violence, and divorce. Universal and variable aspects of family organization, family role systems, and changes in family social structure.

230 Human Caring in Illness: Threats to Survival Needs (8)

Prerequisites: All sophomore level nursing courses. Explores the application of caring factors to children and adults experiencing pathophysiologic processes affecting body regulatory mechanisms. Includes a clinical component.

232 Human Caring in Illness: Threats to Functional, Integrative and Growth-Seeking Needs (8)

Prerequisites: All sophomore level nursing courses. Explores the application of caring factors to children and adults experiencing pathophysiologic and psychopathologic processes related to growth and development, functional abilities, and integrative components. Includes a clinical component.

235 Assessment of Clients in Health and Illness (3)

Prerequisites: All sophomore level nursing courses. Builds on theoretical knowledge, communication abilities, and the technical skills of basic assessment. Integrates the practice of human caring in the assessment of clients experiencing altered health states. Includes a clinical component.

236 Family and Community Nursing (6)

Prerequisites: Nursing 200, 217 and 220. This practicum course introduces the concepts, principles, skills, and professional nursing roles essential to practice community-based professional nursing with families and groups.

240 Ethics of Human Caring (3)

Prerequisites: Nursing 102; Philosophy course; or consent of instructor. Focuses on examination of ethical dimensions

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of professional nursing practice with exploration of applied nursing ethics, moral development, ethical theories and principles, and moral reasoning.

299 Special Study in Nursing (1-3)

Prerequisite: Consent of instructor. In-depth study of selected topics in nursing under the guidance of a specific instructor. No more than six hours may be taken under this option.

316 Leadership and Management in Nursing (3)

Prerequisite: Completion of all junior-level nursing courses. Focuses on organizational processes and management theories and provides an examination of motivational theories, group processes, critical thinking, leadership and communication skills, as well as authority and accountability.

320 Perioperative Nursing (2)

Prerequisite: Consent of instructor. Provides experiences in preoperative, intraoperative, and postoperative settings. Includes a clinical component.

322 Transcultural Nursing (3)

Prerequisite: Consent of instructor. Examines transcultural nursing concepts, theories and practices in relationship to human caring. Focuses on application and analysis of health care and scope of practice [within selected cultural contexts. Includes practicum experiences.

325 Education and the Psychology of Human Sexuality(3)

(Same as Ed Psy 325). The course is designed to provide educators and other human services personnel with knowledge and understanding of various personal and social dimensions of human sexuality.

326 Nursing Research (3)

Prerequisites: All required Junior level Nursing courses completed; Senior status; Psych 201 or equivalent course in statistics. Introduces the values and characteristics of quantitative and qualitative research within an ethical perspective. Examines research process through analysis and critique of published nursing research.

332 Dimensions of Health Care: Implications for Professional Nursing Practice (3)

Prerequisite: Completion of junior-level nursing courses or consent of instructor. Legislative, legal, economic, and bioethical concepts are explored as they impact professional nursing practice and health care delivery in a changing society.

338 Sociology of Health (3)

(Same as Sociology 338.) Prerequisites: Sociology 10 and junior standing. Exploration of social dimensions and issues related to health and illness such as access to the health care delivery system; factors influencing prevention, utilization, and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

340 Synthesis in Nursing Practice (6)

Prerequisites: Completion of all junior level classes; Corequisite: Nursing 326 or equivalent, Nursing 350. This practicum course focuses on community-based application

and synthesis of professional nursing roles and responsibilities with selected populations determined to be at risk for a variety of health related problems. The course includes assessment of cognitive and affective growth achieve while in the BSN Completion Program.

341 Advanced Nursing Assessment and Management of Clients with Cardiac Dysrhythmias (3)

Prerequisite: Senior status. Focuses on advanced nursing assessment and management of clients with cardiac rhythm problems and conduction disturbances. Includes a clinical component.

345 Management of Clients with Complex Needs (8)

Prerequisites: All junior level nursing courses. Synthesizes human caring and human science in developing megastrategies that address the complex needs of persons. Includes a clinical component.

350 Contemporary Nursing Issues (2)

Prerequisites: Nursing 316, 326, 332, and 340 (may be taken concurrently). Analyzes the development of the professional nursing role in the health care delivery system in contemporary and future society. (This course must be taken in the student's final semester.)

352 Primary Care Nursing (3)

Prerequisites: Completion of all junior level courses; Corequisite: Nursing 340. This course introduces the role of the advanced practice nurse as a principal provider of primary health care to families across the life span. Major issues relate to health care provided in a variety of community settings are addressed.

355 Leadership in Health Care Delivery Systems (8)

Prerequisites: All junior level nursing courses. Explores a conceptual foundation for community health nursing that recognizes community as client. Studies human caring related to leadership and management roles of the nurse in health care institutions and the community. Includes a clinical component.

360 Nursing Seminar (3)

Prerequisite: All required Junior level Nursing courses and Senior status. Explores current issues related to health care delivery and nursing practice through review of professional literature, group presentations, and discussions.

365 Women's Issues in Health Care (3)

This course is open to nursing majors and other persons interested in women's issues in health care. This seminar offers students the opportunity to explore women's issues in health care from the perspectives of both providers of health care and consumers of health care. Wellness, rather than pathology, is the emphasis of discussion of specific health care issues related to women. Student interest will determine specific issues to be examined.

370 Topics in Nursing (1-3)

Prerequisite: Consent of instructor. Explores special topics in the areas of clinical practice, nursing education, nursing administration, and professional development. No more than six hours may be taken under this option.

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373 Quantitative Analysis in the Health Sciences (3)

Prerequisite: Math 30 or equivalent or permission of instructor. Uses examples and content from health sciences to provide the basic conceptual structure for quantitative analysis.

376 Child Assessment: Denver II (2)

This course identifies principles of growth and development and trains persons to be screeners using the Denver II. The Denver II is a general developmental screening test that primarily evaluates personal-social ability, fine motor-adaptive skills, language, and gross motor skills. To a lesser extent, Denver II is used as a very rough gauge of speech intelligibility, hearing, and vision. This screening instrument is currently used on all Medicaid children and in the Parents as Teachers program.

385 Family Health Behavior (3)

Prerequisite: Nursing 445; or consent of instructor. This course considers various theoretical perspectives and research approaches for studying and providing nursing care to families over the life cycle (from childbearing families through aged families). Attention is given to theoretical and methodological issues related to family nursing and research from a family perspective.

399 Interdisciplinary Identification of Developmental Delays in Children Birth to Three Years (3)

Prerequisite: Permission of instructor or adviser. This course provides an overview of the Missouri state initiative of Public law 99-457 and focuses on identification of children birth to 36 months who are at risk for developmental delays. Case finding and case management, the importance of parental-professional partnerships and available resources are addressed. Screening methods used to identify developmental delays by nursing, physical and occupational therapy, psychology, audiology, education and speech, and language therapy are presented.

401 Health and Wellness in the Elderly (2)

(Same as Gerontology 401.) Prerequisite: Graduate standing. Factors contributing to longevity and health in old age, including genetic predisposition, lifestyle, culture, and environment, are related to aspects of maintaining health and promoting wellness. Through a holistic approach, explores aspects of nutrition, exercise and activity, prevention of hazards to health, maintaining self-responsibility, managing stress, and meeting continued developmental, emotional, and spiritual needs. Considers cross-disciplinary interventions to promote health and wellness in the elderly.

404 Health Assessment for Advanced Nursing Practice (2)

Prerequisite: Undergraduate Health Assessment or consent of instructor. This course is designed to provide a systematic approach to the advanced assessment of physiological, psychological, sociocultural, developmental and spiritual assessment of individuals. The course builds on basic health assessment skills and emphasizes advanced assessment skills, lab work interpretation, validation, documentation and analysis of assessment findings.

407 Pharmacology for Advanced Nursing Practice (3)

Prerequisite: Nursing 445 (may be taken concurrently)

or consent of instructor. This course centers on clinical pharmacotherapeutics used for primary health care management. Emphasis is placed on the clinical use of drugs in the management of specific illnesses.

415 Conceptual Structure of Nursing (3)

Prerequisites: Admission to PhD in Nursing Program or consent of instructor. This course focuses on the discipline of nursing including the substantive content as expressed in theoretical systems and the development of this substantive content through scholarly inquiry. The evolution and state of the art of conceptual and theoretical development in nursing are examined. One nursing theory is studied in depth to illustrate the process of theory development. Concept mapping showing relationships between and among terms is accomplished.

416 Nursing Practice Theories and Models

Prerequisites: Admission to PhD in Nursing program or consent of instructor and N 415 or N481. This course focuses on the development of nursing practice theory, and nursing practice models, from the perspective of various populations and other theories. Nursing protocols, procedures, rules of practice, and systems for delivering care for selected populations or sub-populations are developed.

421 Child Growth and Development (3)

Prerequisite: Basic course in child growth and development or consent of instructor. Seminar discussions in child growth and development and child rearing practices as influenced by cultural, family, and organic conditions. Theories of growth and development, normal development, variation from normal and the use of current developmental screening methods are included.

445 Foundations of Advanced Nursing Practice (3)

Prerequisite: Admission to master's nursing program. This course provides a foundation for advanced nursing practice. Major issues related to clinical and functional role development are addressed. (This course must be taken in the first semester of the master's nursing sequence.)

448 Pathophysiology for Advanced Nursing Practice (3)

Prerequisite or corequisite: Nursing 445. This course focuses on implications for advanced nursing practice through examination of selected pathophysiological phenomena which occur frequently in the diverse populations to whom advanced nurses provide care.

450 Theoretical Foundations in Nursing (3)

Prerequisite: Nursing 445 (may be taken concurrently). This course analyzes major concepts and theories relevant to nursing. Ethical issues and dilemmas inherent in advanced nursing practice are also addressed.

455 Quantitative Methods in Nursing Research (3)

Prerequisites: Nursing 373 or equivalent; Nursing 450 (may be taken concurrently). This course provides the principles and techniques common to scientific investigation as applied to nursing. A plan of study for a nursing problem is developed.

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457 Qualitative Methods in Nursing Research (3)

Prerequisites: Nursing 450; 455 or equivalent. This course introduces the skills necessary to understand and conduct qualitative research in nursing. Emphasis is placed on utilization of qualitative research methods in the study of selected nursing problems.

458 Research Utilization in Nursing (3)

Prerequisites: Nursing 445 and 455. This course prepares nurses to implement a research utilization model to validate practice. The theoretical basis for research utilization and practical instances of its application in nursing is examined. Opportunities are provided to develop a research utilization plan to address a clinical area of practice.

460A Health Promotion and Protection in Adult Health Nursing (3)

Prerequisites: Nursing 445, 404, 448 (may be taken concurrently). This clinical course focuses on advanced primary care nursing of individuals with emphasis placed on health promotion. Consideration is given to the impact of health promotion and protection on individuals, families and selected aggregates.

460C Health Promotion in the Nursing Care of Children (3)

Prerequisites: Nursing 445, 404, 448 (may be taken concurrently). This clinical course focuses on comprehensive primary care for children and families addressing various developmental stages, multiple socio-economic groups, and multiple cultural backgrounds.

460F Family Health Promotion (3)

Prerequisites: Nursing 445, 404 (may be taken concurrently). This clinical course examines principles and concepts critical to the family nurse practitioner role within a primary care environment. Attention is given to the decision-making process and clinical management from a health promotion focus of the family system across the life span.

460W Women's Health Care I (3)

Prerequisites: Nursing 445, 404, 448 (may be taken concurrently). This clinical course addresses advanced nursing practice with women across the life span. Emphasis is placed on the years from puberty through climacteric.

461A Acute and Chronic Adult Health Nursing (3-4)

Prerequisites: Nursing 404, 445, and 448. Corequisite: Nursing 450. This clinical course provides opportunities to apply advanced knowledge and skills to advanced nursing care of patients and families experiencing acute and/or chronic health problems.

461C Acute and Chronic Child Health Nursing (3-4)

Prerequisites: Nursing 404, 445, and 448. Corequisite: Nursing 450. This clinical course provides opportunities to apply advanced knowledge and skills to advanced nursing care of children and families experiencing acute and/or chronic health problems.

461F Acute and Chronic Problems in the Family I: Parent-Child (4)

Prerequisites: Nursing 404, 445, and 448. Corequisite:

Nursing 450. This course is designed to examine concepts and skills essential to family nurse practitioners. Advanced nursing care of families experiencing acute and chronic health problems with particular emphasis on women's and children's health will be addressed.

461W Women's Health Care II (3-4)

Prerequisites: Nursing 404, 445, and 448. Corequisite: Nursing 450. This clinical course provides opportunities to apply advanced knowledge and skills to advanced nursing care of women, neonates and families in the childbearing cycle.

464 Ambulatory Care/Case Management (3-4)

Prerequisites: Nursing 404, 407, 460, and 461. This course focuses on the therapeutic management of common health problems encountered by nurse practitioners in selected health care settings. Enrollment limited to those in the practitioner functional role.

464F Acute and Chronic Problems in the Family II: Adult (4)

Prerequisites: Nursing 404, 445, and 448. Corequisite: Nursing 450. This clinical course is designed to examine concepts and skills essential to family nurse practitioners. Advanced nursing care of families experiencing acute and chronic health problems with particular emphasis on adult health will be addressed.

470 Special Topics in Advanced Practice Nursing (1-3)

Prerequisite: Consent of instructor. Explore special topics for the advanced practice nurse in the areas of research, theory, education and administration. No more than three hours shall be applied toward the degree. This course is for graduate MSN or Ph.D. levels.

471NA Role of the Nurse Administrator (3)

Prerequisite: Nursing 445. This course builds on the fundamentals of advanced nursing practice by focusing on the sub-role of the nurse administrator. Content focuses on essential knowledge for today's senior and executive level nurse managers in health care.

471NE Role of the Nurse Educator (3)

Prerequisite: Nursing 445. This course facilitates development of the nurse educator role in a variety of settings. Knowledge and skills essential for the enactment of the nurse educator role are provided.

471NS/NP Role of the Clinical Nurse Specialist/Nurse Practitioner (3)

Prerequisite: Nursing 445. This course focuses on issues impacting the merging roles of clinical nurse specialist and nurse practitioner. It facilitates role development and emphasis on primary care providers and/or specialists within specific clinical areas of advanced nursing practice.

472NA Advanced Nursing Practice: Synthesis Practicum (3)

Prerequisites: All required courses except Nursing 478/479. This clinical course is a concentrated, experiential opportunity to function in the advanced practice nursing role of nurse administrator, educator, clinical specialist, or practitioner within a chosen setting.

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473 Measurement of Nursing Phenomenon (3)

Prerequisites: N 445. The theoretical basis of measurement is presented in a foundation for the development and evaluation of measurement instruments and procedure for use in nursing research. Content is presented regarding measurement theories, techniques of construction, statistical analysis of reliability and validity and strengths and limitations of selected measures of nursing research.

475 Special Study in Graduate Nursing (1-3)

Prerequisites: Nursing 445 and permission of the instructor. In-depth study of selected topics in nursing under the guidance of a specific instructor. No more than three hours may be applied to the master's program of study.

476 Instrument Development (3)

Prerequisites: Graduate level statistics/research course and approval of instructor. The purpose of this course is to provide an in-depth study of the development and testing of nursing/health care instruments. Study will allow the student to develop expertise in nursing instrument development including theoretical foundations, item construction, validity and reliability assessment, data collection and manuscript development related to this process. This course includes computer data input and statistical analysis functions.

477 Thesis/Directed Research Seminar (1)

Prerequisites: Nursing 455 and permission of thesis/directed research chair. Presentation and discussion of selected research problems in nursing.

478 Directed Research (1-6)

Prerequisites: Nursing 455 and permission of faculty research adviser. Individual participation in the investigation of a research problem of relevance to nursing under the direction of a faculty research adviser.

479 Research Thesis (1-6)

Prerequisites: Nursing 455 and permission of faculty. Individual investigation of a research problem of relevance to nursing. Student works under the direction of a faculty committee to prepare and orally defend a thesis.

480 Doctoral Seminar (1-10)

Prerequisites: Admission to PhD in Nursing Program and consent of instructor. This course provides for discussion, analysis, and critique of selected contemporary issues and research in nursing. Topics will be chosen from among issues in health promotion and protection, health restoration and support, and health care systems. May be repeated for maximum of 10 hours on unduplicated topics.

481 Nursing Theory Analysis and Development (3)

Prerequisites: Admission to PhD in Nursing Program and N450 or equivalent. This course examines foundations of nursing using both traditional and hermeneutic methods of theory analysis and evaluation. Relevant historical and contemporary writings are analyzed.

485 Issues and Methods in Quantitative Analysis in Nursing (3)

Prerequisites: N455 or equivalent; graduate level quantitative research methods course and graduate course work in univariate and multivariate applied statistics. This course provides the opportunity to consolidate prior knowledge of quantitative analysis methods; to apply those methods to the analysis of nursing phenomena; and to explore at an advanced level issues relevant to their use in nursing. Techniques of particular use in the analysis of health data will be considered.

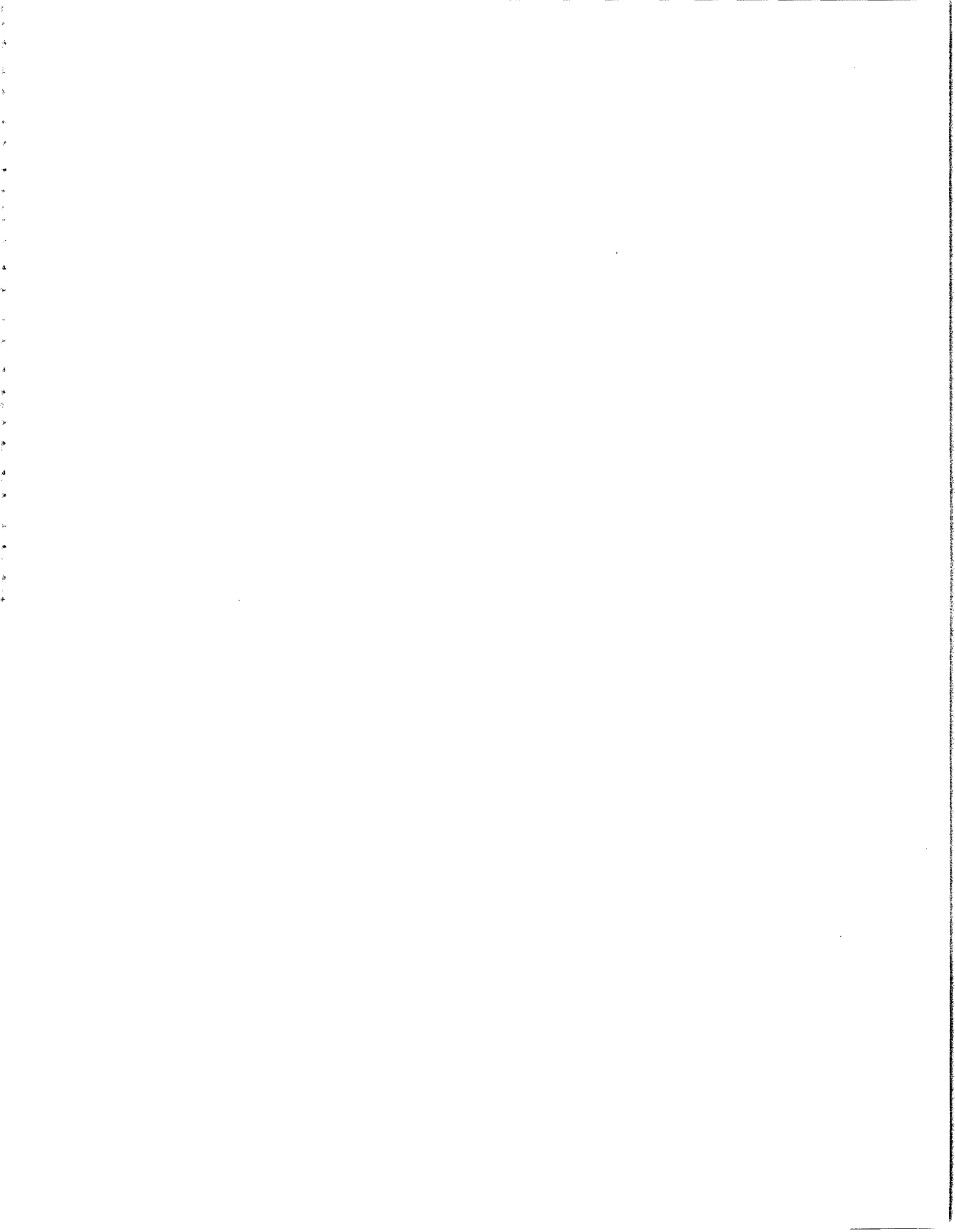
499 Dissertation Research (1-12)

Prerequisites: Admission to Ph.D. in Nursing Program with a faculty mentor. Credit awarded only upon successful defense of the dissertation. This course provides for investigations of an advanced nature leading to the presentation of a dissertation.



**SCHOOL OF
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School of Optometry

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School of Optometry

General Information

The UM-St. Louis School of Optometry enrolled its first class in 1980, graduating 32 students in May 1984. The school is located on the South Campus complex of the University of Missouri-St. Louis at 7800 Natural Bridge Road. A modern five-story building houses the School's classrooms, laboratories, research facilities, administrative offices, health-science library, and the Center for Eye Care campus facility (the University Eye Center). The complex also includes a student lounge and an impressive 350-seat amphitheater.

The University Eye Center located on campus is open to the public, as well as to the faculty, staff, and students of the University. The primary goal of the center is to provide patients with high-quality vision care. This purpose is consistent with the overall goal of training well-qualified eye care practitioners.

In addition to the University Eye Center, the School operates the Optometric Center of St. Louis, a full-scope optometric eye care facility in the Central West End of the city and the East St. Louis Eye Center, jointly owned and operated by the University of Missouri-Saint Louis School of Optometry and Southern Illinois University at Edwardsville.

Fourth Year Externship Program

In addition to the patient care experiences available through the University Center, Optometric Center, and the East St. Louis Center, the School of Optometry has an Externship Program. When the Centers faculty feels that a student has reached a certain level of proficiency, they are approved for the Externship Program. Students must receive approval from the faculty and the Director of Externships for assignments to each Externship site. This program allows fourth-year students to spend a portion of their final year of training in a variety of patient care environments, i.e. military bases, Veteran Administration Hospitals, Indian Health Services Hospitals, various speciality practices and private practices.

These eight (8) week "Externships" are selected and scheduled according to the individual student's interest, needs and future practice intentions. In this program, students leave the academic environment and begin working with selected practicing optometrists while continuing to be monitored by the Centers through weekly reports of all patient experiences and activities.

Currently, the following externships are available: Colorado Optometric Center, Denver, CO; Eye Healthcare Associates, Ltd., St. Louis, MO; Grace Hill Neighborhood Health Center, St. Louis, MO; Lighthouse Low Vision Service, New York, NY; Marine Corp Air Station, Kaneohe Bay, Hawaii; Missouri Eye Institute, Springfield, MO; Missouri Eye Institute, St. Louis, MO; Naval Medical Clinic, Pearly Harbor, Hawaii; O'Donnell Eye Institute, St. Louis, MO; Omni Eye Services of Georgia, Atlanta, GA; Omni Eye Services of Colorado, Denver, CO; Scott Air Force Base, Scott AFB, IL; St. Louis Comprehensive Neighborhood Health Center, St. Louis, MO; Veteran's Administration, Columbia, MO; Veteran's Administration, Kansas City, MO;

Veteran's Administration, Marion, IL; Veteran's Administration, Marion, IL; Veteran's Administration, Poplar Bluff, MO; Washington University Eye Center, St. Louis, MO.

Students may arrange their own off-campus Clinical experiences with the approval of the Director of Externships.

Situated in Missouri's largest metropolitan area, the School enjoys the city's strong community and professional support. The urban setting offers many opportunities for outreach programs, expanding the scope of optometric education and making available highly diverse programs of clinical training. Another asset of the School is the location of the national headquarters of the American Optometric Association, approximately twelve miles from the campus.

The curriculum leading to the Doctor of Optometry degree is a four-year, full-time program of study. The first year of the professional curriculum stresses optics and basic health sciences, and introduces students to optics of the visual system. The second year covers vision science and training in eye examination techniques. The third year emphasizes patient care and introduces the student to various speciality areas within optometry, such as contact lenses, pediatric and geriatric vision care, binocular vision and vision training, and low vision rehabilitation. The second and third years also include course work and clinical training in ocular disease and pharmacology. The fourth year provides additional patient care experiences and includes rotations through a variety of outreach programs, giving the student added experience in the treatment of eye diseases, as well as valuable experience in other optometric clinical specialties.

In 1986 the Missouri Optometry Practice Act was revised by the state legislature to include treatment of certain eye diseases utilizing pharmaceutical agents. Thus, optometry students at UM-St. Louis are uniquely situated to receive excellent training in this aspect of optometric practice. Roughly half of the states in the United States now have laws authorizing optometrists to prescribe drugs in the treatment of certain eye diseases. The training and clinical experience optometry students receive at UM-St. Louis in the diagnosis, treatment, and management of ocular disease is excellent and qualifies UM-St. Louis graduates to practice optometry in any state in the nation.

A student who satisfactorily completes all four years of the professional curriculum will be eligible to receive the Doctor of Optometry degree.

The School of Optometry is a member of the Association of Schools and Colleges of Optometry and is accredited by the Council on Optometric Education of the American Optometric Association, the official optometric agency recognized by the National Commission on Accrediting and by the International Association of Boards of Examiners in Optometry.

All optometry students enrolled in the University of Missouri-St. Louis School of Optometry are eligible for membership in the student optometric association, which is affiliated with the American Optometric Association. Through this organization, students become involved in local

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and national optometric activities. The organization provides an environment for the cultivation of professional leadership skills, and members have organized and participated in a variety of community service activities, including community health screenings and vision care to residents of nursing homes, convalescent hospitals, and mental institutions. Furthermore, optometry students have formed local chapters of SVOSH (Student Volunteer Optometric Services to Humanity), an international organization of optometrists providing free vision care to people in impoverished nations and the NOSA (National Optometric Student Association), which strives to recruit minority students into optometry and encourages retention of minority students.

In addition to the many activities through the School of Optometry, optometry students are able to take advantage of all the activities provided by the University to the entire University community. These include intramural sports; movies and cultural activities; a modern, fully-equipped gymnasium; and access to many social and cultural opportunities in St. Louis at reduced cost.

Class Size

Each entering class will be limited to 44 students.

Admission Requirements

Semester

English - 2

Biology (including laboratory)* - 2

Physics (including laboratory) - 2

Chemistry

General (including laboratory) - 2

Organic (including laboratory) - 1

Mathematics**

Calculus - 1

Statistics - 1

Psychology - 2

Social and Behavioral Sciences - 2

or

Quarter

English - 3

Biology (including laboratory)* - 3

Physics (including laboratory) - 3

Chemistry

General (including laboratory) - 3

Organic (including laboratory) - 2

Mathematics **

Calculus - 1

Statistics - 1

Psychology - 2

Social and Behavioral Sciences - 2

* One semester (or one quarter) of Microbiology is a requirement. Other biological science courses that are recommended include: genetics; cellular physiology; embryology.

** Trigonometry as a prerequisite course for Calculus must be completed either in high school or college.

All courses used to satisfy the admission requirements must have been taken at a fully accredited institution or must be acceptable by an accredited institution toward degree credit. Specific prerequisite courses must be taken for a letter grade; they cannot be taken as an Audit or on a Pass/Fail or Satisfactory/Unsatisfactory basis. Applicants must have

completed 90 semester or 135 quarter hours (the equivalent of three years of college education) prior to the start of classes. The applicant cannot apply more than 60 semester hours or 90 quarter hours which were earned at a two-year institution toward the credit-hour requirement. Applicants holding a bachelor's degree will be given preference over applicants with similar academic credentials who do not have a degree. Applicants to the School come from a variety of undergraduate backgrounds, such as biological sciences, psychology, education, and business.

Admission Test

All applicants are required to take the Optometry Admission Test (OAT). The OAT is offered twice each year in February and October. Results are sent to the applicant and colleges of optometry approximately six to eight weeks following the date of testing. Official test scores are acceptable for up to three years from the testing date.

Applicants are encouraged to take the examination in February or October of the year preceding anticipated application to the School of Optometry. If applicants wish to enhance their scores, they are encouraged to repeat the examination. For an OAT application packet and additional information, contact:

Optometry Admission Testing Program
211 East Chicago Ave.
Chicago, IL 60611
(312) 440-2693.

Application Procedures

The Admissions Committee begins to process applications on August 1 for the class entering the following year. An applicant's file will be considered complete and ready for consideration by the Admission Committee when the following material has been received:

- 1) Application.
- 2) \$50 non-refundable application fee.
- 3) Official high school and college transcripts, followed by updated transcripts as they become available.
- 4) Academic Record form.
- 5) Official OAT results.
- 6) A composite evaluation prepared by the preprofessional advisory committee at the educational institution the applicant is attending. Those applicants not currently attending college or who are at an institution that does not offer a committee evaluation will be required to submit four letters of recommendation.

In addition to the standard application procedures, prospective students living outside the United States and its possessions must take the Test of English as a Foreign Language (TOEFL).

Applications are processed and considered as they are received. Applicants are encouraged to begin the admissions process approximately one year in advance of their planned entrance date. Early submission of applications is encouraged. Applications must be complete by March 15 to be considered for admission to the class entering in August of the same year. Application materials received after March 15 will not

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be evaluated for the class entering in August of the same year.

All correspondence and inquiries, including transcripts, should be addressed to:

Chairperson, Admissions Committee, School of Optometry,
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, Missouri 63121-4499
(314) 516-6263.

Selection Procedures

The Admissions Committee has the responsibility to review and evaluate all applicants and select the best qualified candidates. The Committee considers: an applicant's overall grade point average, the grade point achieved in the sciences, any grade trends over the years in college, and the scores on the Optometry Admission Test (OAT). Concurrently, candidates are evaluated on less quantitative measures such as extracurricular activities and interests, related or unrelated work experience, written narrative, and letters of recommendation.

Those applicants whom the committee feels to be most competitive will be scheduled for an on-campus interview. The on-campus interview facilitates the committee's assessment of the applicant's interests, motivation, and personal characteristics. In addition, the on-campus interview allows the applicant to tour the facilities, meet with currently enrolled students, have questions answered regarding financial aid and housing, and learn more about the School. From this group of interviewed applicants, the entering class of 44 students will be selected. The policies of the University of Missouri-St. Louis and the School of Optometry comply with the provisions under those laws which forbid discrimination on the basis of race, color, sex, national origin, religion, age, handicap, or veteran status.

Acceptance Procedures

Students accepted for admission will begin receiving notices of acceptance in December prior to the year of anticipated matriculation. Notices of acceptance may be received as late as the following May. If acceptance to the class is conditional, the terms of the condition must be completed prior to matriculation. Applicants who have indicated that degree requirements will be completed prior to matriculation, and who have been selected for admission, may receive a conditional offer of acceptance contingent upon completion of the degree.

Financial Aid

The University of Missouri-St. Louis maintains an Office of Student Financial Aid to assist eligible students in financing their education when their own and/or their families' resources are insufficient for this purpose. For information regarding available sources of student financial assistance contact: Student Financial Aid, Room 209 Woods Hall, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499, (314) 516-5526. In addition, the UM-St. Louis School of Optometry Office of Student Affairs has up-to-date information on numerous scholarships and grants. This information is given to a prospective student

during the pre-interview process.

Fees

Detailed information regarding current fees and residency regulations is furnished in the Schedule of Courses, a newspaper schedule distributed before each semester registration, available at the Registrar's Office in Woods Hall. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this Bulletin is still in use.

The University reserves the right to change fees and other charges at any time without advance notice.

Education Fees (1997-98)

All students enrolled in the University must pay fees an Education Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Optometry Educational Fee

Regular Semester

Missouri Residents \$403.40 per credit hour
*Nonresidents \$811.40 per credit hour

Summer Session

A Summer Session is required between the third and fourth professional year. The Education Fee per credit hour for these sessions follows the same schedule as listed previously. However, fees vary according to rotation location.

*Nonresident Students

Students who do not meet the residency requirements must pay the nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in Tuition and Residency Rules, available in the Cashier's Office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Residence

The UM-St. Louis School of Optometry is state-supported and therefore gives preference to individuals who are bona fide residents of Missouri. Twenty of the forty-four available positions are reserved for Missouri residents. This number may be revised slightly (upward or downward) based on annual variations in the applicant pool. The remaining places will be allocated to residents of other states with some preference given to qualified applicants from states that provide contract support.

Currently, five nonresident positions are allocated by State Reciprocal Agreements for residents of Kansas. Individuals who are admitted under these Agreements will pay reduced educational fees. For additional information, contact: Optometry Program, Kansas Board of Regents, Suite 609, Capitol Tower, 400 S.W. Eighth, Topeka, KS 66603 (913) 296-3517.

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Optometry students will be required to pay Non-resident Educational Fees if they do not meet the University's residency requirements at the time of their enrollment. The definition of "residency" is outlined in the pamphlet Tuition and Residency Rules available from the Cashier's Office, (314) 516-5151.

Four-Year Professional Degree (O.D.) Curriculum

First Year

Fall Semester

- 504, Neuroanatomy
- 505, Geometric Optics
- 506, Practice Management I
- 508, Human Anatomy and Physiology
- 512, Biochemistry

Winter Semester

- 513, Physical Optics and Photometry
- 514, Clinical Optometry I
- 515, Ocular Optics
- 516, Physiological Optics Laboratory
- 517, Ocular Motility
- 518, Anatomy and Physiology of the Eye
- 519, Physical Optics and Photometry Lab
- 522, Systemic Disease

Second Year

Fall Semester

- 520, Ophthalmic Optics
- 521, Clinical Optometry II
- 524, Monocular Sensory Processes
- 541, Practice Management II
- 555, General Pharmacology

Winter Semester

- 530, Ophthalmic Dispensing
- 531, Clinical Optometry III
- 532, Binocular Vision and Space Perception
- 533, Ocular Disease I
- 535, Epidemiology
- 565, Ocular Pharmacology
- 568, Clinical Medicine

Third Year

Fall Semester

- 550, General Clinic I
- 553, Contact Lenses I
- 554, Binocular Vision Anomalies
- 556, Ocular Disease II
- 558, Geriatric Optometry
- 596, Public Health

Winter Semester

- 557, Environmental Vision
- 559, Ophthalmic Lasers
- 560, General Clinic II
- 561, Pediatric/Binocular Vision Specialty Clinic
- 562, Contact Lenses Specialty Clinic

- 563, Contact Lenses II
- 564, Low Vision
- 566, Ocular Assessment
- 567, Pediatric Optometry
- 582, Practice Management III

Fourth Year

Required Courses

- 573, UM-St. Louis Pediatric/Binocular Vision Patient Care
 - 574, UM-St. Louis Contact Lens Patient Care
 - 575, UM-St. Louis Co-Management Patient Care
 - 583, Practice Management IV
 - 593, Clinic Seminar
 - 572, East St. Louis Center Patient Care
- and/or
- 576, Optometric Center Patient Care
 - 577, Optometric Center Low Vision Patient Care
 - 585, External Rotation in Ocular Disease Patient Care
- or
- 586, External Rotation in Institutional Patient Care

Elective Courses

- 570, External Rotation in General Patient Care
- 571, Community Service Rotation in Patient Care
- 578, External Rotation in Contact Lens Patient Care
- 579, External Rotation in Pediatric/Binocular Vision Patient Care
- 585, External Rotation in Ocular Disease Patient Care
- 586, External Rotation in Institutional Patient Care
- 592, External Rotation in Low Vision Patient Care

Note: 585 and 586 cannot be taken twice.

Students must complete a minimum of three credit hours of approved elective courses during the course of their professional curriculum. Additionally fourth year students must complete three elective clinic courses during their fourth year.

The School of Optometry does not recognize satisfactory/unsatisfactory grades for an optometry student enrolled in a course required for the Doctor of Optometry degree.

Grades

The School of Optometry does not recognize a D grade for an optometry student enrolled in a course required for the Doctor of Optometry degree.

Graduate Studies

Physiological Optics

Physiological Optics is a multidisciplinary area concerned with the study of normal and anomalous vision. The goal of this program in Physiological Optics is to train the next generation of researchers in clinical and basic vision science, to conduct research, and to educate faculty for schools of optometry. Students will be required to integrate basic skills in vision science with focal studies in an area of research emphasis. This program will emphasize research aimed at new treatments and cures for vision disorders, as well as research in basic mechanisms of visual functions. The

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School of Optometry offers both an M.S. degree and a Ph.D. degree. Students may apply to the Graduate School for admission to either the M.S. or the Ph.D. program.

Admission Requirements

Students should have the appropriate background for graduate training in physiological optics and appropriate undergraduate courses for their anticipated research emphasis. Applicants must have a bachelor's degree from an accredited college or university within the United States or from an equivalent institution outside of the United States. In order to be admitted as regular graduate students, applicants must have a grade point average of at least 3.0 in their overall undergraduate work, in their undergraduate major, and in any post-baccalaureate academic work. Students must arrange for transcripts to be submitted from all post-secondary academic work and to have at least three letters of recommendation sent by faculty members at previously attended colleges and universities. Students must also submit Graduate Record Examination (GRE) scores (verbal, quantitative, and analytic). Applicants to the M.S. program must have combined scores on the verbal and quantitative sections of at least 1000; applicants to the Ph.D. program must have combined scores of at least 1100. In addition, students from countries where English is not a primary language must submit Test of English as a Foreign Language (TOEFL) scores of 550 or better. All materials and scores must be submitted by March 1 if an applicant wishes to be considered for financial assistance for the fall semester.

Master of Science in Physiological Optics

Degree Requirements

The M.S. degree requires 30 semester hours of course work, including the core courses. At least 25 of these hours will normally be taken from courses offered by the School of Optometry with no more than 10 of these in Physiological Optics 490, Graduate Research in Physiological Optics. Each M.S. student will be required to teach at least two semesters in areas determined by the Graduate Committee in Physiological Optics.

The M.S. degree requires 30 semester hours of course work, including the core courses. At least 25 of these hours will normally be taken from courses offered by the School of Optometry with no more than 10 of these in Physiological Optics 490, Graduate Research in Physiological Optics. Each M.S. student will be required to teach at least two semesters in areas determined by the Graduate Committee in Physiological Optics.

The Core Courses for this program are:

Physiological Optics 400, Sensory Processes and Perception (3 credits)

Physiological Optics 401, Visual Optics (3 credits)

Physiological Optics 402, Ocular Anatomy and Physiology (3 credits)

Physiological Optics 403, Psychophysical Methods and Experimental Design (3 credits)

Physiological Optics 404, Sensory Neuroscience (3 credits)

Special Topics, Individual Studies, and Advanced Topics courses in Physiological Optics are also offered.

Each M.S. student must also complete a thesis based on research conducted during the program. The thesis must be approved by a committee of at least three members of the graduate faculty, at least two of which must be from the graduate faculty in Physiological Optics.

Ph.D. in Physiological Optics

Degree Requirements

The doctoral degree requires 60 semester hours of course work, including the core courses. Each Ph.D. student will also be required to demonstrate proficiency in a foreign language, computer language, advanced statistical methods, or another acceptable tool skill. The tool skill and level of proficiency must be selected in advance in consultation with the Graduate Committee in Physiological Optics. Students will be required to teach at least two semesters in areas determined by the Graduate Committee in Physiological Optics.

Written qualifying examinations will be offered at the beginning of each semester and regular summer session. Full-time students must attempt qualifying examinations before beginning their third year of study. Students must declare their intent to take the examinations at least one month prior to the beginning of that semester or summer session.

The preparation of the dissertation will be supervised by a dissertation committee, which will be selected by the student and the student's adviser with input by the graduate committee. An oral examination of the written dissertation proposal will be conducted by the Committee. A public oral defense of the completed written dissertation is also required.

The Core Courses for this program are:

Physiological Optics 400, Sensory Processes and Perception

Physiological Optics 401, Visual Optics

Physiological Optics 402, Ocular Anatomy and Physiology

Physiological Optics 403, Psychophysical Methods and Experimental Design

Physiological Optics 404, Sensory Neuroscience

Special Topics, Individual Studies, and Advanced Topics courses in Physiological Optics are also offered.

Continuing Education

The School of Optometry offers Continuing Education programs for optometrists throughout the Midwest region as well as nationwide. Courses on management of ocular diseases, ocular anomalies and visual skills are held on a frequent basis. In addition to our faculty, optometric specialists, medical educators, and researchers have input into the development of the courses as well as participation in the course presentations.

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All of the courses offered by the School are accepted by those states requiring continuing education credit for relicensure.

Continuing education course information may be obtained by contacting:

University of Missouri-S.t Louis
School of Optometry
Office of Continuing Education
8001 Natural Bridge Road
St. Louis, MO 63121-4499
(314) 516-5604

Career Outlook

Doctor of Optometry Degree

A Doctor of Optometry or "optometrist," is an independent health care professional who is specifically educated, clinically trained, and licensed to examine, diagnose, and treat conditions or impairments of the human vision system. Optometrists examine the eyes and related structures to determine the presence of vision problems, eye disease, and other ocular abnormalities.

Optometrists are the major providers of vision care. They provide treatment by prescribing ophthalmic lenses or other optical aids, provide vision therapy to preserve or restore maximum efficiency in vision, and in most states (including Missouri) are authorized to prescribe drugs in the treatment of certain eye diseases.

Optometrists can also detect certain general diseases of the human body such as diabetes, hypertension, and arteriosclerosis that have the potential capacity to affect vision. When an eye examination reveals diseases in other parts of the body, the optometrist will refer patients to the appropriate health care practitioner for treatment. Like physicians and dentists, optometrists are primary health care professionals.

The scope of optometry requires an understanding of the development of vision from infancy through adulthood, and the therapeutic and rehabilitative methods required to care for the problems of vision from infancy through the declining years.

Optometry is the largest eye care profession and one of the largest independent health care professions in the United States. Currently, some 28,900 doctors of optometry practice in America. They are widely distributed across the nation, practicing in more than 7,100 different municipalities. In more than 4,300 of these communities, the optometrist is the only primary care provider. As such, optometrists provide the major portion of primary eye care services in the United States. Nationwide, optometrists' services are available in more than 75 percent of all counties.

Optometric studies indicate that a ratio of one practicing optometrist to every 7,000 people (a ratio of 14.3 practicing optometrists per 100,000 population) is a reasonable average for the United States. Despite recent growth in

the profession, few states meet this criteria.

As our society becomes more technically oriented, vision requirements become more exacting. The number of persons needing professional help for reading and other near-point visual tasks, including both older citizens and school children, is steadily growing. Increased demands for vision care result not only from population growth but also from increased understanding of how good vision relates to industrial production, student achievement, adjustments to aging, and other areas crucial to modern society.

The patients whom the practicing optometrist treats may have varied and challenging needs. On any given day, an optometrist might be involved in restoring vision to a partially sighted patient; fitting glasses for a child whose vision problem is affecting academic achievement; treating an eye infection with antibiotics; improving the function of a patient's eyes through vision training; helping an elderly patient in a nursing home cope with changing vision through critical eye health education; and performing comprehensive eye examinations for those who need glasses or contact lenses to correct astigmatism, nearsightedness, and numerous other vision problems.

The practice of optometry offers independence, flexibility, and diversity. Optometrists have a wide range of modes of practice. They may choose to practice in the inner cities, suburbs, and rural areas. Opportunities exist for solo practice, associateship, optometric or multidisciplinary group practice, government or military service, and clinical or hospital settings. Additional optometric employment opportunities may be found in teaching, research, or both.

Optometry is a rewarding career, both economically and personally. Based on data from the Bureau of Labor Statistics and surveys by professional associations, optometry is one of the top 10 income-earning professions in the country.

Graduate Degrees

The Master of Science program provides research-oriented training beyond that offered in the professional program in optometry. Many optometry schools require that applicants for faculty positions hold an M.S. or Ph.D. degree, as well as an O.D. degree. Additional employment possibilities for individuals with M.S. degrees are found in industry and in public and private research foundations.

The Ph.D. program prepares students as research professionals in vision science. Employment opportunities are available in college or university teaching and research, in research institutes, and in industry. Within academic optometry, individuals with both O.D. and Ph.D. degrees are in high demand as faculty members.

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Course Descriptions

The following 400-level courses may be taken in the Master of Science or Doctor of Philosophy programs in Physiological Optics.

400 Sensory Processes and Perception (3)

Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. Current views on the encoding of various aspects of the visual stimulus (intensity, space, time, and wavelength) that give rise to the perceptions of brightness, contour, motion, and color will be considered in this course. The psychophysical tools available to examine visual encoding will be emphasized. Other topics will include binocular vision and depth perception, information processing approaches to visual pattern recognition, and the similarities and interactions of the visual system with the other sensory modalities.

401 Visual Optics (3)

Prerequisite: Opt 406, Opt 505, or consent of instructor. This course deals with the optical properties of the eye. Included are a review of general optics including physical optics, paraxial and non-paraxial geometric optics, image quality, radiometry and photometry, and optical instrumentation. Topics in visual optics will include schematic eyes, measurement of the parameters of the eye, accommodation, retinal image size, refractive errors, visual axes, spectral absorption by the ocular media, and the optical performance of the eye.

402 Ocular Anatomy and Physiology (3)

Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. The structures and fluids of the eye and orbit, their interactions and functions are considered in this course. Specific topics include the eyelids, tearfilm, conjunctiva, cornea, iris, ciliary body, vasculature, aqueous humor, vitreous body, and the retina.

403 Psychophysical Methods and Experimental Design (3)

Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. Advanced methodology for the design and analysis of experiments in a variety of areas of visual science are considered in this course. Both basic and applied topics will be considered. Special emphasis will be placed on psychophysical methodology, signal detection analysis, and scaling techniques.

404 Sensory Neuroscience (3)

Prerequisite: Opt 405, Opt 504, or consent of instructor. This course will deal with the neural organization of the sensory systems with an emphasis on vision. It will include a review of general neurophysiology and neuroanatomy as they relate to the processing of environmental stimuli into neural information, as well as experimental approaches utilized in neurobiology. Topics to be covered include neural transduction and sensory coding by receptors and neurons, constraints on perception defined by the functional organization of the nervous system, sensory development and plasticity as related to neural development, and evolution of sensory systems.

405 Neuroanatomy (5)

Prerequisite: Graduate standing. Detailed gross and microscopic anatomy of the human central nervous system with a special emphasis on the cranial nerves, nuclei, and the visual system. Students may not receive credit for both Opt 405 and Opt 504.

406 Geometric Optics (5)

Prerequisite: Graduate standing. The principles of geometrical optics as applied to refracting and reflecting surfaces, thin lenses, thick lenses, and lens systems. The optics of various ophthalmic instruments and techniques will be examined. A student may not receive credit for both Opt 406 and Opt 505.

451 Corneal Physiology (2)

Prerequisite: Completion of core or consent of instructor. A detailed consideration of the biochemical and biophysical aspects of corneal transparency, including nutrition, metabolism, and methods of investigation. The effects of altered corneal environments (such as exist during sleep or contact lens wear) will be discussed.

452 Growth and Development of the Visual System (2)

Prerequisite: Completion of core or consent of instructor. This course will be an in-depth coverage of topics related to the growth and development of the visual system, including visual deprivation, neuronal specificity and plasticity, and neurotrophic influences.

453 Advanced Physiology of Other Sensory Systems (2)

Prerequisite: Completion of core or consent of instructor. This course will deal with the structure and function of the auditory, vestibular, olfactory, and somatosensory systems. Particular emphasis will be placed on similarities and interrelationships between these senses and vision.

454 Binocular Vision (2)

Prerequisite: Completion of core or consent of instructor. Binocular fusion and summation, binocular rivalry and suppression, and stereopsis and depth perception are the major topics of the course. The neurophysiology of binocular vision, and its development will also be covered in the course.

455 Visual Information Processing (2)

Prerequisite: Completion of core or consent of instructor. This course covers a variety of topics related to the computer modeling of visual problems, such as the detection of surfaces and three-dimensionality, the perception of color, and the encoding of motion. Computer models will be evaluated in terms of their efficiency, veridicality, and relation to biology.

456 Oculomotor Systems (2)

Prerequisite: Completion of core or consent of instructor. The intra- and extraocular muscle systems illustrate the role of visual and other sensory information in feedback control systems. Topics include the control of eye movements, accommodation and pupil size, and their synergistic relationship in the near triad. The anatomy, physiology, and pharmacology of the muscles, kinematics, methods of measuring eye movements, neurophysiology

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of eye movements, and perceptual phenomena are also discussed.

457 Comparative and Evolutionary Aspects of Vision (2)

Prerequisite: Completion of core or consent of instructor. This course explores the evolution of visual systems by examination of structural and functional aspects of vision in vertebrate and invertebrate species. Topics include photosensitivity and photoreception; structure of the eye in vertebrates and invertebrates; discrimination of form, motion, and color; visual reflexes, parallel processing; elaboration of central visual pathways; binocular vision; and stereopsis. Structural and functional adaptations to selective pressure will also be discussed.

458 Noninvasive Assessment of the Visual System (2)

Prerequisite: Completion of core or consent of instructor. This course reviews historical topics and emphasizes current topics in the noninvasive clinical and laboratory assessment of the normal and diseased human visual system. Topics will range from delineation of disease mechanisms (such as retinal and choroidal disorders, cataract, corneal disease, glaucoma, strabismus, and amblyopia) to the design and assessment of new techniques and technology for evaluating the function of the visual system (e.g., advances in imaging techniques, fluorophotometry, perimetry, laser interferometry, psychophysics, etc.).

459 Introduction to Computer Programming for Vision Research (3)

Prerequisite: Consent of instructor required for graduate students not in Physiological Optics. This course will expose the student to fundamental concepts of computer programming. The Prograph programming language will be used on the Macintosh computer to illustrate procedural and object-oriented programming philosophies. Examples and assignments will focus upon research applications in vision science.

470 Individual Studies in Physiological Optics (2)

Prerequisite: Consent of instructor. This course designation can be used to cover a variety of topics in visual science. In general, very specific topics of limited interest will be presented as individual studies. Individual studies and advanced topics enable the student's course of study to be sharply tuned to his or her major area of interest.

490 Graduate Research in Physiological Optics (1-15)

Prerequisite: Consent of instructor. Research in an area selected by the student in consultation with faculty members. May be taken to a maximum of 10 hours for the M.S. and 15 hours for the Ph.D.

497 Interdisciplinary Geriatric Care (2)

(Same as Gerontology 497.) **Prerequisite:** Consent of instructor. Interdisciplinary approaches that address the medical and social needs of the elderly will be examined. Information about geriatric care and social issues affecting the well-being of older adults will be provided. Clinical, theoretical, and educational perspectives will be presented.

499 Current Topics in Optometry and Vision Science (1)

Prerequisite: Consent of instructor. This seminar course examines and analyzes current publications in eye care and vision research. May be taken as an optometry elective to a maximum of 3 hours.

The following 500-level courses are taken in the Doctor of Optometry (O.D.) program.

504 Neuroanatomy (4)

Detailed gross and microscopic anatomy of the human central nervous system with a special emphasis on the cranial nerves, nuclei, and the visual system.

505 Geometric Optics (4)

The principles of geometrical optics as applied to refracting and reflecting surfaces, thin lenses, thick lenses, and lens systems. The optics of various ophthalmic instruments and techniques will be examined.

506 Practice Management I (2)

An introduction to the profession of optometry, including a consideration of the characteristics of a profession, the history of optometry, the profession's legal limitations, and major optometric organizations. The ethical basis of the practice of optometry will be explored, including a consideration of the theories and principles of normative ethics, biomedical ethics and the responsibilities of the health care practitioner, professional codes of ethics and ethical issues that arise in the practice of optometry. Ethical case studies will be extensively used. This is an interactive course, requiring active participation on the part of the student.

508 Human Anatomy and Physiology (6)

The general anatomy of the human body and the physiology of the major organ systems including the peripheral and autonomic nervous system, the cardiovascular, respiratory, endocrine, digestive, and reproductive systems will be presented. The anatomy of the head and neck will be emphasized and the histology of the basic tissue types and organs will be related to general human anatomy and physiology. (Five hours lecture, two hours laboratory/week.)

512 Biochemistry (3)

Basic concepts of general and cellular biochemistry. Study of nomenclature structure, and reactions of organic molecules. Some emphasis on visual system—tears, intraocular fluids, lens, and photochemistry.

513 Physical Optics and Photometry (2)

Prerequisite: Optometry 505. Basic photometric concepts, measurements of light levels, applications in ergonomics, visual and photographic optics. Physical optics including diffraction, interference, polarization, birefringence, and lasers.

514 Clinical Optometry I (2)

Selected tests for ocular assessment including case history, visual acuity, and ophthalmoscopy.

School of Optometry

515 Ocular Optics (3)

Prerequisite: Opt 505. The eye as an image-forming mechanism, the schematic eyes, the optical role of the pupil, the retinal image and its evaluation. Nature, classification, and etiology of ametropia. Experimental models of refractive errors. Entoptic phenomena. Mechanism and optical aspects of accommodation.

516 Physiological Optics Laboratory (1)

Experiments designed to accompany Opt 515 and Opt 517.

517 Ocular Motility (3)

Prerequisite: Opt 504. The anatomy, physiology, neurology, measurement, characteristics, and control of the intra- and extraocular system.

518 Anatomy and Physiology of the Eye (5)

Prerequisite: Opt 504 and Opt 508. Vegetative anatomy and physiology of the eye, optic nerve, orbit, and adnexa will be discussed. This includes discussion of embryology and the dynamics of ocular fluids and includes a two-hour laboratory.

519 Physical Optics and Photometry Laboratory (1)

Prerequisite: Concurrent enrollment in Opt 513. Experiments designed to accompany Opt 513.

520 Ophthalmic Optics (4)

Prerequisite: Opt 513, 515, & 519. Ophthalmic materials, physical characteristics of lenses and frames, paraxial optics of ophthalmic lenses, ophthalmic prisms, lens specifications, special lenses, multifocal lenses, unique designs, aniseikonic lenses, aberration theory and its application to lens design, lenses for low vision, protective eyewear, selection and dispensing eyewear, management of a dispensary.

521 Clinical Optometry II (5)

Prerequisite: Opt 514. Continuation of clinical optometry. Patient care in the areas of refraction, binocular integration, perimetry, and bimicroscopy.

522 Systemic Disease (3)

Prerequisite: Opt 508 & 512. Principles of health and disease. A survey of disease, disease processes, and disease manifestations. A study of tissue changes in inflammation, immunology, neoplasia, allergies, disturbances of metabolism and circulation, and injuries.

524 Monocular Sensory Processes (5)

Monocular sensory mechanisms of vision, photoreception, visual neurophysiology, spatial and temporal effects, visual acuity and resolution, adaptation, brightness discrimination, and color vision. Topics include a consideration of both the psychophysical aspects and neurophysiological bases of these mechanisms.

530 Ophthalmic Dispensing (1)

Prerequisite: Opt 520. Clinical experience in verification and dispensing of ophthalmic materials.

531 Clinical Optometry III (5)

Prerequisite: Opt 521. Correlation and analysis of

optometric data. Emphasis on diagnosis, prognosis, and therapy of visual problems.

532 Binocular Vision and Space Perception (4)

Prerequisite: Opt 521 and 524. Binocular vision and space perception. Visual direction, theory of correspondence, fusion, rivalry, ocular dominance, and stereopsis. Developmental aspects and neurophysiological mechanisms.

533 Ocular Disease I (4)

Prerequisite: Opt 522. The etiology, epidemiology, symptoms, signs, and course sequelae of ocular disease and anomalies. Disease and anomalies of lids, orbit, conjunctiva, cornea, sclera, iris, ciliary body, lens, vitreous, retina, choroid, and optic nerve.

535 Epidemiology (2)

A review of descriptive statistics, probability sampling, correlation, and prediction. The essentials of epidemiological study procedures and a discussion of the epidemiology of vision disorders.

541 Practice Management II (2)

Prerequisite: Opt 506. Principles of human interpersonal relationships. The enhancement of listening and verbal skills will be provided. Emphasis will be preparing the student to understand and manage the many human interpersonal relationships necessary in the practice of optometry.

550 General Clinic I (6)

Prerequisite: Opt 531 and successful completion of all first and second year coursework required. The clinical examination and care of general clinic patients, along with the fitting and dispensing of lenses and frames.

553 Contact Lenses I (3)

Prerequisite: Opt 531. Historical development of the contact lens and its use. Basic lens terminology, specifications, physiochemical characteristics, optics, fabrication, and verification. Preliminary patient evaluation, indications and contraindications for contact lenses. Basic fitting philosophies for all lens types. Lens care and patient education. Patient and practice management considerations.

554 Binocular Vision Anomalies (4)

Prerequisite: Opt 531 & 532. The etiology, epidemiology, symptoms, signs, and course sequelae of the obstacles to binocular vision—sensory, integrative, and motor. The detection, diagnosis, prognosis, and orthoptic treatment of such anomalies. Clinical care of aniseikonias.

555 General Pharmacology (3)

Prerequisite: Opt 508 and 522. General principles of drug actions on the organ systems, central and peripheral nervous systems, methods of administration, pharmacological actions, side effects, and drug interactions. Regulatory agencies, laws, and drug abuse.

556 Ocular Disease II (4)

Prerequisite: Opt 533. The etiology, epidemiology, systems, signs, course sequelae and management of posterior segment ocular disease and the anomalies and

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ocular manifestations of systemic diseases. Disease, abnormalities and management of neurological conditions which affect the lids, pupils, extraocular muscles, optic nerve and visual system.

557 Environmental Vision (2)

This course considers the relationship of the eye and vision to all aspects of one's environment including home, work, recreation, and transportation. Emphasis will be placed on protecting the eye from injury and maximizing vision performance.

558 Geriatric Optometry (2)

(Same as Gerontology 458.) Special examination and management considerations of the geriatric patient will be discussed. Psychological, physiological, social, and demographic aspects of aging, as well as ocular changes associated with the aging process will be taught.

559 Ophthalmic Lasers (1)

Principles and applications of lasers for ophthalmic use. Emphasis will be placed on demonstration where possible. Topics will include the principles, physics and safety concerns of ophthalmic lasers. Lasers used in retinal imaging, and in the care of glaucoma, cataract, refractive conditions, and cosmetic conditions will be discussed and demonstrated. Co-management of patients requiring ophthalmic laser treatment will also be covered.

560 General Clinic II (6)

Prerequisite: Opt 550 and successful completion of all Fall semester third year coursework required. Same as General Clinic I.

561 Pediatric/Binocular Vision Specialty Clinic (1)

Prerequisite: Opt 554 and successful completion of all Fall semester third year coursework required. The clinical examination and care of patients in the optometric specialty areas of binocular vision and pediatric vision.

562 Contact Lens Specialty Clinic (1)

Prerequisite: Opt 553 and successful completion of all Fall semester third year coursework required. The clinical examination and care of patients in the optometric specialty area of contact lenses.

563 Contact Lenses II (3)

Prerequisite: Opt 553. Advanced contact lens fitting, theories, and clinical methods for astigmatic, presbyopic, keratoconic, and aphakic designs. Special considerations include the use of corneal topography, orthokeratology, disposable lenses, lenses for extended wear and lenses for color deficiencies.

564 Low Vision (3)

The etiology, epidemiology, symptoms, signs, and course sequelae of low-vision problems. Methods of testing, prognosis, selection of therapy, design of environmental and optical aids, problems of rehabilitation. Agencies, laws, public and social assistance for the partially sighted and blind.

565 Ocular Pharmacology (3)

Prerequisite: Opt 555. Pharmacology principles, methods of administration, doses, contraindications, and adverse effects of drugs used for the diagnosis and treatment of abnormalities of the eye, adnexa and visual system. Ocular manifestations of systemic medications.

566 Ocular Assessment (1)

Prerequisite: Enrollment in General Clinic I or II. Discussion of the diagnosis and management of common clinic patient encounters via Socratic teaching techniques. Interns are encouraged to present actual cases which have been particularly challenging for them.

567 Pediatric Optometry (3)

Prerequisite: Opt 531. Special examination and management considerations of the pediatric patient. Psychological, physiological, social, and demographic aspects of early visual development. Discussion of the optometric considerations of children with learning and reading disabilities.

568 Clinical Medicine (2)

Prerequisite: Opt 522 and 555. Diagnostic principles and medical management. Comprehensive health history, physical examination and neurological screening with particular association to ocular health conditions. Clinical chemistry and interpretation of clinical laboratory tests, criteria for referral to other providers and emergency office procedures. Co-management practice with other primary care physicians will be emphasized.

569 Ocular Photography (2)

Prerequisite: Consent of instructor. Optical principles and clinical techniques in photographing the internal and external eye and its adnexa. Includes laboratory exercises on use of the most common types of clinical cameras.

570 External Rotation in General Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of a general population of optometric patients at external sites approved by the School of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

571 Community Service Rotation in Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of patients at St. Louis area community health centers. This course fulfills one of the clinic courses required for graduation.

572 East St. Louis Center Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of patients at the East St. Louis Eye Center. This course fulfills one of the clinic courses required for graduation.

573 UM-St. Louis Pediatric/Binocular Vision Patient Care (3)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care

School of Optometry

of patients in pediatric/binocular vision clinic at the University of Missouri-St. Louis Center for Eyecare. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 574 and Opt 575.

574 UM-St. Louis Contact Lens Patient Care (3)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care in the contact lens clinic at the University of Missouri-St. Louis Center for Eyecare. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 573 and Opt 575.

575 UM-St. Louis Co-Management Patient Care (1)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care in the co-management clinic with ophthalmologists at the University of Missouri-St. Louis Center for Eyecare. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 573 and Opt 574.

576 Optometric Center Patient Care (6)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of patients at the University of Missouri-St. Louis Optometric Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 577.

577 Optometric Center Co-Management Patient Care (1)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of patients in the co-management clinic with ophthalmologists at the University of Missouri-St. Louis Optometric Center. This course fulfills one of the clinic courses required for graduation. This course must be taken in conjunction with Opt 576.

578 External Rotation in Contact Lens Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of contact lens patients at an external site approved by the School of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

579 External Rotation in Pediatric/Binocular Vision Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of pediatric/binocular vision patients at an external site approved by the School of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

580 Supplementary Rotation in General Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of general population of optometric patients at an external site approved by the School of Optometry's Externship Council. This elective may also be taken at

the UM-St. Louis Center for Eye Care, UM-St. Louis Optometric Center, or the UM-St. Louis East St. Louis Eye Center.

582 Practice Management III (3)

Prerequisites: Opt 506 and Opt 541. The development and management of an optometric practice from a patient and community service point of view—office design, office routine, patient care administration, personnel management, and recall systems. The establishment, development, and management of an optometric practice from a business point of view. Legal developments, governmental relationships, legislation and the legislative process, malpractice, professional ethics, taxes, fee structures, insurance, and accounting methods.

583 Practice Management IV (2)

Prerequisite: Successful completion of all first, second, and third year coursework required. Further in-depth discussion in practice management.

585 External Rotation in Ocular Disease Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of patients with ocular disease at external sites approved by the School of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

586 External Rotation in Institutional Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of primary care patients at external sites approved by the School of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

587 Sports Vision (2)

Special examination and management considerations of the competitive athlete. This elective course includes a study of the special visual requirements and demands resulting from athletic endeavors.

588 Directed Research (3)

Credit is given for independent research. Projects may be laboratory, library, or clinically based research in any area of vision science. All projects must be undertaken under the supervision of a three-member faculty committee. This elective may be repeated once.

589 Directed Readings (1)

Credit is given for independent literature review of a specific topic in any area of basic or clinical vision science. Readings are to be supervised by a two-person faculty committee and at least one member of this committee must be selected from among the full-time regular faculty. Credit is awarded upon approval of a written paper regarding the selected topic. This elective may be repeated once.

591 Geriatric Patient Care Delivery (3-6)

Prerequisite: Consent of Geriatric Residency Instructors. Direct optometric patient care to a population that is largely geriatric. Emphasis will be on integrating specialty care available for these patients to provide comprehensive

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vision care. Two hours of direct patient care per week are required per hour of credit. In addition, the student will attend weekly supervisory meetings. May be repeated with consent of instructor for a total of 18 credits. Patient care will become more independent of direct supervision and the type of patients seen will be more varied with each repeat.

592 External Rotation in Low Vision Patient Care (7)

Prerequisite: Successful completion of all first, second, and third year coursework required. Comprehensive clinical care of low vision patients at an external site approved by the School of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

593 Clinic Seminar (1)

Prerequisite: Successful completion of all first, second, and third year coursework required. Presentation and discussion of interesting clinical patients. Additional clinical testing techniques and concepts. Further discussion of patient data analysis—the process of determining diagnosis, prognosis, and therapy. Further discussions in the optometric specialties.

594 Topics in Geriatric Optometry (3)

Prerequisite: Opt 558. This course will address concerns and options in providing optometric care to a geriatric population. New techniques, research, and public policy changes will be discussed to assist students in assembling a global perspective on delivering health care to a specific population.

595 Computer Applications in Optometric Practice (2)

(elective) Prerequisite: Second professional year or consent of instructor. An introduction to microcomputers and computerized office management systems. This course is designed to provide students with training in the use of computers, office management software, and microprocessor technology in an optometric office.

596 Public Health (2)

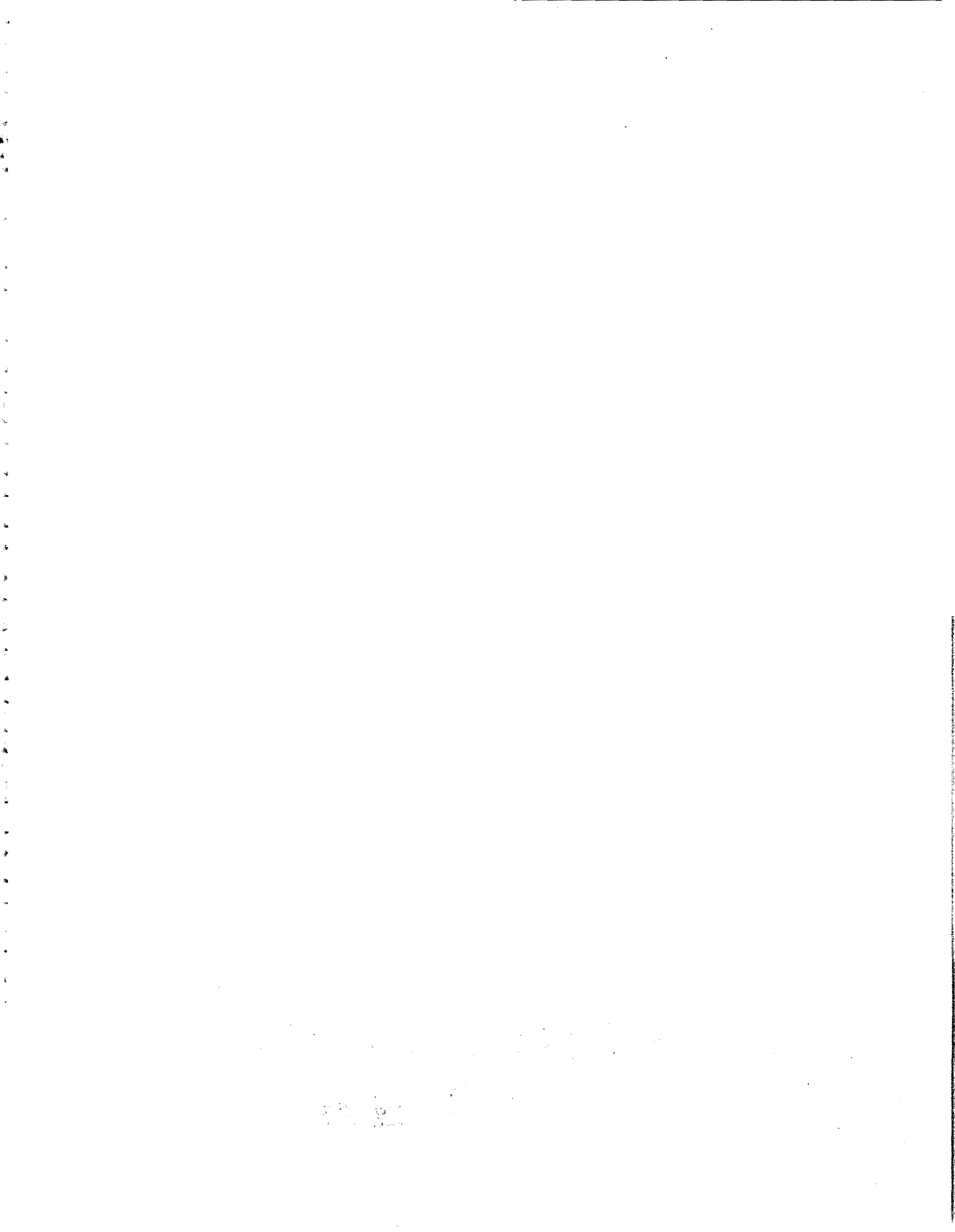
A review of local, state, and federal organizations involved in health care, comprehensive health planning, new trends in health care delivery, and the assessment of the quality of health care delivery. The relationship of vision care to these topics is emphasized.

598 Clinical Applications of Current Topics in Visual Science (2)

(elective) Prerequisite: Consent of instructor. A seminar on the use of new discoveries in visual science in clinical optometry. Students will participate in selecting the topics, which will change from year to year, with the guidance of the instructor. The course will also include laboratory demonstrations of seminar topics.

PIERRE LACLEDE HONORS COLLEGE

UM-St. Louis 1997-98 Bulletin



Pierre Laclède Honors College

General Information

The Honors College's goal is to enrich significantly the educational experience of a select group of highly motivated and intelligent undergraduates. With this in mind, it enrolls promising students who give clear indication that they are ready to accept academic challenges and become creatively involved in the learning process together with a team of similarly committed instructors.

Given this special mission, the College has a unique structure and identity. Unlike the University's other Schools and Colleges, it has no academic departments or areas or faculty of its own, and it grants no degrees. Instead, it brings together a cross section of the University's students and teachers in a special curriculum.

The College offers two academic formats:

- 1) A Four-Year Program open to entering freshmen and extending over a student's entire undergraduate career;
- 2) A Two-Year Program open to a select group of third-year students who are either continuing at or have transferred to the University and are engaged in work on a major.

Faculty

Honors College instructors are drawn from the various academic departments and areas in those Colleges and Schools which have an undergraduate component. What these teachers have in common is a willingness to work closely with a select, diverse group of intellectually curious and academically high-achieving students. They demonstrate this by designing courses directed toward such an audience. This faculty is an organic body. Each term it adds members to its roster. The newcomers invariably include individuals whose teaching and scholarship have been singled out for special distinction. Their talents add to the Honors College's already rich instructional pool.

Honors Scholars

The Honors College's student Scholars are highly qualified graduates from a broad range of public and private secondary schools predominantly in the St. Louis metropolitan area. They enter the College with different interests and remain part of it while simultaneously enrolling in classes and pursuing Bachelor of Arts and Bachelor of Science degrees in other academic divisions.

Many students major in liberal arts areas spanning the humanities, social sciences, and natural sciences, while others focus on preparing for careers in business or education. Among the Scholars are prospective engineers, lawyers, and doctors. Most Scholars plan to go on to graduate study or professional schools.

Curriculum

Four-Year Program

Approximately 40 percent of the 120 hours Honors Scholars earn toward graduation carries Honors credit. Most of this is associated with a sequence of Honors courses designed specifically for them, the majority of which are taken during the first two years. During this period, these students fulfill virtually all of the University's General Education Requirements, usually in innovative ways. In their junior and senior years, Honors Scholars also earn Honors credit for work done within their major fields.

First Year

Honors 10, Freshman Composition
Honors 20, Contemporary Issues and Events Symposium
Honors 30, Critical Analysis
Honors 101, Western Traditions
Honors 103, Non-Western Traditions

Second Year

Scholars take two of the following classes:
Honors 201, Inquiries in the Humanities
Honors 202, Inquiries in the Fine and Performing Arts
Honors 203, Inquiries in the Social and Behavioral Sciences
Honors 204, Inquiries in Business and Economics
Honors 205, Inquiries in Mathematics and the Natural Sciences

During the first two years, a typical Honors Scholar will also take additional course work in other areas, such as mathematics, natural science, foreign language, and major prerequisite classes to satisfy various University, Honors College, and specific degree requirements. Scholars must satisfy special mathematics and natural science requirements.

Third and Fourth Years

Honors 300, Honors Seminar (at least four)
 Six hours of independent study in the major field taken for Honors credit.

Two-Year Program

Scholars in this program will take a combination of Honors College courses and also earn Honors independent study credit for work done in their major fields. They must also satisfy the University's special mathematics and natural science requirements if this has not been done prior to their admission into the College.

Pierre Laclede Honors College

Third Year

Honors 200 (one course in this sequence)

Honors 300, Honors Seminar (one in this sequence)

Three hours of work in the major field taken for Honors independent study credit

Fourth Year

Same as for Third Year

The satisfactory/unsatisfactory option does not apply to any course work undertaken for Honors credit.

Admission and Retention

To be considered for admission to either the Four-Year or Two-Year Honors Program, a candidate must file a special Honors College application. Prospective freshmen and transfer students must also submit a regular application for admission to the University. These forms and additional information concerning scholarship and stipend awards, general eligibility guidelines, the admission process, and other features associated with participation in the Honors College can be obtained by contacting the College's administrative office: 516-6870.

To remain in good standing, a student must maintain both a cumulative and Honors GPA of at least 3.20 while remaining actively engaged in Honors studies.

Additional Honors College Features

Community Mentorship Program

Since students at UM-St. Louis are part of a thriving metropolis and most are likely to remain so, the Honors College seeks to instill a high degree of urban awareness in them. Based on their intellectual and career interests, Honors Scholars are matched with appropriate role models working in various sectors of the community. Some of these relationships may eventually lead to internships.

Scholarships and Stipends

Every new freshman or transfer student admitted to the Honors College is awarded some form of academic scholarship. Scholars continue to receive these awards as long as they meet the criteria associated with them.

Pierre Laclède Honors College

Course Descriptions

The following courses fulfill the Humanities (H) breadth of study requirements: 30, 101, 102, 103, 201, 202. The following courses fulfill the Social Sciences (SS) breadth of study requirements: 101, 102, 103, 203, 204. The following course fulfills the Natural Sciences and Mathematics (SM) requirements: 205.

Depending on the nature of the topic, Honors 300, Advanced Honors Seminar, also fulfills specific breadth of study requirements.

10 Freshman Composition (3)

Prerequisite: Consent of the dean of the Honors College. Theory and practice of writing expository prose. Emphasis on individual tutorial. Assignments will be linked with topics discussed in Honors 101.

20 Contemporary Issues and Events Symposium (2)

Prerequisite: Consent of the dean of the Honors College. Open discussion of current and usually controversial issues relating to various disciplines. An assigned reading on the topic serves as the catalyst for an exchange of views between the class and a panel made up of students and a guest expert. Students are also required to attend and report on cultural events in the St. Louis area as part of this class.

30 Critical Analysis (3)

Prerequisite: Consent of the dean of the Honors College. An introduction to the forms and techniques of rational discussion. The emphasis is on improving skills in identifying, analyzing, evaluating, and formulating arguments. Topics include deductive and non-deductive reasoning, causal analysis, analogical arguments, logical fallacies, vagueness and ambiguity, methods of definition, and argumentative writing.

101 Western Traditions (3)

Prerequisite: Consent of the dean of the Honors College. A seminar based on the reading and discussion of a few major works of exceptional importance. The works discussed will cover all eras of Western civilization from ancient times to the present and will range over several fields of study. These works will convey diversity within Western traditions and will not represent any single perspective.

102 American Traditions (3)

Prerequisite: Consent of the dean of the Honors College. A seminar based on the reading and discussion of a few major works of exceptional importance. The works discussed will cover all eras of American history from the colonial era to the present and will range over several fields of study. These works will convey diversity within American traditions and will not represent any single perspective. This course satisfies the American history and government requirement.

103 Non-Western Traditions (3)

Prerequisite: Consent of the dean of the Honors College. A seminar based on the reading and discussion of a few major works of exceptional importance. The works discussed may represent a single region of the non-Western world, but they will cover all eras from the ancient times to the present and will range over several fields of study. These works will not represent any single perspective. This course satisfies the non-Euro-American studies requirement.

201 Inquiries in the Humanities (3)

Prerequisite: Consent of the dean of the Honors College. A seminar intended to introduce students to some of the particular methodologies by which various disciplines in the humanities approach their subjects and achieve their goals. This is demonstrated through the close examination of specific topics and issues as illustrated in key texts.

202 Inquiries in the Fine and Performing Arts (3)

Prerequisite: Consent of the dean of the Honors College. A seminar intended to introduce students to some of the particular methodologies by which various disciplines in the arts approach their subjects and achieve their goals. This is demonstrated through the close examination of specific topics and issues as illustrated in key works of creative art. Students will also take part in various cultural activities (e.g., museum and gallery visits, concerts, theatrical performances).

203 Inquiries in the Social and Behavioral Sciences (3)

Prerequisite: Consent of the dean of the Honors College. A seminar intended to introduce students to some of the particular methodologies by which various disciplines in the social and behavioral sciences approach their subjects and achieve their goals. This is demonstrated by the close examination of specific topics and issues as illustrated in central texts, case studies, etc.

204 Inquiries in Business and Economics (3)

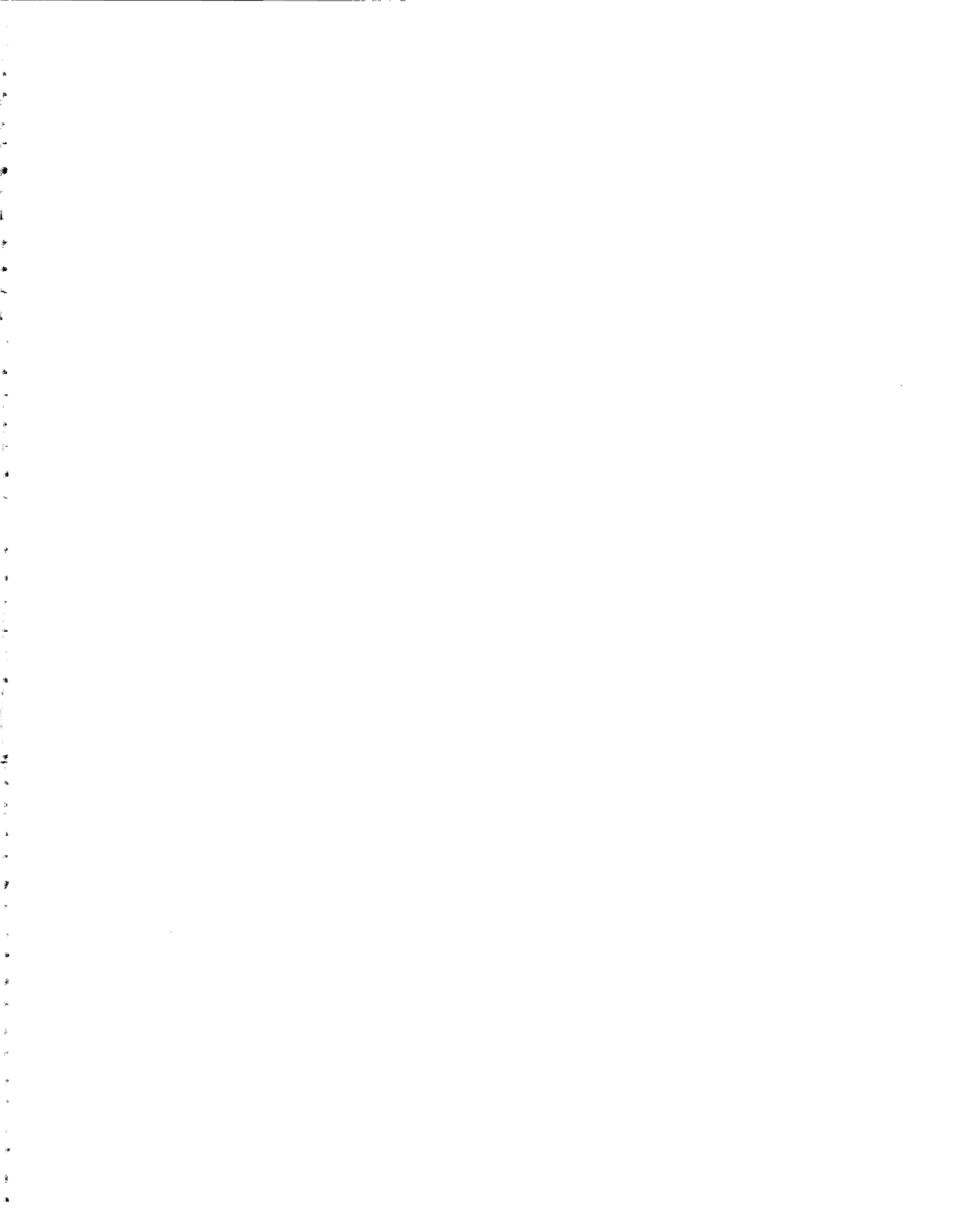
Prerequisite: Consent of the dean of the Honors College. A seminar intended to engage students in the discussion and analysis of some topics of special importance and interest in the fields of business and economics, with attention to the methodologies used to deal with these issues.

205 Inquiries in Mathematics and the Natural Sciences (3)

Prerequisite: Consent of the dean of the Honors College. A seminar intended to introduce students to some of the particular methodologies used by mathematicians and natural scientists to deal with their subjects and achieve their goals. This is demonstrated by an examination of theories and experiments.

300 Advanced Honors Seminar (3)

Prerequisite: Consent of the dean of the Honors College. This interdisciplinary seminar examines a specific topic from various perspectives and underscores the value of making connections between diverse areas of study. The course may be repeated for credit whenever the topic is substantially different.



OTHER PROGRAMS



UM-St. Louis/Washington University Joint Undergraduate Engineering Program

Administration

William P. Darby, Dean
Ph.D., Carnegie Mellon University
Nancy Shields, Associate Dean
Ph.D., Southern Illinois University - Carbondale
Marie I. Cuccia-Brand, Director of Academic and Student Services
M.A., Washington University
Gloria Gardner, Academic Advisor
B.S., Kent State University

Faculty

James C. Ballard, Associate Professor
M.A., Washington University
Harold J. Brandon, Adjunct Professor
Sc.D., Washington University
Christopher I. Byrnes, Professor
Ph.D., University of Massachusetts
Roger D. Chamberlain, Assistant Professor
D.Sc., Washington University
John D. Corrigan, Adjunct Assistant Professor
Ph.D., University of Missouri
Matthew G. Dreifke, Adjunct Associate Professor & Advisor
M.S., Washington University
Richard A. Gardner, Associate Professor
Ph.D., Purdue University
Phillip L. Gould, Professor & Advisor
Ph.D., Northwestern University
H. Richard Grodsky, Assistant Professor & Advisor
D.Sc., Washington University
Raimo J. Hakkinen, Professor
Ph.D., California Institute of Technology
I. Norman Katz, Professor
Ph.D., Massachusetts Institute of Technology
Michael I. Miller, Professor
Ph.D., The Johns Hopkins University
William J. Murphy, Adjunct Professor
D.Sc., Washington University
Michael T. Pauken, Assistant Professor & Advisor
Ph.D., Georgia Institute of Technology
David A. Peters, Professor
Ph.D., Stanford University
Jerry W. Schweiker, Adjunct Professor
Ph.D., University of Illinois
Barry E. Spielman, Professor
Ph.D., Syracuse University
Seymour V. Pollack, Professor
M.S., Brooklyn Polytechnic Institute
Barry E. Spielman, Professor
Ph.D., Syracuse University
S.P. Sutura, Professor,
Ph.D., California Institute of Technology
Kevin Z. Truman, Associate Professor
Ph.D., University of Missouri - Rolla
Jonathan S. Turner, Professor
Ph.D. Northwestern University
Alan C. Wheeler, Affiliate Professor
Ph.D., Stanford University
Ning Xi, Assistant Professor
D.Sc., Washington University

General Information

The Joint Undergraduate Engineering Program of UM-St. Louis and Washington University was approved in 1993 by the University of Missouri and the Coordinating Board for Higher Education to support non-traditional, place-bound students who wish to pursue a bachelor's degree in engineering.

The program is designed to offer course work beyond the pre-engineering courses at UM-St. Louis and the area community colleges. Pre-engineering and general education courses are offered at UM-St. Louis and upper-level engineering courses are offered on the Washington University campus. Students will be admitted to the upper division program only after they have completed an acceptable pre-engineering program. They can earn a Bachelor of Science in Civil Engineering (BSCE), a Bachelor of Science in Electrical Engineering (BSEE), or a Bachelor of Science in Mechanical Engineering (BSME).

Professional engineering degree programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The BSEE, and the BSME have been designed to meet ABET accreditation requirements. However, ABET does not consider degree programs for accreditation before there are graduates. Thus, the first graduates of any new engineering degree program do not technically receive ABET-accredited degrees. Once the program is accredited by ABET, previous graduates are typically treated as if they had received accredited degrees for matters such as professional engineering licensure.

Admission

Admission to candidacy for these degrees is granted jointly by the University of Missouri-St. Louis and Washington University.

Normally admission is granted to persons who have completed the pre-engineering program with a minimum grade point average of 2.75 over all mathematics, chemistry, physics and introductory engineering courses (statics, dynamics, and engineering graphics).

Degree Requirements

Bachelor of Science in Civil Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Mechanical Engineering

A program of 137 semester hours is required for the Bachelor of Science in Civil Engineering, a program of 131 semester hours is required for the Bachelor of Science in Electrical Engineering, and a program of 137 semester hours is required for the Bachelor of Science in Mechanical Engineering, as shown below.

All majors must complete the University General Education Requirements, the Pre-Engineering Requirements and the Core Engineering Requirements. Except with special permission of the program faculty, students must first

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

complete JEMT 217, Engineering Mathematics, and JEE 180, Introduction to Electrical Networks (Mechanical and Electrical Engineering majors only), with minimum grades of C, to be eligible to take the other upper-level engineering courses (those with course numbers starting with the letter "J"). A minimum grade of C is necessary to meet the prerequisite requirement for any course.

Pre-Engineering Requirements

Math 80, Analytic Geometry/Calculus I
Math 175, Analytic Geometry/Calculus II
Math 180, Analytic Geometry/Calculus III
Math 202, Differential Equations
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Physics 111, Physics: Mechanics & Heat
Physics 112, Physics: Electricity, Magnetism & Optics
Engineering 30, Engineering Graphics
Engineering 144, Statics
Engineering 145, Dynamics
English 10, Composition

Humanities Electives*

Social Sciences Electives*

Engineering Core Requirements

JCS 36, Introduction to Computing
JEMT 217, Engineering Mathematics
JEC 210, Engineering Communications
JME 220, Thermodynamics
JME 225, Materials Science
JME 331, Control Systems I**
JEE 180, Introduction to Electrical Networks** OR
JCHE 343, Environmental Engineering Chemistry
JEE 150, Electrical Laboratory I**

** Required for electrical and mechanical engineering majors only.

Civil Engineering Major Requirements

JCE 116, Surveying
JCE 241, Structural Analysis
JCE 242, Structural Design
JCE 252, Environmental Engineering Science
JCE 274, Hydraulics and Hydrology
JCE 319, Soil Mechanics
JCE 320, Soil Exploration and Testing
JCE 374, Economic Decisions in Engineering
JCE 375, Introduction to Urban Planning
JCE 376, Site Planning and Engineering OR
JCE 382, Design of Water Quality Control Facilities
JCE 384, Probabilistic Methods in Civil Engineering Design
JCE 399, Senior Civil Engineering Seminar
JCE 372, Legal Aspects of Construction OR
JEP 361, Introduction to Environmental Law and Policy
JME 141, Mechanics of Deformable Bodies
JME 270, Fluid Mechanics
JME 280, Fluid Mechanics Laboratory
 Civil Engineering Electives (200-399)

Electrical Engineering Major Requirements

JEE 160, Digital Logic
JEE 190, Introduction to Digital and Linear Electronics

JEE 214, Electromagnetic Fields
JEE 227, Power, Energy, and Polyphase Circuits
JEE 279, Signal Analysis for Electronic Systems and Circuits
JEE 316, Electrical Energy Laboratory
JEE 355, Digital Systems Laboratory
JEE 380, Senior Design
 Electrical Engineering Electives (200-399)

Mechanical Engineering Major Requirements

JME 141, Mechanics of Deformable Bodies
JME 218, Elements of Mechanisms and
JME 219, Mechanisms Laboratory
JME 221, Energetics for Mechanical Engineers
JME 222, Machine Design and
JME 223, Machine Design Laboratory
JME 270, Fluid Mechanics
JME 280, Fluid Mechanics Laboratory
JME 271, Principles of Heat Transfer
JME 281, Heat Transfer Laboratory
JME 317, Dynamic Response of Physical Systems and
JME 318, Dynamic Response Laboratory
JME 390, Senior Design
 Mechanical Engineering Electives (200-399)

*Humanities and Social Sciences Electives

The student's choice of humanities and social sciences electives must meet both the UM-St. Louis General Education Requirements and the Humanities and Social Sciences Requirements of the Joint Undergraduate Engineering Program. Check with your adviser for details. In particular:

- A course in American history or government, or in Missouri history or government must be included.
- The cultural diversity requirement must be fulfilled.
- At least 8 credit hours must be in one department or area within humanities or social sciences; of these 8 credit hours, at least 1 credit hour must be in a course at the junior level or higher, taken at a four-year institution.
- Some courses that fulfill the humanities [H] or social sciences [SS] breadth of study requirement do not count as Humanities and Social Sciences Electives; an example would be a statistics course taught in economics or psychology. See the Office of the Joint Undergraduate Engineering Program for a listing of courses that do not count as Humanities or Social Sciences Electives in this program, or check with your adviser.

Minor in Environmental Engineering Science

A program of 18 semester hours is required to earn the Minor in Environmental Engineering Science. The minor is designed to provide formal recognition to recipients of bachelor's degrees in civil, electrical, or mechanical engineering that they have acquired the education necessary for entry-level careers as environmental professionals. They will also have a solid foundation to undertake graduate-level education in environmental engineering and science.

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Enrollment in all courses in the Minor in Environmental Engineering Science is limited to students who have been admitted to candidacy for the Bachelor of Science in Civil Engineering, the Bachelor of Science in Electrical Engineering, or the Bachelor of Science in Mechanical Engineering in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program. The minor may only be awarded to students who earn the Bachelor of Science in Civil Engineering, the Bachelor of Science in Electrical Engineering, or the Bachelor of Science in Mechanical Engineering in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program.

JCHE 343, Environmental Engineering Chemistry

JCE 252, Environmental Engineering Science

(EE, ME Majors) OR

JCE 375, Introduction to Urban Planning (CE Majors)

JCE 308, Environmental Engineering Laboratory - Water/Soil OR

JCE 309, Environmental Engineering Laboratory - Air

JCE 382, Design of Water Quality Control Facilities

JEP 337, Environmental Risk Assessment

JEP 361, Introduction to Environmental Law and Policy

Course Number	Semester Hours	Engineering Design	Basic Science	Science
Eng 202	3.0	0.0	3.0	0.0
JCE 116	3.0	0.0	3.0	0.0
JCE 241	3.0	0.5	2.5	0.0
JCE 242	3.0	2.5	0.5	0.0
JCE 252	3.0	1.0	2.0	0.0
JCE 274	3.0	0.0	3.0	0.0
JCE 308	3.0	0.0	2.0	1.0
JCE 309	3.0	0.0	2.0	1.0
JCE 310	3.0	3.0	0.0	0.0
JCE 319	3.0	1.0	2.0	0.0
JCE 320	1.0	0.0	1.0	0.0
JCE 364	3.0	3.0	0.0	0.0
JCE 369	3.0	3.0	0.0	0.0
JCE 372*	3.0	0.0	0.0	0.0
JCE 373	3.0	0.0	2.0	0.0
JCE 374	3.0	0.75	2.25	0.0
JCE 375	3.0	1.5	1.5	0.0
JCE 376	3.0	1.5	1.5	0.0
JCE 378	3.0	1.0	2.0	0.0
JCE 382	3.0	3.0	0.0	0.0
JCE 384	3.0	1.5	1.5	0.0
JCE 399	1.0	0.0	0.0	0.0
JCHE 343	3.0	0.0	0.0	3.0
JCS 36	4.0	2.0	2.0	0.0
JEC 210*	3.0	0.0	0.0	0.0
JEE 150	3.0	1.0	2.0	0.0
JEE 160	3.0	1.5	1.5	0.0
JEE 180	3.0	0.75	2.25	0.0
JEE 190	3.0	0.75	2.25	0.0
JEE 214	3.0	1.0	2.0	0.0
JEE 227	3.0	1.2	1.8	0.0
JEE 262	3.0	1.0	2.0	0.0
JEE 279	3.0	1.0	2.0	0.0
JEE 280	3.0	1.0	2.0	0.0
JEE 290	3.0	1.0	2.0	0.0
JEE 292	3.0	1.0	2.0	0.0
JEE 310	3.0	1.0	2.0	0.0
JEE 316	3.0	1.5	1.5	0.0
JEE 332	3.0	1.0	2.0	0.0
JEE 345	3.0	1.0	2.0	0.0
JEE 355	3.0	2.2	0.8	0.0
JEE 358	3.0	1.5	1.5	0.0
JEE 360	3.0	1.2	1.8	0.0
JEE 368	3.0	1.0	2.0	0.0
JEE 380	3.0	3.0	0.0	0.0
JEMT 217	4.0	0.0	0.0	4.0
JEP 281	3.0	1.5	1.5	0.0
JEP 337	3.0	0.75	2.25	0.0
JEP 361*	3.0	0.0	0.0	0.0
JME 141	3.0	0.5	2.5	0.0
JME 218 & 219	4.0	2.0	2.0	0.0
JME 220	3.0	0.0	3.0	0.0
JME 221	3.0	0.5	3.0	0.0
JME 222 & 223	4.0	4.0	0.0	0.0
JME 225	4.0	0.0	4.0	0.0
JME 261	3.0	0.0	3.0	0.0
JME 270	3.0	0.0	3.0	0.0
JME 271	3.0	0.0	3.0	0.0
JME 280	1.0	0.0	1.0	0.0
JME 281	1.0	0.0	1.0	0.0
JME 317 & 318	4.0	1.0	3.0	0.0

Engineering Design and Engineering Science Requirements

The number of semester hours assigned to each engineering course in the Joint Undergraduate Engineering Program is further divided into four categories of content: engineering design, engineering science, basic science, and other, as shown below.

Each engineering student must complete a curriculum that contains at least 18 semester hours of engineering design and 36 semester hours of engineering science content, including all courses: pre-engineering requirements, engineering core requirements, major requirements, and electives. Civil, electrical, and mechanical engineering majors should consult with their advisers to select electives at the 200 and 300 level that include sufficient engineering design and engineering science content to produce the required totals. Transfer courses from other institutions do not necessarily have the same engineering science and engineering design content as their equivalents in the UM-St. Louis/Washington University Joint Undergraduate Engineering Program. Students who include transfer courses in their curricula should consult with their advisers to be sure that these requirements are met.

Course Number	Semester Hours	Engineering Design	Basic Science	Science
Eng 10	1.0	0.0	1.0	0.0
Eng 30	3.0	1.0	2.0	0.0
Eng 124	3.0	0.0	3.0	0.0
Eng 125	3.0	0.0	3.0	0.0
Eng 126	3.0	0.0	3.0	0.0
Eng 144	3.0	0.0	3.0	0.0
Eng 145	3.0	0.0	3.0	0.0
Eng 146	3.0	0.5	2.5	0.0
Eng 147	3.0	0.0	3.0	0.0
Eng 180	3.0	0.75	2.25	0.0
Eng 201	3.0	0.0	3.0	0.0

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Course Number	Semester Hours	Engineering Design	Basic Science	Science
JME 331	3.0	1.0	2.0	0.0
JME 390	4.0	4.0	0.0	0.0

*Other, 3.0

Fees

Students register on the UM-St. Louis campus and pay UM-St. Louis fees plus an engineering fee for both Pre-engineering and Engineering courses. Limits on enrollments are determined by the availability of resources.

For Further Information

For information about enrolling in this program, please contact the UM-St. Louis/Washington University Joint Undergraduate Engineering Program at (314) 516-6800, or the Washington University School of Engineering and Applied Science at (314) 935-6100.

Career Outlook

Engineering is one of the few careers in which the bachelor's degree is a professional degree. Students earning a bachelor of science degree in one of the engineering disciplines are well qualified for entry-level engineering positions in a variety of businesses, industries, consulting firms, and government agencies. As society becomes increasingly dependent on technology, the outlook for all engineering disciplines becomes increasingly bright. Engineering careers typically rank at, or very near, the top of virtually any published rating of promising jobs for the twenty-first century. Besides tackling challenging technical problems, roughly two-thirds of all engineers will have some level of management responsibility within ten years of receiving their bachelor's degrees. Many practicing engineers will eventually continue their education by pursuing graduate degrees on a part-time basis. Typical areas of graduate study include all advanced technical and scientific fields and management.

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Course Descriptions

Prerequisites may be waived by consent of the Joint Program faculty.

Engineering

10 Introduction to Engineering (1)

Course consists of a series of lectures on engineering, fields of study within engineering, the engineering profession, types of work activities, and professional registration. Guest lecturers will participate.

30 Engineering Graphics (3)

Prerequisites: Math 30 and 35 or equivalent. The course covers the principles of scales, geometric construction, orthographics, auxiliaries, sections, dimension, tolerancing, descriptive geometry, vector graphics, developments and intersections. Examples and problems are solved manually and with computer graphics.

126 Digital Circuits (3)

Prerequisites: Engineering 124; Mathematics 202 (may be taken concurrently). Course consists of a study of circuits having application in digital equipment such as electronic calculators and computers. The engineering concepts of circuits for logical design, digital arithmetic, and digital systems are introduced.

144 Statics (3)

Prerequisites: Math 175 and Physics 111. Statics of particles and rigid bodies. Equivalent systems of forces. Distributed forces: centroids. Applications to trusses, frames, machines, beams, and cables. Friction. Moments of inertia. Principle of virtual work and applications.

145 Dynamics (3)

Prerequisite: Engineering 144. Review of vector algebra and calculus. Kinematics of a particle. Newton's laws and the kinetics of a particle. Work and energy. Impulse and momentum. Kinematics of rigid bodies. General theorems for systems of particles. Kinetics of rigid bodies. The inertia tensor.

146 Strength of Materials (3)

Prerequisite: Mathematics 175 and Engineering 144. Normal and shear stresses and strains. Stress-strain diagrams. Hooke's Law and elastic energy. Thermal stresses. Stresses in beams, columns, torsional members, and pressure vessels. Elastic deflection of beams and shafts. Statically indeterminate structures. Mohr's circle of stress. Stability concepts.

147 Thermodynamics (3)

Prerequisite: Mathematics 175, Chemistry 11, Physics 111. Classical thermodynamics, thermodynamic properties, work and heat, first and second laws. Entropy, irreversibility, availability. Application to engineering systems.

180 Introduction to Electrical Networks (3)

(Same as JEE 180.) Prerequisite: Physics 112 and Mathematics 202 (may be taken concurrently). Elements, sources, and interconnects. Ohm's and Kirchhoff's laws, superposition and Thevenin's theorem; the resistive circuit, transient analysis, sinusoidal analysis, and frequency response.

201 Elementary Electronics (3)

(Same as Physics 201.) Prerequisite: Physics 112. Primarily a laboratory study of characteristics of standard circuit elements, amplifier circuits, power supplies, operational amplifiers, digital and switching circuits, servo systems, shielding and noise problems, transducers and oscilloscopes. Six hours of laboratory per week.

202 Elementary Electronics II (3)

(Same as Physics 202.) Prerequisite: Engineering 201. Continuation of Engineering 201. Six hours of laboratory per week.

Chemical Engineering

JCHE 343 Environmental Engineering Chemistry (3)

Prerequisite: Chemistry 12. Introduction to the engineering aspects of air, water, soil, and geosphere chemistry. Toxicology and hazardous wastes. Pollution sources, dynamic, and ultimate fates. Sampling, control strategies, and regulations.

Civil Engineering

JCE 116 Surveying (3)

Horizontal and vertical control surveys, including traverses, triangulation, trilateration, and leveling; basic adjustments of observations; geodetic data; coordinate systems. Basic route surveying, including horizontal and vertical curves.

JCE 241 Structural Analysis (3)

Prerequisite: JME 141. A review of the calculation of reactions, shear, and bending moment. Definition, construction and use of influence lines. Deflections for statically determinate structures using the virtual work method. Analysis of statically indeterminate trusses using the method of consistent deformations. Analysis of continuous beams and planar frames using the consistent deformation, slope-deflection and moment distribution methods. The influence of span on strength, stability, and economy of structures. An introduction to structural analysis software.

JCE 242 Structural Design (3)

Prerequisites: JME 225, JCE 241. Fundamentals of structural design in steel, reinforced concrete, and timber. Familiarization with the sources of various design codes and practice in interpreting them. Computer graphics applications.

JCE 252 Environmental Engineering Science (3)

Prerequisite: JME 270 (may be taken concurrently), or permission of instructor. Application of the basic principles of chemistry, microbiology, and fluid mechanics to the

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analysis of environmental problems, especially those involving control of water and land contamination. Properties of municipal and industrial waste water, solid waste, and hazardous waste. Estimation of assimilative capacity and other characteristics of receiving waters. Introduction to unit processes and unit operations used in the treatment of municipal and industrial waste water. Design of processes and facilities used for treating drinking water, waste water, and sludge disposal. Waste minimization and recycling in both industrial and municipal settings.

JCE 274 Hydraulics and Hydrology (3)

Prerequisite: JME 270 (may be taken concurrently). The concepts and theory of hydraulics and hydrology are discussed through lectures and practical engineering applications. Open channel flow, hydrograph analysis, watershed hydrology, frequency concepts, hydraulic design, and sedimentation are addressed.

JCE 308 Environmental Engineering Laboratory - Water/Soil (3)

Prerequisite: JCHE 343. Laboratory experiments to illustrate the application of engineering fundamentals to environmental systems. Characterization and control of water/soil pollutants. Introduction to relevant analytical instrumentation and laboratory techniques. Laboratory work supported with theoretical analysis and modeling as appropriate.

JCE 309 Environmental Engineering Laboratory - Air (3)

Prerequisite: JCHE 343. Laboratory Experiments to illustrate the application of engineering fundamentals to environmental systems. Characterization and control of air pollutants. Introduction to relevant analytical instrumentation and laboratory techniques. Laboratory work supported with theoretical analysis and modeling as appropriate.

JCE 310 Design of Timber Structures (3)

Prerequisites: JCE 241, JCE 242. Study of basic physical and mechanical properties of wood and design considerations. Design and behavior of wood beams, columns, beam-columns, connectors, and fasteners. Introduction to plywood and glued laminates members. Analysis and design of structural diaphragms and shear walls.

JCE 319 Soil Mechanics (3)

Prerequisites: JME 141, JME 270. Basic geology as it relates to index and classification properties of soil. Exploration, sampling, and testing techniques. Soil classification systems. Clay minerals and soil structures. Compaction and stabilization. Capillary, shrinkage, swelling, and frost action in soils. Effective stress, permeability, seepage, and flow nets. Consolidation and consolidation settlements. Stresses in soil. Time rate of consolidation. Mohr's circle, stress path, and failure theories. Shearing strength of sand and clays.

JCE 320 Soil Exploration and Testing (1)

Prerequisite: JCE 319 (may be taken concurrently). Soil exploration; in-situ testing, laboratory testing of soil; processing of test data using a microcomputer; statistical

analysis of test data; use of test results in the decision-making process.

JCE 364 Foundations (3)

Prerequisites: JCE 242, JCE 319, JCE 320. Principal problems in design and construction of foundations for bridges and buildings. Bearing capacity of deep and shallow foundations; pressure on retaining walls and slope stability; modern developments in piling, cofferdams, open caissons, pneumatic caissons.

JCE 369 Construction Management Project (3)

Prerequisites: JCE 373, JEP 281. The course entails the study of principles and steps involved in the development of a project from design through bidding and construction with emphasis on preconstruction planning and construction operations. The students will be required to submit a report on project budget, bidding strategy and construction schedule. Lecture topics will be supplemented by a resource pool of consultants on estimating, scheduling and contracting who will provide advice and guidance to the students.

JCE 372 Legal Aspects of Construction (3)

Prerequisite: Junior standing. A survey of the legal problems of the construction manager. Including but not limited to, liability in the areas of contracts, agency, torts, assurance, bad judgment and oversight.

JCE 373 Construction Operations and Management (3)

Prerequisites: Junior standing. The construction industry, its development, components, and organization. Contracting methods. Applications and limitations. Selection of equipment using production analysis and economics. Field engineering, including form design, shoring, embankment design. Purchasing and change orders. Safety and claims.

JCE 374 Economic Decisions in Engineering (3)

Prerequisite: Junior standing. Principles of economics involved in engineering decisions. Decisions between alternatives based on the efficient allocation of resources. Topics include the time element in economics, analytical techniques for economy studies, and taxes.

JCE 375 Introduction to Urban Planning (3)

Prerequisite: Senior standing. A focus on the fundamental factors and techniques that the civil engineer must consider: population, economic base, land use, urban design, regional analysis, fiscal analysis, zoning, and public facilities analysis. Synthesis of these techniques into a major student project, typically involving groups of three to six students. Each project is assigned by the instructor and usually involves a real-life situation or problem that requires original data collection. In-class presentation, discussion, and critique of each group project.

JCE 376 Site Planning and Engineering (3)

Prerequisite: Senior standing. A focus on the legal, engineering, and economic aspects of planning and design of facilities at a site-specific level. Concepts of legal and economic feasibility of site design are developed in conjunction with the study of civil engineering activities involved in dealing with urban design alternatives for residential, commercial, industrial, and recreational land

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uses. Case studies and review of current legislation affecting site planning and engineering are undertaken, culminating in a major design project.

JCE 378 Knowledge-Based Expert Systems in Civil Engineering (3)

Prerequisite: JCS 36 or equivalent. Topics relating to the development of expert systems discussed with emphasis on application in civil and structural engineering. Subjects include knowledge engineering, frame- and rule-based expert systems, use of expert shells and tools, prototyping, and reasoning with uncertainty. Case studies and computer exercises supplement lectures. Students are expected to develop a prototype expert system.

JCE 382 Design of Water Quality Control Facilities (3)

Prerequisite: JCE 252. Application of environmental engineering principles to design of water and wastewater treatment facilities. Critical review of process design issues associated with physical, chemical, and biological treatment processes. Definition of problems and objectives, evaluation of alternatives, and use of these concepts in process design. Design-oriented class/group project.

JCE 384 Probabilistic Methods in Civil Engineering Design (3)

Prerequisite: JCE 242 (may be taken concurrently). Probability concepts. Analytical models of random phenomena. Functions of random variables. Estimating parameters from data. Empirical determination of distribution models. Regression and correlation analyses. Monte Carlo simulation. Detailed examples of the application of probabilistic methods to structural, transportation, hydrologic, and environmental system design.

JCE 399 Senior Civil Engineering Seminar (1)

Prerequisite: Senior standing. Students will research assigned topics of importance to graduates entering the Civil Engineering profession and prepare oral presentations and a written report. Student presentations will be augmented by lectures from practicing professionals. Topics include professional registration, early career development, graduate study, effective presentations, construction quality, and case histories of civil engineering projects.

Computer Science

JCS 36 Introduction to Computing (4)

Workshop course (lectures and supervised laboratories) covering the fundamental organization and operating principles of digital computers and the systematic development of well-structured programs. Students start with the simple von Neumann simulator to learn about internal data representation and program execution at the machine level. With this as background, they undertake a variety of programming projects, using both the Pascal and FORTRAN languages, to acquire experience in modular construction and static and dynamic data structures, graphic display, and database handling. There is continuing emphasis on sound design and documentation practices.

Electrical Engineering

JEE 150 Electrical Laboratory I (3)

Prerequisite: JEE 180. Lectures and laboratory exercises related to sophomore topics in introductory networks and basic electronics.

JEE 160 Digital Computers I: Organization and Logical Design (3)

Prerequisite: JCS 36. Digital computers and digital information-processing system; Boolean algebra, principles and methodology of logical design; machine language programming; register transfer logic; microprocessor hardware, software, and interfacing; fundamentals of digital circuits and systems; computer organization and control; memory systems; arithmetic unit design.

JEE 180 Introduction to Electrical Networks (3)

Prerequisite: Physics 112 and Mathematics 202 (may be taken concurrently). Elements, sources, and interconnects. Ohm's and Kirchhoff's laws, superposition and Thevenin's theorem; the resistive circuit, transient analysis, sinusoidal analysis, and frequency response.

JEE 190 Introduction to Digital and Linear Electronics (3)

Prerequisite: JEE 180. Introduction to contemporary electronic devices and their circuit applications. Terminal characteristics of active semiconductor devices. Incremental and D-C models of junction diodes, bipolar transistor (BJTs), and metal-oxide semiconductor field effect transistors (MOSFETs) are developed and used to design single- and multi-stage amplifiers. Models of the BJT and MOSFET in cutoff and saturation regions are used to design digital circuits.

JEE 214 Engineering Electromagnetics I: Fundamentals (3)

Prerequisite: Mathematics 202. Electromagnetic theory as applied to electrical engineering: vector calculus; electrostatics and magnetostatics; Maxwell's equations, including Poynting's theorem and boundary conditions; uniform plane-wave propagation; transmission lines - TEM modes, including treatment of general, lossless line, and pulse propagation; introduction to guided waves; introduction to radiation and scattering concepts.

JEE 227 Power, Energy, and Polyphase Circuits (3)

Prerequisite: JEE 180. Fundamental concepts of power and energy; electrical measurements; physical and electrical arrangement of electrical power systems; polyphase circuit theory and calculations; principle elements of electrical systems such as transformers, rotating machines, control, and protective devices, their description and characteristics; elements of industrial power system design.

JEE 262 Digital Computers II: Architecture (3)

Prerequisite: JEE 160 or equivalent. Study of interaction and design philosophy of hardware and software for digital computer systems: Machine organization, data structures, I/O consideration. Comparison of minicomputer architectures.

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JEE 279 Signal Analysis for Electronic Systems and Circuits (3)

Prerequisites: JEE 180 and JEMT 217. Processing of signals in electronic systems and circuits; time-domain methods using impulse response and convolution; frequency-domain methods using Fourier, Laplace, and Z-transforms and frequency-response functions; discrete- and continuous-time models; principles of sampling and modulation. Each student presents both written and oral reports on a subject related to the course material.

JEE 280 Network Analysis (3)

Prerequisite: JEE 279. Theoretical and practical aspects of electrical networks. Loop and nodal analysis of multiport networks. Transfer functions, admittance and impedance functions, and matrices. Magnitude and phase relations. Butterworth, Chebyshev, and other useful network response functions. Network theorems. Computer-aided design. Synthesis of passive (LC, RC, RLC) networks and of active (RC) networks.

JEE 290 Principles of Electronic Devices (3)

Prerequisite: Physics 112. Introduction to the solid-state physics of electronic materials and devices, including semiconductors, metals, insulators, diodes and transistors. Crystal growth technology and fundamental properties of crystals. Electronic properties and band structure of electronic materials, and electron transport in semiconductor materials. Fabrication of pn junction diodes, metal-semiconductor junctions, and transistors and integrated-circuit chips. Fundamental electrical properties of rectifying diodes and light-emitting diodes, bipolar transistors and field-effect transistors. Device physics of diodes and transistors, large-signal electrical behavior and high-frequency properties.

JEE 292 Electronic Devices and Circuits (3)

Prerequisite: JEE 190. Introduction to semiconductor electronic devices: transistors and diodes. Device electrical DC and high-frequency characteristics. Bipolar transistors, field-effect transistors, and MOS transistors for analog electronics applications. Transistors fabrication as discrete devices and as integrated-circuit chips. Large-signal analysis of transistor amplifiers: voltage gain, distortion, input resistance and output resistance. Analysis of multitransistor amplifiers: Darlington, Cascode, and coupled-pair configurations. Half-circuit concepts, differential-mode gain, common-mode gain, and differential-to-single-ended conversion. Transistor current sources, active loads, and power-amplifier stages. Applications to operational amplifiers and feedback circuits.

JEE 310 Engineering Electromagnetics II: Applications (3)

Prerequisite: JEE 214. Study of important applications of electromagnetic theory. Solution of electrostatic and magnetostatic problems involving Laplace and Poisson's equations subject to boundary conditions. Maxwell's equations, including boundary conditions for dielectrics and conductors, reflection and transmission characteristics with effects due to losses. Study of guided waves in rectangular and optical wave guides, including effects of dispersion. S-parameters and transmission networks,

including S-matrix properties, relation to impedance, reflection coefficient, VSWR, and Smith chart. Study of antennas, including exposure to terminology and thinwire antennas.

JEE 316 Electrical Energy Laboratory (3)

Prerequisite: JEE 150 (may be taken concurrently). Experimental studies of principles important in modern electrical energy systems. Topics: power measurement, transformers, power supplies, batteries, static frequency converters, thermoelectric heating and cooling, photovoltaics, electrical lighting, induction machines, commutator machines.

JEE 332 Control Systems II (3)

Prerequisite: JEE 331. The control of physical systems with a digital computer, microprocessor, or special-purpose digital hardware is becoming very common. Course continues JEE 331 to develop models and mathematical tools needed to analyze and design these digital, feedback-control systems. Linear, discrete dynamic systems. The Z-transform. Discrete equivalents to continuous transfer functions. Sampled-data control systems. Digital control systems design using transfer and state-space methods. Systems comprised of digital and continuous subsystems. Quantization effects. System identification. Multivariable and optimum control.

JEE 345 Digital Signal Processing (3)

Prerequisite: JEE 279. Introduction to analysis and synthesis of linear, discrete-time systems with applications in sampled-data and digital signal processing. Time-domain analysis using discrete convolution. Frequency-domain analysis using the Fourier and Z-transforms. Discrete Fourier transforms and fast Fourier transforms. Design of digital filters. Finite-register effects. Hardware architecture for processing implementations.

JEE 355 Digital Systems Laboratory (3)

Prerequisites: JEE 160 and JEE 190. Procedures for reliable digital design, both combinational and sequential; understanding manufacturers' specifications; use of special test equipment; characteristics of common SSI, MSI, and LSI devices; assembling, testing, and simulating design; construction procedures; maintaining signal integrity. Several single-period laboratory exercises, several design projects, and application of a microprocessor in digital design. Microprocessor programs are written in assembly language on a host computer and down loaded to the laboratory station for debugging. One lecture and one laboratory period a week.

JEE 358 Computer-Aided Design of Electronic Systems (3)

Prerequisites: JEE 190 and 279. Introduction to computer-aided techniques in the solution of network and electronic design problems, including filters; analysis of linear and nonlinear circuits; methods for numerical integration, evaluation of the Fourier integral; numerical methods for solving differential equations, automated methods for design; sparse matrix techniques. Use of problem-oriented languages such as SPICE. Methods for the analysis and design of digital circuits and systems.

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JEE 360 Digital Computers: Switching Theory (3)

Prerequisite: JEE 160 or equivalent. Advanced topics in switching theory as employed in the analysis and design of various information- and material-processing systems. Combinational techniques; minimization, logic elements, bilateral devices, multiple output networks, symmetrical and iterative functions, threshold logic, state identification and fault detection, hazards, and reliable design. Sequential techniques: synchronous circuits, state tables, machine minimization, state assignment, asynchronous circuits, finite state machines.

JEE 368 Applied Optics (3)

Prerequisite: JEE 214 or equivalent. Topics relevant to the engineering and physics of conventional as well as experimental optical systems and applications explored. Items addressed include geometrical optics, Fourier optics such as diffraction and holography, polarization and optical birefringence such as liquid crystals, and nonlinear optical phenomena and devices.

JEE 380 Senior Design Project (3)

Prerequisite: senior standing. Working in groups of three, students address design tasks assigned by faculty. Each group completes three design projects in a semester. Projects are chosen to emphasize the design process, with the designer choosing one of several paths to a possible result. Collaboration with industry and all divisions of the University is encouraged.

Engineering and Policy

JEP 281 Topics in Engineering Management (3)

Prerequisite: Junior standing. Techniques relating to managing engineering professionals and engineering activities are introduced and discussed. The engineer's transition into project and project team management. Role of engineering and technology in major corporations. Engineering managerial functions, including production and use of financial information in planning, scheduling, and assessing engineering projects. Motivation of individual and group behavior among technical professionals. Macroeconomic factors influencing technical decision-making and engineering project management. Additional topics will vary from year to year, but will typically include government relations, regulation, compensation, ethics, production, operations, the quality function, and technological innovation. Extensive use of case study analysis, including written reports and in-class presentations by students.

JEP 337 Environmental Risk Assessment (3)

Prerequisite: JCE 374. Definition of risk and uncertainty. Common probability models and their application to environmental risk assessment. Principles of epidemiology and toxicology. Bioassays. Exposure characterization and measurement. Qualitative and quantitative evaluation of human and animal studies. Tests of significance. Estimation of response rates. Dose-response models and parameter estimation. Low-dose extrapolation. Prediction error. Estimating individual risk and aggregate risk. Risk assessment methods in regulatory decision making; standard setting.

JEP 361 Introduction to Environmental Law and Policy (3)

Prerequisite: Junior standing. Survey of the most prominent federal laws governing environmental compliance and pollution control. Examines laws applicable to environmental impact statements, air pollution, water pollution, and hazardous waste. Addresses policy concerning the relative merits of using technological capabilities as compared to health risks in setting environmental standards. Discusses the need for environmental regulation to protect societal resources.

Engineering Communications

JEC 210 Engineering Communications (3)

Prerequisite: English 10 or equivalent and junior standing. Persistent concerns of grammar and style. Analysis and discussion of clear sentence and paragraph structure and of organization in complete technical documents. Guidelines for effective layout and graphics. Examples and exercises stressing audience analysis, graphic aids, editing, and readability. Videotaped work in oral presentation of technical projects. Writing assignments include descriptions of mechanisms, process instructions, basic proposals, letters and memos, and a long formal report.

Engineering Mathematics

JEMT 217 Engineering Mathematics (4)

Prerequisite: Mathematics 202 or equivalent. The Laplace transform and applications; series solutions of differential equations, Bessel's equation, Legendre's equation, special functions; matrices, eigenvalues, and eigenfunctions; vector analysis and applications; boundary value problems and spectral representation; Fourier series and Fourier integrals; solution of partial differential equations of mathematical physics.

Mechanical Engineering

JME 141 Mechanics of Deformable Bodies (3)

Prerequisites: Mathematics 175 and Engineering 144. Normal and shear stresses and strains. Stress-strain diagrams. Hooke's law and elastic energy. Thermal stresses. Stresses in beams, columns, torsional members, and pressure vessels. Elastic deflection of beams and shafts. Statically indeterminate structures. Mohr's circle of stress. Stability concepts.

JME 218 Elements of Mechanisms (2)

Prerequisites: Engineering 145 and JCS 36; Mathematics 202 and JME 141 (may be taken concurrently); JME 218 and JME 219 must be taken during the same semester. Kinematic and dynamic principles of simple and complex planar mechanisms. Gear theory and design of gear trains.

JME 219 Mechanisms Laboratory (2)

Prerequisite: JME 218 and JME 219 must be taken during the same semester. Laboratory problems focusing on materials covered in JME 218 and emphasizing utilization of numerical methods of solution and computer programs as design tools.

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

JME 220 Thermodynamics (3)

Prerequisites: Mathematics 175, Chemistry 11, Physics 111. Classical thermodynamics, thermodynamic properties, work and heat, first and second laws. Entropy, irreversibility, availability. Application to engineering systems.

JME 221 Energetics for Mechanical Engineers (3)

Prerequisite: JME 220. Thermodynamic cycle analysis: vapor power, internal combustion, gas turbine, refrigeration. Maxwell relations and generalized property relationships for non ideal gases. Mixtures of ideal gases, psychrometrics, ideal solutions. Combustion processes, first and second law applications to reacting systems. Chemical equilibrium. Compressible flow in nozzles and diffusers.

JME 222 Introduction to Machine Design (2)

Prerequisites: JCS 36, JME 141, Math 202; JME 222 and JME 223 must be taken during the same semester. Design of machines and machine components using advanced concepts and analytical tools. Overview and definition of feasibility, synthesis, and analysis as used in design. Determination of loads, material properties, factors of safety and their statistical distributions. Analysis of stress and performance. Failure criteria: yielding, fracture, fatigue, stress-corrosion cracking, creep, etc. Formulation of solutions and optimization of design. Applications to design of shafts, springs, fasteners, belts, chains, bearings, gears, and screws. Use of computer techniques to determine velocities, accelerations, and forces in mechanisms and in stress analysis of components.

JME 223 Machine Design Laboratory (2)

Prerequisite: JME 222 and JME 223 must be taken during the same semester. Laboratory problems focusing on materials covered in JME 222.

JME 225 Materials Science (4)

Prerequisite: Chemistry 11. Introduces the chemistry and physics of engineering materials. Emphasis on atomic and molecular interpretation of physical and chemical properties, the relationships between physical and chemical properties, and performance of an engineering material.

JME 261 Physical Metallurgy (3)

Prerequisite: JME 225. Study of structure, constitution, properties of metals and alloys. Theory of alloying and heat treatment. Laboratory applications of atomic and crystal structure and thermodynamics to metallurgy.

JME 270 Fluid Mechanics (3)

Prerequisites: Math 202 and Engineering 145. Fundamental concepts of fluids as continua. Viscosity. Flow field: velocity, vorticity, streamlines. Fluid statics: hydrostatic forces manometers. Conservation of mass and momentum. Incompressible inviscid flow. Dimensional analysis and similitude. Flow in pipes and ducts. Flow measurement. Boundary-layer concepts. Flow in open channels.

JME 271 Principles of Heat Transfer (3)

Prerequisites: JME 220, JME 270, and Math 202. Introductory treatment of the principles of heat transfer by conduction, convection, or radiation. Mathematical analysis of steady and unsteady conduction along with numerical methods.

Analytical and semiempirical methods of forced and natural convection systems. heat exchangers: LMTD and e-NTU analysis. Boiling and condensation heat transfer. Radiation between blackbody and real surfaces. Radiation network analysis.

JME 280 Fluid Mechanics Laboratory (1)

Prerequisite: JME 270. Physical laboratory exercises focusing on fluid properties and flow phenomena covered in JME 270. Calibration and use of a variety of equipment; acquisition, processing, and analysis of data by manual as well as automated methods.

JME 281 Heat Transfer Laboratory (1)

Prerequisite: JME 280 and JME 271. Physical laboratory exercises, including some numerical simulations and computational exercises, focusing on heat-transfer phenomena covered in JME 271. Calibration and use of variety of laboratory instrumentation; acquisition, processing, and analysis of data by manual as well as automated methods; training in formal report writing.

JME 316 Advanced Strength and Introductory Elasticity (3)

Prerequisite: JME 141. Introduction to elasticity; indicial notation, stress and strain, material laws. Plane stress and strain problems and illustrations. Torsion of prismatic bars. Energy principles: virtual work, potential energy and complementary energy theorems, reciprocal theorems. Introduction to plates and shells.

JME 317 Dynamic Response of Physical Systems (2)

Prerequisites: Engineering 145 and JEMT 217; JME 317 and JME 318 must be taken during the same semester. Free and forced vibration of mechanical systems with lumped inertia, springs, and dampers. Methods of Laplace transform, complex harmonic balance, and Fourier series. Electrical analogs. Introduction to Lagrange's equations of motion and matrix formulations. Transient response of continuous systems by partial differential equations, by Rayleigh methods, and by lumped parameters.

JME 318 Dynamic Response Laboratory (2)

Prerequisite: JME 317 and JME 318 must be taken during the same semester. Laboratory problems focusing on materials covered in JME 317.

JME 324 Manufacturing Processes (3)

Prerequisite: senior standing. Introduction to the processes used in making basic components for machines and structures. Emphasis is on the underlying scientific principles for such manufacturing processes as casting, forging, extrusion and machining.

JME 325 Materials Selection in Engineering Design (3)

Prerequisite: senior standing. Analysis of the scientific bases of material behavior in the light of research contributions of the last 20 years. Development of a rational approach to the selection of materials to meet a wide range of design requirements for conventional and advanced applications. Although emphasis will be placed on mechanical properties, other properties of interest in design will be discussed, e.g., acoustical, optical and thermal.

UM-St. Louis/Washington University Joint Undergraduate Engineering Program

JME 326 Experimental Stress Analysis (3)

Prerequisite: JME 222. Basic methods of experimental determination of stresses in structures and machines. Mechanical, optical, and electrical gauges. Use of brittle lacquer, photoelasticity, moiré methods, and auxiliary techniques for plane and three-dimensional problems.

JME 331 Control Systems I (3)

Prerequisite: JEMT 217. Introduction to automatic control concepts. Block diagram representation of single- and multi-loop systems. Multi-input and multi-output systems. Control system components. Transient and steady-state performance; stability analysis; Routh, Nyquist, Bode, and root locus diagrams. Compensation using lead, lag, and lead-lag networks. Synthesis by Bode plots and root-locus diagrams. Introduction to state-variable techniques, state transition matrix, state-variable feedback.

JME 334 Solar Energy (3)

Prerequisite: JME 220, 270, and 271. Extraterrestrial solar radiation, solar radiation on earth's surface, and weather service bureau data. Review of selected topics in heat transfer. Methods of solar energy collection including flat plate and concentrating collectors. Solar energy storage. Transient and long-term solar system performance.

JME 347 Mechanical Metallurgy (3)

Prerequisite: JME 261. Elastic and plastic properties of metals used in static and dynamic design. Various testing methods correlated with metal properties, statistical analysis of testing methods, fundamentals of mechanical working processes.

JME 372 Fluid Mechanics II (3)

Prerequisites: JME 220 and 270. Mechanics and thermodynamics of incompressible and compressible flows: varying-area adiabatic flow, standing normal and oblique shock waves, Prandtl-Meyer flow, Fanno flow, Rayleigh flow, turbulent flow in ducts and boundary layers.

JME 376 The Engineering Properties of Materials (3)

Prerequisite: junior standing. A detailed look at the mechanical, chemical, and surface properties of materials. Topics include elastic properties; plastic deformation; viscoelastic behavior; chemical resistance; corrosion resistance; and the electromagnetic properties of metal, plastic, ceramic, and composite systems.

JME 381 Air-Conditioning Systems and Equipment I (3)

Prerequisite: senior standing. Survey of air conditioning systems. Moist air properties and conditioning processes. Adiabatic saturation. Psychrometric chart. Environmental indices. Indoor air quality. Heat balances in building structures. Solar radiation. Space heating and cooling loads.

JME 382 Air-Conditioning Systems and Equipment II (3)

Prerequisite: JME 381. Fluid flow, pumps, and piping design. Room air distribution. Fans and building air distribution. Mass transfer and measurement of humidity. Direct control of heat and mass transfer. Heat exchangers. Refrigeration systems. Absorption refrigeration.

JME 390 Senior Design Project (4)

Prerequisite: senior standing. Working in small groups, students address design tasks assigned by faculty. Each group completes three design projects in a semester. Projects are chosen to emphasize the design process, with the designer choosing one of several paths to a possible result. Collaboration with industry is encouraged.

UM-Rolla Engineering Education Center

Faculty

James H. Hahn, P.E., Associate Professor; Director
Ph.D., University of Missouri-Rolla
C. Ben Basye, P.E., Professor Emeritus
Ph.D., Iowa State University
Victor Birman, Professor
Ph.D., Israel Institute of Technology
Anton de S. Brasunas, P.E., Professor Emeritus
Sc.D., Massachusetts Institute of Technology
Chaman L. Sabharwal, Professor
Ph.D., University of Illinois-Urbana
Daniel C. St. Clair, Professor
Ph.D., University of Missouri-Rolla
David A. Shaller, Assistant Professor
J.D., Cleveland State University

General Information

The UM-Rolla Engineering Education Center; UM-Rolla Engineering Education Center was started in 1964 at the request of St. Louis industry and with the encouragement of local universities. It offers Master of Science degrees in the following areas:

Aerospace Engineering
Civil Engineering
Computer Science
Electrical Engineering
Engineering Management
Engineering Mechanics
Environmental Engineering
Mechanical Engineering

Admission to candidacy for these degrees is granted by the University of Missouri-Rolla. Normally admission is granted to persons holding B.S. degrees in engineering from ABET-accredited schools (this does not apply to Computer Science) and whose undergraduate GPA places them in the upper third of their graduating class.

An appropriately selected program of 30 credit hours is required for the Master of Science degree with thesis, and a 33 credit hour program is required for the nonthesis Master of Science degree.

Course Listings

Course listings for the various semesters may be obtained by writing or phoning the Engineering Education Center. Course descriptions are listed in the UMR graduate catalog.

The Engineering Education Center also provides information to St. Louis area residents about UMR programs in Rolla. The Center can assist area pre-engineering students with transfer to the Rolla campus and with entry into the Cooperative Training Programs that exist between UMR and numerous U.S. industries. This co-op program allows engineering students to gain valuable industrial experience during their school years and to be partially or totally self-supporting.

Fees

Fees for Engineering Center programs are different from those on the UM-Rolla or UM-St. Louis campus. For information about the Engineering evening program on the UM-St. Louis campus, write to Engineering Education Center, University of Missouri, 8001 Natural Bridge Road, St. Louis, Missouri 63121, or phone (314) 516-5431. <http://www.umn.edu/~umr.eec>

ROTC

Students interested in Reserve Officer Training Corps (ROTC) programs may enroll in either the Army ROTC program at UM-St. Louis or the Air Force ROTC program sponsored at UM-St. Louis through Parks College of St. Louis University. These programs provide undergraduate and graduate students with the opportunity to combine academic study with a military officer training program.

For further information concerning the Army ROTC program, contact the ROTC department at Washington University, telephone 935-5546. For information on the Air Force ROTC program, contact the Air Force ROTC Department at Parks College of St. Louis University, telephone (800) 851-3048, Ext. 311. In Illinois, call (800) 851-7878, Ext. 311.

Army ROTC

The purpose of the Military Science Department is to develop young men and women into junior commissioned officers for positions of responsibility in the Army Reserve, Army National Guard, or Active Army.

Benefits

Army ROTC offers UM-St. Louis students:

- 1) A challenging, important, well-paid job at graduation in one of the many professional fields that the modern Army has to offer. Army officers serve in such fields as aviation, procurement, personnel management, intelligence, military police, communications, engineering, transportation management, finance, combat arms, hospital administration, nursing, and research and development. Starting salary with allowances of an active duty Second Lieutenant is approximately \$26,000. Within four years he/she should be promoted to Captain with a salary with allowances of nearly \$45,000. Reserve officers attend one weekend per month and an annual two-week training camp.
- 2) College financing. All students receive \$150/month during the final two years of college (up to \$3,000), plus another \$750 for attendance at summer camp. Also, advanced course students may join the Reserves as an officer trainee and receive pay (currently \$147/month) while in college.
- 3) Fully enrolled students may compete for the many ROTC scholarships available every year. These scholarships pay for tuition, fees, and books, and also provide \$150/month.
- 4) Option of two careers. Upon graduation and commissioning as officers in the U.S. Army, students may fulfill their obligation by serving on active duty or be guaranteed reserve duty if requested. This is an important option for those students who want to pursue a civilian career but would like to serve as reserve officers. Officers who serve on active duty receive 30 days paid vacation every year, free medical and dental care, travel, and the opportunity to pursue advanced degrees with educational assistance from the Army on a fully funded or partially funded basis.

The Program

College students who complete the Reserve Officer Training Corps program will earn commissions as Second Lieutenants in the U.S. Army. The ROTC program may be completed in several different ways as outlined below.

- 1) **Four-Year Program.** The Military Science program is traditionally offered as a four-year program. It is best to start as a freshman, but special arrangements can be made for those who start as sophomores. The first two years of Military Science are voluntary without service obligation, and are designed to give the student a perspective of their leadership ability and what the Army can offer them. The student who decides to continue in ROTC and pursue a commission signs an agreement with the Department of the Army to accept a commission upon completion of the last two years of Military Science. In return the Army agrees to provide a subsistence allowance (up to \$3,000) and to provide all necessary uniforms and Military Science books.
- 2) **Two-Year Program.** The two-year program is designed to provide greater flexibility in meeting the needs of students desiring commissions in the U.S. Army. UM-St. Louis students who did not participate in the four-year program and junior college transfer students are eligible for enrollment. Basic prerequisites for entering the two-year program are:
 - A) Students must be in good academic standing (minimum 2.0 GPA) and pass an Army medical examination; and
 - B) The student must have two academic years of study remaining (undergraduate, graduate, or combination). The student will attend a six-week summer camp to catch up with the students in the four-year program. Attendance at the basic camp does not obligate the student in any way and is only intended to give the student a look at Army life and opportunities. The student will be paid approximately \$750 for attendance at basic camp.

Veterans

Veterans of any of the Armed Forces may qualify for advanced placement and should contact the Military Science Department for details.

Scholarships

The Army Reserve Officer Training Corps currently has 12,000 scholarships in effect, which pay toward tuition, fees, and books, and provide \$150/month for the academic year. These scholarships cover periods of four years, three years, and two years. UM-St. Louis freshmen and sophomores should apply in January for the two and three-year scholarships. Special consideration for scholarships is given to students in engineering, nursing, business, and any physical science. Scholarship students may incur a four-year active duty obligation; however, they may request reserve duty to serve with the National Guard or Army Reserve.

ROTC

Qualifications

All students who desire to enter the Army Reserve Officer Training Corps must be United States citizens, in good physical condition, and have high moral character. Students must be at least 17 years old to enroll and not over 30 when they receive their commission. Additional qualifications to be admitted into the advanced course include an academic average of C or better, and passing an Army medical examination.

Academics

UM-St. Louis Army Reserve Officers' Training Corps academics consists of two parts:

- 1) earning a degree in the student's chosen academic subject, and
- 2) completing 18 credit hours (four-year program) or 12 credit hours (two-year program) of the Military Science curriculum. The courses in Military Science are college-level academic courses which receive full academic credit toward the student's elective degree requirements in the Business School and the School of Education. The curriculum consists of classroom instruction and a leadership laboratory in which students receive leadership experience.

Leadership Laboratory

Leadership Laboratory is required of all students enrolled in Military Science courses. Classes are two hours every week and are held on Thursday afternoon from 4 p.m. to 6 p.m., unless otherwise designated. In addition, students attend one Field Training Exercise (FTX) each semester. Leadership Laboratory develops individual military skills and leadership ability through participation in drill and ceremonies, survival training, mountaineering, field-training exercises, and exposure to progressively greater responsibilities within the Cadet Corps organization.

Graduate Study

The Army realizes the importance of a graduate degree for its personnel. There are several programs available to assist ROTC graduates in obtaining an advanced degree. The Army sends selected Second Lieutenants immediately to graduate school (with full pay and allowances) to pursue advanced degrees in engineering and the physical sciences. Other officers may postpone active duty for two years to continue graduate study. Students who are accepted into medical school may take up to four years to complete their studies. There are numerous opportunities for an officer to complete a master's degree in service and receive financial assistance from the Army.

Special Training

Selected volunteers may attend one of several special schools during the summer: the Airborne Course at Fort Benning, GA; Air Assault School at Fort Campbell, KY; or the Northern Warfare School in Alaska. Successful course completion earns the coveted badge (such as the jump wings or air assault wings) associated with each school. Special Cadet Troop Leadership Training is available on a limited basis. Students participating in the program live and work with an active Army unit during part of one summer.

Cadet Activities

Army ROTC students may participate in many extra-curricular activities during the year. Social activities include the Army Military Ball, a fall canoe trip down the Meramec River, picnics, and informal parties. Army ROTC students also support various campus and community service activities. Interested students also participate in the Raider Club, Drill Team, Color Guard, and Marksmanship Team.

The mission of the Army Reserve Officer Training Corps is to commission the future officer leadership of the United States Army. While there is much to be learned in the classroom, at leadership laboratories and during summer camp, there are still other opportunities for self-enrichment and personal satisfaction to be found through active participation in the various extracurricular activities sponsored by ROTC and through interaction and association with fellow cadets and cadre. Cadre instructors are active Army officers and noncommissioned officers working full time as instructors and mentors at the University. To inquire about ROTC and apply for a scholarship call the Military Science Department at Washington University; 935-5546 or 263-6780.

ROTC

Course Descriptions

Military Science

101 Introduction to Military Science (1)

Provides an overview of the organization and role of the U.S. Army and the Army ROTC. Initiates an appreciation of the military profession and its customs, traditions, and courtesies. Introduces the student to the responsibilities and obligations of an Army officer. Develops leadership and managerial abilities. Provides fundamentals of military history, customs and traditions, and training of the U.S. Army.

102 Introduction to Military Operations (1)

Prerequisite: Military Science 101, equivalent, or consent of Professor of Military Science (PMS). Provides an introduction to theoretical and practical aspects of supervision. Emphasizes the need for proper motivation and cooperative attitudes as they pertain to both individual and group interaction. Continues development of leadership and managerial abilities and provides fundamentals of common military training and tasks that are essential at the tactical level of military operations. Tasks performed as an individual are emphasized.

201 Small Unit Leadership (2)

Prerequisite: Military Science 101, Military Science 102, equivalent, or consent of Professor of Military Science (PMS). Provides basic background in the skills necessary for military map reading and land navigation to include: (1) military grid reference system; and (2) map scale, distance, elevation, and relief. Continues development of leadership and managerial skills. Provides fundamentals of orienteering. Introduces the student to basic communication skills and develops basic awareness on how these skills affect other people.

202 Small Unit Leadership II (2)

Prerequisite: Military Science 201, equivalent, or consent of Professor of Military Science (PMS). Develops principles and techniques of applied leadership through discussion of some of the processes and procedures used by the leader to accomplish organizational objectives to include: (1) decision making; (2) communication; and (3) counseling. Provides practical experience in leadership of small units in the military environment. Examines principles and techniques of small-unit military tactical patrolling operations with emphasis on development of pre-planning and execution concepts. Applies concepts practiced through in-class map exercises and field training practicum. Provides an overview of the Army ROTC advanced course. Continues development of leadership and managerial abilities. Provides fundamentals of marksmanship.

301 Military Leadership and Management I (3)

Prerequisite: Military Science 101 through Military Science 202 or equivalent and selection by Professor of Military Science (PMS). Covers the functional roles of the military leader and basic principles of management with emphasis on problem analysis and decision making, span of control, delegation of authority and responsibility, planning and

coordinating. Provides fundamentals of effective methods of instruction and includes practical exercises where each student plans, prepares, and presents part of instruction. Continues to develop the student's ability to communicate orally and in writing. Provides additional insight into areas of Army officer specialization. Stresses practical application in the development of leadership abilities in that students are placed in positions of leadership within the ROTC student structure.

302 Advanced Leadership and Management II (3)

Prerequisite: Military Science 301. Provides a review of basic military land navigation and map-reading techniques. Examines more advanced principles and techniques of small unit military offensive and defensive tactical operations with concentrated study of such factors as command and control, communications, weapons systems, and military geography. Continues emphasis on practical application exercises to develop students' leadership abilities. Solidifies student's preparation for attendance at the ROTC advanced camp during the upcoming summer.

401 Military Administration (3)

Prerequisites: Military Science 301 and Military Science 302. Explores the practical aspects of military law. Examines the organization, responsibilities, and management of the military unit staff. Provides a working knowledge of proper staffing procedures. Continues development of leadership and managerial abilities through placement of students into key leadership positions within the ROTC student organizational structure. Students plan and conduct the majority of leadership practicum for all ROTC students.

402 Seminar in Leadership and Ethics (3)

Prerequisite: Military Science 401. Examines military professional ethics and the ideal American values as a basis for military values. Examines techniques of resource management with particular emphasis on the military environment. Teaches proper application of tactical military doctrine at the company/team level and the planning necessary between elements of the team. Reviews the various roles of the newly commissioned Army officer. Students continue to be assigned positions of leadership within the ROTC student organizational structure.

These courses are taught at Parks College, St. Louis University, Washington University, or University of Missouri-St. Louis. Students should check the *Schedule of Courses* each semester for locations.

ROTC

Air Force ROTC

The objective of the Air Force Reserve Officer Training Corps (AFROTC) is to qualify students for appointment as active duty second lieutenants in the United States Air Force. However, any student may enroll in the freshman/sophomore-level aerospace studies courses, and students may also enroll in the junior/senior-level courses with permission of the professor of Aerospace Studies.

UM-St. Louis offers the two- and four-year AFROTC programs through an agreement with Parks College of St. Louis University.

The four-year program is tailored for students with three or more years of undergraduate studies remaining. Student with junior standing or above may apply for entry into the two-year program. Entry into the two-year program is competitive and is based on standardized test scores, academic major, grade-point average, physical examination, personal interview with the professor of Aerospace Studies, and successful completion of a summer field training session at an Air Force base. Applicants must be full-time students and must remain in good academic standing.

Reserve Officer Training Corps

The AFROTC Program is divided into the General Military Course (GMC), the freshman/sophomore level curriculum; and the Professional Officer Course (POC), the junior/senior level curriculum. The GMC covers two main themes; The Air Force Today and The Air Force Way. The courses of the POC emphasize the professional development of the future Air Force officer. The curriculum covers Air Force Leadership and Management and Preparation for Active Duty. Field trips to Air Force bases supplement classroom instruction and familiarize the cadet with Air Force operations and organization.

To be commissioned, AFROTC students/cadets must:

- Pass a medical exam at a military medical facility.
- Obtain a favorable evaluation on an Armed Forces personal history security investigation.
- Flying applicants must complete commissioning requirements before age 26-1/2, and nonflying applicants must complete commissioning requirements by age 30. However, the age limit for nonflying applicants may be extended to age 35 for outstanding individuals.
- Be of good character (as determined by a favorable record with law enforcement authorities).
- Successfully complete all AFROTC course requirements.
- Complete at least a baccalaureate degree.

Air Force ROTC textbooks are loaned to all AFROTC students without charge. Students in the POC will receive a monthly subsistence allowance of \$150 per month for a maximum of 20 months, an Air Force uniform, in excess of \$700 for the summer field training course, and a travel allowance to and from the training location.

In addition to the AFROTC courses offered for academic credit, the Aerospace Studies Department sponsors the

Arnold Air Society and Angel Flight. Arnold Air Society is a national honorary service organization, and membership is open to anyone interested in bringing to the local community a better understanding of the Air Force mission and its leaders.

Field Training AFROTC Field training is offered during the summer months at selected bases throughout the United States, usually between a student's sophomore and junior years. Students in the four-year program participate in four weeks of field training. Major areas of study include junior officer training, aircrew/aircraft orientation, career orientation, survival training, base functions and Air Force environment, and physical training.

Students applying for entry into the two-year program must successfully complete six weeks of Field Training prior to enrollment in the Professional Officer Course. The major areas of study included in the six-week Field Training Program are essentially the same as those conducted at four-week field training, plus the academic curriculum of the General Military Course including Leadership Laboratory. POC cadets are eligible for a \$1000 per semester Federal AFROTC Scholarship.

Leadership Laboratory Leadership Laboratory is taken once per week throughout the student's enrollment in AFROTC. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership Laboratory involves a study of Air Force customs and courtesies, drill and ceremonies, career opportunities in the Air Force, and the life and work of an Air Force junior officer. It also includes field trips to Air Force installations throughout the United States.

Other Training Volunteers may attend various special cadet training programs such as light aircraft training, parachute jump training, and advance cadet training. Students participating in the latter, work with an Air Force unit during part of the summer.

Air Force Scholarships The Air Force offers four-, three-, and two-year scholarships to qualified students. These scholarships pay tuition, certain fees, and textbook cost. Scholarship recipients receive \$150 per month subsistence allowance.

For further information on the Air Force ROTC program at UM-St. Louis, call (314) 977-8227 or at Southern Illinois University at Edwardsville (SIUE), call (618) 692-3180.

AFROTC

Aerospace Studies

The Aerospace Studies program (AFROTC) is divided into two parts; The General Military Course (GMC), the freshman/sophomore level curriculum, and the Professional Officer Course (POC), the junior/senior level curriculum. The GMC covers two main themes: The Air Force Today and The Air Force Way. The courses of the POC emphasize the professional development of the future Air Force Officer. The curriculum covers Air Force Leadership and Management and Preparation for Active Duty. Field trips to Air Force bases supplement classroom instructions and familiarizes the cadet with Air Force operations and organizations.

Leadership laboratory is taken two hours per week throughout the student's enrollment in the AFROTC. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. The first two years of the Leadership Laboratory includes a study of Air Force customs and courtesies, drill and ceremonies, issuing military commands, instructing, directing and evaluating the preceding skills, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. The last two years of LLab consist of activities classified as advanced leadership experiences. They involve the planning and controlling of military activities of the cadet corps, the preparation and presentation of briefings and other oral and written communications; and the providing of interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.

AFROTC cadets must also successfully complete supplemental courses to enhance their utility and performance as commissioned officers. These include university courses in English composition and mathematical reasoning. Specific courses are designated by the Professor of Aerospace Studies.

Field Training (FT): Cadets in the four-year program participate in four weeks of field training. Cadets in the two or three year programs (exception for prior AF service) must attend the six week FT session, which is identical to the four week program plus 90 hours of GMC curriculum. Field training is offered during the summer months at selected bases throughout the United States, usually between a student's sophomore and junior years. Major areas of study include: Air Force Orientation, Officer Training, aircrew/aircraft orientation, survival training, base functions and physical training.

Students applying for entry into the two or three year program must successfully complete six weeks of field training prior to enrolling in the Professional Officer Course. The major areas of study included in the six week Field Training program are essentially the same as those conducted at four-week Field Training, plus the academic curriculum of the General Military Course including Leadership Laboratory. No direct academic credit is awarded for Field Training.

Federal scholarships are available for AFROTC cadets—any academic major may apply. Applications are to be submitted by detachment personnel to Head Quarters Reserve Officers Training Corps (AFROTC), Maxwell Air Force Base, AL.

Participation in AFROTC is not required to take Aerospace courses.

Lower Division (General Military)

Aerospace Studies courses (AS-101 through AS-202) are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses will be computed in the student's overall grade point average, but credit hours for these courses will not be included in the total hours for graduation.

AS-101/102 The Air Force Today (2)

A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for AFROTC cadets, and it complements this course by providing students with followership experiences. Classroom activity, two hours per week; Leadership Laboratory two hours per week, each semester.

AS-201/202 The Air Force Way (2)

Survey course designed to facilitate the transition from Air Force ROTC cadet to Air Force ROTC candidate. Featured topics include: Air Force heritage, Air Force leaders, Quality Air Force, an introduction to ethics and values, introduction to leadership, group leadership problems, and continuing application of communication skills. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences discussed in class. Classroom activity, two hours per week; Leadership Laboratory two hours per week, each semester.

Upper Division (Professional Officer) Courses

Aerospace Studies courses AS-301 through AS-402 are advanced courses designed to improve communication and management skills required of Air Force officers. Credit hours of these courses may be included in the hours needed for graduation at the discretion of individual departmental chairpersons.

AS-301/302 Air Force Leadership and Management (3)

The study of leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical

AFROTC

application of the concepts being studied. A mandatory leadership laboratory complements this course by providing advanced leadership experiences in officer type activities, giving students the opportunity to apply leadership and management principles of this course. Classroom activity, three hours per week; Leadership Laboratory two hours per week, each semester.

AS-401/402 Preparation For Active Duty (3)

Examines the national security process, regional studies, advanced leadership ethics, Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. An additional Leadership Laboratory complements this course by providing advanced leadership experiences, giving students the opportunity to apply leadership and management principles of this course. Classroom activity, three hours per week; Leadership Laboratory two hours per week, each semester.

Field Training

Field Training provides leadership and officership training in a military environment, which demands conformity to high physical and moral standards. Within this structured environment, cadets are screened for officer potential as measured against field training standards. Motivation and professional development is achieved through various programs such as flight orientation, marksmanship, and survival training. Students in the four-year program participate in four weeks of field training. Field training is offered during the summer months at selected bases throughout the United States, usually between a student's sophomore and junior years. Major areas of study include: Air Force Orientation, Officer Training, aircrew/aircraft orientation, survival training, base functions and physical training.

Programs at Other Universities

Reciprocal Programs

Unless otherwise stated, students interested in one of the following programs should contact the admissions office at the school where the program is offered.

Nebraska

The University of Nebraska in Lincoln offers programs for a limited number of Missouri residents in architecture, community and regional planning, construction management, and actuarial science where students may pursue bachelor's degrees.

Illinois

A cooperative agreement exists between Southern Illinois University-Edwardsville and UM-St. Louis which permits students of one institution to take courses at the other institution as a regular part of their academic program. For further information consult the registrar's office or the dean's office.

Kansas

The following programs are offered to Missouri residents at various Kansas universities:

Humanities University of Kansas, Lawrence, with an M.A. in Oriental languages and literature, and a B.A. and M.A. in Slavic languages and literature (not Russian). A Ph.D. in Slavic languages and literature is also offered.

Grain milling and technology Kansas State University, Manhattan, with a B.S., M.S., or Ph.D. in bakery science and management, feed science and management, or milling science and management.

Horticulture Kansas State University, Manhattan, with a B.S. in horticulture therapy.

Joint Programs in Law and Dentistry

The University of Missouri-St. Louis and the University of Missouri-Kansas City provide joint programs in law and dentistry for academically able students who are committed to public service. These special programs are designed to serve students seeking a career in public-service law or students who wish to practice dentistry in medically underserved communities.

UM-Kansas City will hold a reserved seat in its School of Law or in the School of Dentistry for qualified UM-St. Louis entering freshmen and make it available to them after they complete the required undergraduate studies at UM-St. Louis.

Study Abroad Programs

The University of Missouri-St. Louis is committed to broadening students' understanding of different cultures and preparing them for the global community in which we

live. One of the most successful ways of achieving this "global mindset" is to study at an overseas location for a year, semester or summer. Spending time abroad as a student is an enriching experience both academically and personally, providing students with the opportunity to study within a different culture, and to grow individually through the challenges and adventures of life in another country.

The Center for International Studies provides UM-St. Louis students with opportunities to study at over 60 different universities in more than 20 countries around the globe. Through individual advising at the Center's Study Abroad Office, students can find the program best suited to their personal, academic and career goals. Internship possibilities are also available for qualified students. The Study Abroad Office is a resource library where students can research the thousands of different programs available to them through UM-St. Louis and other institutions.

Fees and Financial Aid

The cost of the program depends on the services provided and the country and city of study. For most programs, participants continue to pay UM-St. Louis fees plus airfare, room & board and spending money. Few programs require an additional fee. Students are usually housed in dormitories or are assisted in finding apartments. In most cases, students are able to apply financial aid to a Study Abroad program. Study Abroad Scholarships are available for qualified applicants through the Center for International Studies.

Application

Generally, applications are due early in the semester prior to participation. Some programs require application two semesters prior to participation. Students should plan to spend at least 1-2 months researching a program before applying.

Participants are chosen based on academic achievement, faculty recommendations, approval of the proposed course of study via the department/divisional advisory process, and familiarity with or willingness to learn the foreign language of instruction. Most programs are designed for undergraduate students in their junior or senior years of study; however, a limited number of programs for freshmen, sophomores and graduate students are available.

For further information contact the Study Abroad Office, Center for International Studies, 304 SSB, 516-6497.

Study Abroad Programs and Exchange Partners

Australia

University of Southern Queensland

Austria

Karl-Franzens-University Graz

Belgium

University of Antwerp

Programs at Other Universities

Canada

Carleton University
McMaster University
Technical University of Nova Scotia
Universite Laval
Universite de Montreal
University of Waterloo
York University
Saint Mary's University
Simon Fraser University
Universite du Quebec a Montreal
University of Alberta
University of Manitoba
University of Ottawa

Denmark

Aarhus University

Finland

University of Helsinki

France

University Jean Moulin, Lyon (3)
Ecole Superieure de Commerce de Saint Etienne
University of Sciences and Technologies de Lille
University Louis Pasteur, Strasbourg (1)
University of Human Sciences, Strasbourg (2)
University Robert Schuman, Strasbourg (3)
University Catholique de l'Ouest, Angers
Ecole Superieure des Sciences Commerciales d'Angers

Germany

University of Stuttgart
Ruhr University Bochum
University of Leipzig
Fachhochschule Jena
Hochschule Bremen

Ghana

University of Ghana

Greece

Aristotle University of Thessaloniki

Hungary

Kossuth Lajos University

Iceland

University of Iceland

Ireland

University College Cork
University College Galway

Italy

University of Bologna
University of Parma

Japan

Obirin University
Semester in Japan Program
Toyo University

Mexico

El Colegio de Jalisco
Universidad de Guadalajara
ITESM-Guaymas Campus
Universidad Autonoma de Baja California
Universidad Nacional Autonoma de Mexico
Unviersidad of San Luis Potosi
Instituto del Estudios Superiores de Tamaulipas
Instituto Tecnologico Autonomo de Mexico (ITAM)
Instituto Tec. y de Est. Sup. de Monterrey (ITESM)
Universidad Autonoma de Guadalajara
Universidad Autonoma de Querataro
Universidad de las Americas Puebla
Universidad Iberoamericana
Universidad La Salle

The Netherlands

Hogeschool Holland Business School
Hogeschool voor de Kunsten
University of Utrecht

Northern Ireland

University of Ulster, Magee College

Norway

University of Bergen

Portugal

University of Coimbra

Spain

Universidad Autonoma de Madrid
Unviersidad Complutense de Madrid

Sweden

Lund University

Switzerland

University of Basel

United Kingdom

University of East Anglia
Missouri London Program
Business Internship in London Program

The Center is also currently developing programs in Taiwan and South Africa.

Programs at Other Universities

CBHE Articulation Agreement

The Coordinating Board of Higher Education Articulation Agreement outlines statewide undergraduate general education requirements which satisfy the general requirements for students transferring into UM-St. Louis and students transferring out of UM-St. Louis to other public higher education universities in the state.

- 1) Communication skills in the English language, three (3) courses—at least two (2) of which must be written; one (1) oral communication course is recommended;
- 2) Humanities, three (3) courses from at least two (2) disciplines;
- 3) Physical and/or biological sciences, two (2) courses including at least one (1) with its associated laboratory component;
- 4) Mathematics, one (1) course—college algebra, an alternative course that includes a significant component of college algebra, or a course which has college algebra as a prerequisite; and
- 5) Social and behavioral sciences, three (3) courses from at least two (2) disciplines.

All institutions shall recognize the validity of other institutions' general education requirements when the minimum requirements as specified above are met. However, some foreign language and/or upper division general education courses or upper division graduation requirements may be required by the receiving institution whenever all native students are obligated to satisfy the same requirements.

Baccalaureate professional schools or programs may specify exceptions to the credit hour and course distribution minimums established in this section by promulgating these exceptions and by establishing specialized articulation programs related to associate of science degrees as detailed in that section of these transfer guidelines. In these instances, transferring students are not exempted from satisfying the specialized lower division requirements of departments or divisions of an institution into which a student wishes to transfer.

Video Instructional Program

The Video Instructional Program offers flexible, self-paced learning for students who are far from campus or whose schedules make it difficult to attend regular classes. Video lessons for various courses are available for viewing over cable television stations. Tapes are available in UM-St. Louis libraries.

St. Louis Area Cable Stations

Crown Media I, II, and III (formerly Cencom I, II, and III), Continental Cable, American, and United Video in St. Louis County; STL Cable and City Cable in the city will air courses over the Higher Education Channel (HEC).

Course Listings

The following courses from the UM-St. Louis curriculum are offered:

Anthropology

19 Archaeology

This telecourse uses dramatic onsite filming to enable students to explore how archaeologists reconstruct ancient societies and explain how they evolved. Students will understand how archaeology and anthropology interact, with emphasis on how people have behaved in the past.

25 World Cultures

This telecourse is an ethnographic survey of the major culture areas of the world. It is an introductory cultural anthropology course that studies the structure and process of culture. This course satisfies the Cultural Diversity requirement.

124 Cultures of Africa

This telecourse offers a basic ethnographic survey of African cultures, with attention to social groupings, tribalism, religion, language, social change, the ecological relationship between humans and nature. This course satisfies the Cultural Diversity requirement.

350 Special Studies

This telecourse offers a glimpse into the science of anthropology through a variety of approaches, theories, controversies, and solutions encountered in the field. Students will gain insight into the practices of foreign cultures and the beliefs of their own culture in addition to the importance of diversity of human behavior.

Biology

1 Biology General Biology (For Non-Science Majors)

This telecourse provides a firm foundation in the fundamental principles of biology.

120 Environmental Biology (3)

This telecourse provides a survey of the current outlook for the global environment, describing threats that different natural systems face and the ties that bind human society to the environment. It also provides an examination of the biological basis of current environmental problems, with emphasis upon resources, energy, pollution and conservation.

Communication

70 Introduction to Cinema

This telecourse examines the history, rhetoric, and aesthetics of film. The content is designed to bring Hollywood filmmaking into clear focus as an art form, as an economic force, and as a system of representation and communication. Film theory and criticism will be studied, as well as major genres, authors, and artists. Introduction to Cinema explores how Hollywood films work technically, artistically, and culturally. The course also probes the deeper meaning of American movies—the hidden messages of genres, the social and psychological effects of Hollywood film style, and the mutual influence of society and popular culture on filmmaking.

Education

308 Foundations of Adult Basic Education (3)

This telecourse discusses the various characteristics of the adult learner, including needs, interests, physiological factors, interpersonal relations, and communications. The video demonstrations present teaching practices in adult basic education. This course focuses on the need of corporate and industry trainers as well as ABE and GED teachers.

You will work with topics in teaching basic reading: word recognition, comprehension, writing for the student's needs, basic and intermediate mathematical skills, selection and use of materials, learning contracts, learning styles, and other methods to individualize instruction, as well as student recruitment and retention and corporate classroom management. This is an important class offered at a time when there are more adult students than teachers.

This course meets Missouri ABE-GED certification requirements.

341 Teaching Science in the Elementary School

Prerequisites: Completion of science requirements in general education, Educational Foundations 111, and consent of instructor.

This course demonstrates methods, materials, and strategies for teaching science in the elementary classroom. Science is presented as a dynamic process. Piaget's work on the cognitive growth of learners is discussed and related to the need to teach science as a "hands-on" subject. In addition to a review of the psychological and philosophical bases for teaching questioning techniques are explored.

History

31 Topics in European Civilization: Emergence of Western Europe to 1715

This telecourse offers lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

Video Instructional Program

32 Topics in European Civilization: 1715 to the Present

This telecourse offers lectures and discussions on the development of Western European society and tradition from 1715 to the present.

History 31 or History 32 may be taken separately.

Philosophy

210 Significant Figures in Philosophy

This course offers a survey of the development of philosophy in Western civilization through a study of seven major thinkers: Plato, Aristotle, Aquinas, Descartes, Locke, Kant and Nietzsche. Each author is considered not only a product of his own time and culture, but also the creator of ideas of enduring relevance.

Topics include Plato's theory of forms and his delineation of an ideal state, Aristotle's formation of an all-embracing scientific and metaphysical view, Aquinas' adaptation of Aristotle to a Christian framework, Descartes' inauguration of a new approach to philosophy, Locke's attempt to base all our ideas in experience, Kant's attempt to redeem philosophy from the extremes of dogmatism and skepticism, and Nietzsche's radical rejection of the values that had prevailed until his time.

Two short papers will be required as part of the coursework.

290 Philosophical Issues in Other Disciplines: Humanities in the Arts

This telecourse examines selected philosophical issues in film, drama, music, literature, painting, sculpture, and architecture. The historical development of each of these art forms is presented, and then excerpts and examples are provided together with analysis and interpretation. For each art form, there is a program on critical evaluation in which the series host and established artists and critics apply their particular areas of expertise. The series also includes an introduction that explains the approach taken by the academic designers, and an epilogue that retrospectively examines the knowledge acquired.

Psychology

03 General Psychology

This telecourse is an introductory college level course that covers the fundamental principles and major concepts of psychology. The content is designed to provide a broad introductory survey of the general principles of human behavior.

245 Abnormal Psychology

Prerequisite: Psych 03, General Psychology. This telecourse introduces the major theoretical models for explaining and treating disorders—psychodynamic, behavioral, cognitive and biological. Ten of the 13 programs feature specific disorders, including anxiety disorders, personality disorders, the schizophrenias, sexual disorders, substance abuse, and the disorders of childhood. The first program

concerns assessment, while the last two provide information on treatment and prevention. This approach serves the introductory abnormal psychology student, while allowing individual faculty latitude to underscore the approach to which they subscribe.

Social Work

312 Women's Social Issues

Prerequisites: Social Work 280 or consent of the instructor. This telecourse is designed to help students identify gender stereotypes and barriers and how they impact on women's lives. This course will help students become more sensitive to the social and welfare concerns of women. The course also explores how gender intersects with other social systems, such as age, class, disability, ethnicity, race, religion, and sexual orientation. Emphasis will be placed on integrating a knowledge base of women's needs with professional social work practice.

Sociology

10 Introduction to Sociology

This telecourse is an introductory college level course designed to give students an in-depth look at sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

Appendix

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Code of Student Conduct

200.010 Standard of Conduct Amended March 20, 1981; August 3, 1990; May 19, 1994

A student enrolling in the University assumes an obligation to behave in a manner compatible with the University's function as an educational institution.

A. JURISDICTION OF THE UNIVERSITY OF MISSOURI generally shall be limited to conduct which occurs on the University of Missouri premises or at University-sponsored or University-supervised functions. However, nothing restrains the administration of the University of Missouri from taking appropriate action, including, but not limited to, the imposition of sanctions under Section 200.020(C), against students for conduct on or off University premises in order to protect the physical safety of students, faculty, staff and visitors.

B. CONDUCT for which students are subject to sanctions falls into the following categories:

1. Academic dishonesty, such as cheating, plagiarism or sabotage. The Board of Curators recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards. In all cases of academic dishonesty, the instructor shall make an academic judgment about the student's grade on that work and in that course. The instructor shall report the alleged academic dishonesty to the Primary Administrative Officer.
 - a. The term **cheating** includes but is not limited to (i) use of any unauthorized assistance in taking quizzes, tests, or examinations; (ii) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (iii) acquisition or possession without permission of tests, or other academic material belonging to a member of the University faculty or staff; or (iv) knowingly providing any unauthorized assistance to another student on quizzes, tests, or examinations.
 - b. The term **plagiarism** includes, but is not limited to:
 - (i) use by paraphrase or direct quotation of the published or unpublished work of another person without fully and properly crediting the author with footnotes, citations or bibliographical reference;
 - (ii) unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials; or
 - (iii) unacknowledged use of original work/material that has been produced through collaboration with others without release in writing from collaborators.
 - c. The term **sabotage** includes, but is not limited to, the unauthorized interference with, modification of, or destruction of the work or intellectual property of another member of the University community.
2. Forgery, alteration, or misuse of University documents, records or identification, or knowingly furnishing false information to the University.
3. Obstruction or disruption of teaching, research, administration, conduct proceedings, or other University activities, including its public service functions on or off campus.
4. Physical abuse or other conduct which threatens or endangers the health or safety of any person.
5. Attempted or actual theft of, damage to, or possession without permission of property of the University or of a member of the University community or of a campus visitor.
6. Unauthorized possession, duplication or use of keys to any University facilities or unauthorized entry to or use of University facilities.
7. Violation of University policies, rules or regulation or of campus regulations including, but not limited to, those governing residence in University-provided housing, or the use of University facilities, or the time, place and manner of public expression.
8. Manufacture, use, possession, sale or distribution of alcoholic beverages or any controlled substance without proper prescription or required license or as expressly permitted by law or University regulations.
9. Disruptive or disorderly conduct or lewd, indecent, or obscene conduct or expression.
10. Failure to comply with directions of University officials acting in the performance of their duties.
11. Illegal or unauthorized possession of firearms, explosives, other weapons, or dangerous chemicals.
12. Actual or attempted theft or other abuse of computer time, including but not limited to:
 - a. Unauthorized entry into a file to use, read, or change the contents, or for any other purpose.
 - b. Unauthorized transfer of a file.
 - c. Unauthorized use of another individual's identification and password.
 - d. Use of computing facilities to interfere with the work of another student, faculty member or University official.
 - e. Use of computing facilities to interfere with normal operation of the University computing system.
 - f. Knowingly causing a computer virus to become installed in a computer system or file.

Student Disciplinary Matters

**Rules of Procedures in Student Disciplinary Matters
Adopted November 8, 1968, Amended March 20, 1981;
December 8, 1989; and May 18, 1994**

200.020 RULES OF PROCEDURES IN STUDENT CONDUCT MATTERS

A. PREAMBLE. The following rules of procedure in student conduct matters are hereby adopted in order to insure insofar as possible and practicable (a) that the requirements of procedural due process in student conduct proceedings will be fulfilled by the University, (b) that the immediate effectiveness of Article V of the Bylaws of the Board of Curators relating to student conduct and sanctions may be secured for all students in the University of Missouri, and (c) that procedures shall be definite and determinable within the University of Missouri.

B. DEFINITIONS. As used in these rules, the following definitions shall apply:

1. **Primary Administrative Officers.** As used in these procedures, "Primary Administrative Officer" is charged with the responsibility for the administration of these student conduct procedures and refers to the person or persons on each campus designated.
2. **Student Panel.** A panel of students appointed by the Chancellor, from which shall be selected by the Chair, upon the request of a student charged before the Student Conduct Committee, not more than three students to serve with the Student Conduct Committee.
3. **Student.** A person having once been admitted to the University who has not completed a course of study and who intends to or does continue a course of study in or through one of the campuses of the University. For the purpose of these rules, student status continues whether or not the University's academic programs are in session.
4. **Student Conduct Committee.** As used in these procedures, "Student Conduct Committee," hereinafter referred to as the Committee, is that body on each campus which is authorized to conduct hearings and to make dispositions under these procedures or a Hearing Panel of such body as herein defined.

C. SANCTIONS.

1. The following sanctions may be imposed upon any student found to have violated the Student Conduct Code; more than one of the sanctions may be imposed for any single violation:
 - a. **Warning.** A notice in writing to the student that the student is violating or has violated institutional regulations.
 - b. **Probation.** A written reprimand for violation of specified regulations. Probation is for a designated period of time and includes the probability of more severe sanctions if the student is found to be violating any institutional regulation(s) during the probationary period.
 - c. **Loss of Privileges.** Denial of specified privileges for a designated period of time.
 - d. **Restitution.** Compensation for loss, damage or injury to the University or University property. This may take the form of appropriate service and/or monetary or material replacement.

- e. **Discretionary Sanctions.** Work assignments, service to the University or other related discretionary assignments.
 - f. **Residence Hall Suspension.** Separation of the student from the residence halls for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
 - g. **Residence Hall Expulsion.** Permanent separation of the student from the residence halls.
 - h. **University Dismissal.** An involuntary separation of the student from the institution for misconduct apart from academic requirements. It does not imply or state a minimum separation time.
 - i. **University Suspension.** Separation of the student from the University for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
 - j. **University Expulsion.** Permanent separation of the student from the University.
2. **Temporary Suspension.** The Chancellor or designee may at any time temporarily suspend or deny readmission to a student from the University pending formal procedures when the Chancellor or designee finds and believes from available information that the presence of a student on campus would seriously disrupt the University or constitute a danger to the health, safety or welfare of members of the University community. The appropriate procedure to determine the future status of the student will be initiated within seven calendar days.

D. RECORDS RETENTION. Student conduct records shall be maintained for five years after University action is completed.

E. POLICY AND PROCEDURES.

1. **Primary Administrative Officers.** The Chief Student Affairs Administrator on each campus or designee is the primary officer except in cases of academic dishonesty, where the Chief Academic Administrator responsible for administering the Student Conduct Code or designee is the primary administrative officer.
2. **Preliminary Procedures.** The Primary Administrative Officer shall investigate any reported student misconduct before initiating formal conduct procedures and give the student the opportunity to present a personal version of the incident or occurrence. The Primary Administrative Officer may discuss with any student such alleged misconduct and the student shall attend such consultation as requested by the Primary Administrative Officer. The Primary Administrative Officer, in making an investigation and disposition, may utilize student courts and boards and/or divisional deans to make recommendations.
3. **Informal Dispositions.** The Primary Administrative Officer shall have the authority to impose appropriate sanctions and shall fix a reasonable time within which the student shall accept or reject a proposed informal disposition. A failure of the student either to accept or reject within the time fixed shall be deemed to be an acceptance and, in such event, the proposed disposition shall become final upon expiration of such time. If the student rejects informal disposition it must be in writing

Student Disciplinary Matters

and shall be forwarded to the Committee. The Primary Administrative Officer may refer cases to the Committee without first offering informal disposition.

4. Formal Procedure and Disposition.

a. Student Conduct Committee:

- (1) The Committee shall be appointed by the Chancellor and shall have the authority to impose appropriate sanctions upon any student or students appearing before it.
- (2) The Committee, when appropriate or convenient, may be divided by the Chair of the Committee into Hearing Panels, each panel to be composed of at least five Committee members, which may include a maximum of two students, present at the hearing, including a designated chair. A Hearing Panel has the authority of the whole Committee in those cases assigned to it. The Chair of the Committee or of a Hearing Panel shall count as one member of the Committee or Hearing Panel and have the same rights as other members.
- (3) Each Chancellor shall appoint a panel of students, to be known as the Student Panel. Upon written request of a student charged before the Committee, made at least seventy-two (72) hours prior to the hearing, the Chair of the Committee or Hearing Panel shall appoint from the Student Panel not more than three students to sit with the Committee or two students to sit with the Hearing Panel (as stated in 4.a.(2)) for that particular case. When students from the Student Panel serve at the request of a student charged, they shall have the same rights as other members of the Committee or Hearing Panel.

b. General Statement of Procedures. A student charged with a breach of the Student Conduct Code is entitled to a written notice and a formal hearing unless the matter is disposed of under the rules for informal disposition. Student conduct proceedings are not to be construed as judicial trials and need not wait for legal action before proceeding; but care shall be taken to comply as fully as possible with the spirit and intent of the procedural safeguards set forth herein. The Office of the General Counsel shall be legal adviser to the Committee and the Primary Administrative Officer.

c. Notice. The Primary Administrative Officer shall initiate student conduct proceedings by arranging with the Chair to call a meeting of the Committee and by giving written notice by certified mail or personal delivery to the student charged with misconduct. The notice shall set forth the date, time and place of the alleged violation and the date, time and place of the hearing before the Committee. Notice by certified mail may be addressed to the last address currently on record with the University. Failure by the student to have a current correct local address on record with the University shall not be construed to invalidate such notice. The notice shall be given at least seven (7) consecutive days prior to the hearing, unless a shorter time be fixed by the Chair for good cause. Any request for continuance shall be made in writing

to the Chair, who shall have the authority to continue the hearing if the request is timely and made for good cause. The Chair shall notify the Primary Administrative Officer and the student of the new date for the hearing. If the student fails to appear at the scheduled time, the Committee may hear and determine the matter.

5. Right to Petition for Review (other than University expulsion, University dismissal or University suspension).

- a. In all cases where the sanction imposed by the Committee is other than University expulsion, University dismissal, or University suspension, the Primary Administrative Officer or the Student may petition the Chancellor or designee in writing for a review of the decision within five (5) calendar days after written notification. A copy of the Petition for Review must also be served upon the nonappealing party within such time. The Petition for Review shall state the grounds or reasons for review, and the nonappealing party may answer the petition within five (5) calendar days.
- b. The Chancellor or designee may grant or refuse the right of review. In all cases where the Petition for Review is refused, the action of the Committee shall be final. If the Chancellor or designee reviews the decision, the action of the Chancellor shall be final unless it is to remand the matter for further proceedings.

6. Right of Appeal (University expulsion, University dismissal or University suspension only).

- a. When a student is expelled, dismissed or suspended from the University by the Committee, the Primary Administrative Officer or the student may appeal such decision to the Chancellor or designee by filing written notice of appeal with the Chancellor within ten (10) calendar days after notification of the decision of the Committee. A copy of the Notice of Appeal will contemporaneously be given by the student to the Primary Administrative Officer or by the Primary Administrative Officer to the student. The appealing party may file a written memorandum for consideration by the Chancellor with the Notice of Appeal, and the Chancellor may request a reply to such memorandum by the appropriate party.
- b. The Chancellor or designee shall review the record of the case and the appeal documents and may affirm, reverse or remand the case for further proceedings and shall notify each party in writing of the decision on the appeal. The action of the Chancellor shall be final unless it is to remand the matter for further proceedings.

7. Status During Appeal. In cases of suspension, dismissal or expulsion where a Notice of Appeal is filed within the required time, a student may petition the Chancellor in writing for permission to attend classes pending final determination of appeal. The Chancellor may permit a student to continue in school under such conditions as may be designated pending completion of appellate procedures, provided such continuance will not seriously disrupt the University or constitute a danger to the health, safety or welfare of members of the University community. In such event, however, any

Student Disciplinary Matters

final sanctions imposed shall be effective from the date of the action of the Committee.

8. **Student Honor System.** Forums under the student honor systems established for investigating facts, holding hearings, and recommending and imposing sanctions are authorized when the student honor code or other regulations containing well defined jurisdictional statements and satisfying the requirements of Article V of the Bylaws of the Board of Curators have been reduced to writing and have been approved by the Chancellor and the Board of Curators and notice thereof in writing has been furnished to students subject thereto. Procedures shall satisfy the requirements of the Board of Curators' Bylaws, Article V, and shall contain procedures herein before stated insofar as appropriate and adaptable to the particular situation and shall be approved by the Chancellor and the General Counsel. Students subject to student honor systems shall have the rights of appeal as set forth in Section 200.020 E.6 and 7.

F. HEARING PROCEDURES.

1. **Conduct of Hearing.** The Chair shall preside at the hearing, call the hearing to order, call the roll of the Committee in attendance, ascertain the presence or absence of the student charged with misconduct, read the notice of hearing and charges and verify the receipt of notices of charges by the student, report any continuances requested or granted, establish the presence of any adviser or counselor of the student, and call to the attention of the student charged and the advisor any special or extraordinary procedures to be employed during the hearing and permit the student to make suggestions regarding or objections to any procedures for the Conduct Committee to consider.
 - a. **Opening Statements**
 - 1) The Primary Administrative Officer shall make opening remarks outlining the general nature of the case and testify to any facts the investigation has revealed.
 - 2) The student may make a statement to the Committee about the charge at this time or at the conclusion of the University's presentation.
 - b. **University Evidence.**
 - 1) University witnesses are to be called and identified or written reports of evidence introduced as appropriate.
 - 2) The Committee may question witnesses at any time.
 - 3) The student or, with permission of the committee, the adviser or counselor may question witnesses or examine evidence at the conclusion of the University's presentation.
 - c. **Student Evidence.**
 - 1) The student shall have the opportunity to make a statement to the Committee about the charge.
 - 2) The student may present evidence through witnesses or in the form of written memoranda.
 - 3) The Committee may question the student or witnesses at any time. The Primary Administrative Officer may question the student or witnesses.
- d. **Rebuttal Evidence.** The Committee may permit the University or the student to offer a rebuttal of the other's presentation.
- e. **Rights of Student Conduct Committee.** The Committee shall have the right to:
 - 1) Hear together cases involving more than one student which arise out of the same transaction or occurrence, but in that event shall make separate findings and determinations for each student;
 - 2) Permit a stipulation of facts by the Primary Administrative Officer and the student involved;
 - 3) Permit the incorporation in the record by a reference of any documentation, produced and desired in the record by the University or the student charged;
 - 4) Question witnesses or challenge other evidence introduced by either the University or the student at any time;
 - 5) Hear from the Primary Administrative Officer about dispositions made in similar cases and any dispositions offered to the student appearing before the Committee;
 - 6) Call additional witnesses or require additional investigation;
 - 7) Dismiss any action at any time or permit informal disposition as otherwise provided;
 - 8) Permit or require at any time amendment of the Notice of Hearing to include new or additional matters which may come to the attention of the Committee before final determination of the case; provided, however, that in such event the Committee shall grant to the student or Primary Administrative Officer such time as the Committee may determine reasonable under the circumstances to answer or explain such additional matters;
 - 9) Dismiss any person from the hearing who interferes with or obstructs the hearing or fails to abide by the rulings of the Chair of the Committee;
 - 10) Suspend summarily students from the University who, during the hearing, obstruct or interfere with the course of the hearing or fail to abide by the ruling of the Chair of the Committee on any procedural question or request of the Chair for order.
2. **Rights of Students Upon Hearing.** A student appearing before a Committee shall have the right to:
 - a. Be present at the hearing;
 - b. Have an adviser or counselor and to consult with such adviser or counselor during the hearing;
 - c. Have students from the Student Panel sit with the Committee or Hearing Panel;
 - d. Hear or examine evidence presented to the Committee;
 - e. Question witnesses present and testifying;
 - f. Present evidence by witnesses or affidavit;
 - g. Make any statement to the Committee in mitigation or explanation of the conduct in question;
 - h. Be informed in writing of the findings of the Committee and any sanctions it imposes; and
 - i. Request review or appeal to the Chancellor as herein provided.

Appeals Procedures

3. **Determination by the Student Conduct Committee.** The Committee shall then make its findings and determinations in executive session out of the presence of the Primary Administrative Officer and the student charged. Separate findings are to be made:
 - a. As to the conduct of the student, and
 - b. On the sanctions, if any, to be imposed. No sanctions shall be imposed on the student unless a majority of the Committee present is reasonably convinced by the evidence that the student has committed the violation charged.
4. **Official Report of Findings and Determinations.** The Committee shall promptly consider the case on the merits and make its findings and determination and transmit them to the Primary Administrative Officer and the student charged forthwith.
5. **Other Procedural Questions.** Procedural questions which arise during the hearing not covered by these general rules shall be determined by the Chair, whose ruling shall be final unless the Chair shall present the question to the Committee at the request of a member of the Committee, in which event the ruling of the committee by majority vote shall be final.
6. **General Rules of Decorum.** The following general rules of decorum shall be adhered to:
 - a. All requests to address the Committee shall be addressed to the Chair.
 - b. The Chair will rule on all requests and points of order and may consult with Committee's legal adviser prior to any ruling. The Chair's ruling shall be final and all participants shall abide thereby, unless the Chair shall present the question to the Committee at the request of a member of the Committee, in which event the ruling of the Committee by majority vote shall be final.
 - c. Rules of common courtesy and decency shall be observed at all times.
 - d. An adviser or counselor may be permitted to address the Committee at the discretion of the Committee. An adviser or counselor may request clarification of a procedural matter or object on the basis of procedure at any time by addressing the Chair after recognition.
7. **Record of Hearing.** A taped or stenographic record of the hearing shall be maintained. The notice, exhibits, hearing record and the findings and determination of the Committee shall become the "Record of the Case" and shall be filed in the Office of the Primary Administrative Officer and for the purpose of review or appeal be accessible at reasonable times and places to both the University and the student.
8. **Sexual Assault.** In cases of alleged sexual assault:
 - a. The accuser and the accused are entitled to the same opportunities to have others present during a campus disciplinary proceeding;
 - b. The accuser and the accused shall be informed of the outcome of any campus disciplinary proceeding brought alleging a sexual assault.

Financial Aid Appeals

The University of Missouri-St. Louis has an established financial aid appeals procedure. An aid applicant can raise questions or appeal the offer, or lack of an offer, of financial aid if not satisfied. The general provisions for appeals procedures are as follows:

- 1) An aid applicant who is not satisfied with the fact that no aid was offered, or was not pleased with the type and/or amount of aid that was offered, may make a written appeal to the Student Financial Aid Appeals Committee for reconsideration of the aid request and/or ask for a personal hearing.
- 2) If on review of all the facts of the case, including any new information which the applicant may provide, the Committee can (a) approve an exception to University policy; (b) deny the request; (c) approve a modified version of the request.
- 3) If the Appeals Committee cannot provide a satisfactory solution, he/she may refer the written appeal with all pertinent information to the Director of Financial Aid. Where academic progress is an issue, the student may ask an academic adviser or counselor to write or speak in the student's behalf. If a satisfactory solution is worked out, the case is closed.
- 4) If step three did not solve the problem, it is referred to the campus Faculty-Senate Committee on Student Aid. In ordinary practice it is rare for a case to be appealed beyond this step.
- 5) If, however, the applicant is still not satisfied after review by committee, the case is to be referred to the Chancellor.
- 6) The next appeal is the President.
- 7) The final University appeal would be for the President to refer a case to the Board of Curators.

Grievance About Grade

Recourse for a Student Who Has a Grievance About a Given Grade

The following grievance procedure is to be followed by any student who believes he/she has received an unjustified grade in a course and wants a review of the matter. It is to be understood that the establishment of criteria for grades is the responsibility of the instructor. The purpose of this grievance procedure is to determine whether the criteria for grading were fairly applied. If these procedures lead to the conclusion that the grading criteria were improperly applied, then the instructor is to be requested to reconsider the grade.

- 1) The student's first recourse is to review the issue fully with the instructor involved and then with the department chairperson. This must be done within, at most, one month after the beginning of the succeeding regular academic semester.
- 2) If the issue has not been resolved within, at most, two weeks, the student should bring the matter to the dean of the College or School for adjudication by whatever appeals committee the dean's office has established. It is anticipated that nearly all cases would be settled at the department or College or School level.
- 3) A student may take his/her case to the Chancellor.

Note: If a student believe the grade is a result of discrimination, see the Discrimination Grievance Procedure for Students.

Student Organization Policy

Policy on Student Organizations

The University recognizes that the acquisition of knowledge is not confined to the formality of the classroom and that much can be gained through the activities of student organizations. To assure maximum freedom for students and to assure that organizational activities are orderly, responsible, and appropriate to the mission of the University, certain principles and procedures are established through which organizations gain University recognition.

I Procedures for Recognition

- A. To obtain recognition or to register, an organization shall submit to the Vice Chancellor for Student Affairs, through the Office of Student Activities, a recognition or registration form which shall include:
- 1) The name of the organization.
 - 2) A statement of the general purpose of the organization and the means for accomplishing it. The statement should demonstrate that the organization's purpose is to broaden the scope of general learning, extend knowledge of specialized areas, or to serve the professional, cultural, social or recreational interests of the University community, consistent with the educational goals of the University. The statement must not conflict with policies governing recognized organizations as listed below.
 - 3) The names of at least three officers or responsible representatives, including student numbers, addresses and telephone numbers; these persons must be students registered at the University of Missouri-St. Louis.
 - 4) A statement of any affiliation with any other organization not registered with the University, and a copy of the organization's constitution.
 - 5) Organizations seeking recognition must include a copy of their constitution and/or by-laws, the name of a UM-St. Louis faculty or staff member who agrees to serve as an advisor, and the name of a student member of the organization who will serve as the organization's representative on the Student Government Association.
 - 6) Upon submission of the recognition or registration form, the organization shall be granted temporary privileges until the request for recognition is acted upon by the Senate Student Affairs Committee or the request to register is approved by the Director of the University Center or his/her designee.
- B. To maintain recognition or registration, an organization must update their recognition form or reregister with the Office of Student Activities no later than two weeks following the beginning of the fall semester.

II Privileges of Recognized Organizations

- 1) Use of campus facilities and services for organizational activities as provided in the University regulations.
- 2) Use of the University name in connection with publicity, but only for identification purposes, and in no way to imply support of the University for any position of the organization.
- 3) Participation in University-sponsored events.
- 4) Application for supplemental financial assistance.
- 5) Participation as a voting member of Student Government Association. Organizations who register may not apply for supplemental assistance and may not be voting members of Student Government Association.

III Policies Governing Recognized or Registered Organizations

- 1) Organizations shall comply with the Rules and Regulations of the University of Missouri and the St. Louis campus.
- 2) Organizations' membership policy shall not discriminate for reasons of color, creed, national origin or sex. Any organization may petition to the Vice Chancellor for Student Affairs for exemption from the requirement as it applies to sex. Academic and professional organizations which have discriminatory membership policy based on sex shall not be recognized.
- 3) Organizations' membership shall not be subject to approval by anyone other than the local campus membership.
- 4) Organizations are expected to maintain fiscal responsibility.
- 5) Registered organizations are encouraged to seek the advice of faculty and other members of the University community.
- 6) Recognized organizations are required to seek the advice of faculty and other members of the community.
- 7) Recognized organizations are required to participate in the Student Governance process.

IV Procedure for Review of Grievances

- A. Any member of the University community may bring charges against a recognized organization for breach of the above policies or procedures.
- B. Such charges, except those pertaining to discrimination, are brought initially to the Vice Chancellor for Student Affairs, who may:
- 1) Dismiss the charges, in which case an appeal may be made to the Senate Student Affairs Committee.
 - 2) Settle the charges in a way acceptable to both parties or,
 - 3) Refer the charges to the Senate Student Affairs Committee.
- C. Penalties may range from withdrawals of one or more privileges to withdrawal of recognition or registration. Assessment of penalties shall also provide for the conditions leading to reinstatement of such privileges for recognition.
- D. Either party to the charges may appeal the decision of the Senate Student Affairs Committee to the Chancellor.

Policy on Hazing

Hazing, defined by the Fraternity Executive Association and accepted by the University of Missouri-St. Louis, is any intentional action taken or situation created, whether on or off University premises, that produces mental or physical discomfort, embarrassment, harassment, or ridicule. This includes but is not limited to: paddling in any form, creation of excessive fatigue, physical or psychological shocks, wearing apparel publicly which is conspicuous and not normally in good taste, engaging in public stunts and buffoonery, morally degrading or humiliating games and activities, involuntary labor, or any activity not consistent with the University of Missouri Board of Curators Standard of Student Conduct.

The University of Missouri-St. Louis does not condone or tolerate hazing of any type by an organization, or by an individual against another individual.

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The Office of Student Activities will investigate any incident in which a charge of hazing has been made. University recognition may be temporarily withdrawn pending hearings and due process procedures.

Should it be determined that a student organization or any of its members is guilty of hazing as previously defined, sanctions may include but are not limited to:

- A. automatic and indefinite suspension of campus recognition or registration with an accompanying loss of all campus privileges (i.e. use of facilities, student services, etc.);
- B. disciplinary action against those members involved in the incident(s) including suspension or expulsion from the university.

Implementation: Each organizational president (or equivalent officer) is required to read and sign the University's Policy on Hazing at the first regular meeting at which he or she presides. This policy, signed by the incoming president (or equivalent officer), must accompany any notification of a change in officers submitted to the Office of Student Activities. Failure to do so will result in the automatic imposition of inactive status on the organization with an accompanying loss of all university privileges until such time as the signed policy is submitted.

Equal Opportunity Policies of the University of Missouri-St. Louis

The University of Missouri-St. Louis is an affirmative action/equal opportunity employer committed to excellence through diversity.

Therefore, the University enthusiastically complies with and vigorously enforces each Federal and State Executive Order, law and regulation, University of Missouri Rules and Regulations and University of Missouri-St. Louis directive that prohibits discrimination against employees, students, and others based upon age, ancestry, color disability, national origin, race, religion, sex, or veteran status.

The above compliance is established upon, but not limited to, the following employment and education related equal opportunity laws:

Civil Rights Act of 1964, Title VII, as amended
Executive Order 11246, Equal Employment Opportunity
Equal Pay Act of 1963, as amended
Age Discrimination in Employment of 1967, as amended
Vietnam Era Veterans Readjustment Assistance Act of 1974, as amended
Executive Order 11141, Age Discrimination
Rehabilitation Act of 1973, Section 503, as amended
Rehabilitation Act of 1973, Section 504, as amended
Civil Rights Act of 1964, Title VI, as amended
Education Amendments of 1972, Title IX
Americans with Disabilities Act of 1990

Based upon the foregoing documents, the Board of Curators of the University of Missouri has adopted the appropriate equal opportunity policies and procedures.

The Chancellor is responsible for the implementation of equal opportunity at UM-St. Louis. Assisting the Chancellor and each Vice Chancellor is the Office of Equal Opportunity (OEO). All equal opportunity functions for the campus are centralized in the OEO.

Equal Opportunity Policies of the University of Missouri-St. Louis

The following University policies govern the Office of Equal Opportunity (OEO):

Equal Employment/Educational Opportunity Policy—The Curators of the University of Missouri do hereby reaffirm and state the policy of the University of Missouri on Equal Employment/Educational Opportunity, Sexual Harassment.

- Equal Opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and competence without discrimination on the basis of their race, color, religion, sex, national origin, age, disability, or status as a Vietnam era veteran.
- Equal opportunity is and shall be also provided for all students and applicants for admission in compliance with existing legislation.

University of Missouri Equal Opportunity Statement

The University of Missouri-St. Louis is committed to equal employment and educational opportunities without regard to conditions of race, color, sex, religion, national origin, age, physical ability, veteran status, or individuals with HIV, AIDS, or ARC.

Each administrative unit of the University employing personnel, admitting students, or entering into contracts is charged with implementation of the University's commitments, and maintenance of records to demonstrate good faith efforts, in admission and training, recruiting and hiring, compensating and promoting, layoff and dismissal, granting of tenure, contracting and purchasing, and access to facilities and programs.

As an employer of persons and as an institution accountable to taxpayers and the general public, the University must have administrative and management practices that are designed for the best use of talent for operational effectiveness and efficiency.

(1) Recruitment and employment of personnel

- a. Recruitment of professors and academic personnel in research and continuing education/extension is primarily the responsibility of deans, directors, chairpersons, and department heads.
- b. Recruitment of administrative, service, and support staff, except for top-ranking administrative personnel, is primarily the responsibility of the personnel office of each campus, and the director of Human Resources for the University of Missouri-St. Louis administration. Selection is the responsibility of the administrative head of the employing unit.
- c. Administrative efforts are made to recruit and employ minorities, women, the handicapped, and members of protected age groups.
- d. The University maintains relationships with governmental

Equal Opportunity Policy

agencies, community groups, and other organizations which may be of assistance in furthering recruitment and employment of minority groups, handicapped persons, and women into departments and units which have imbalances. Personnel sources are advised of the University's commitment to equal opportunity and affirmative action.

- e. Imbalances exist when available talent among specified minorities, women, handicapped, or protected age group members is proportionately underrepresented in a particular personnel category in the University. Underrepresentation is determined by an analysis of the appropriate employment market which is generally national or regional for major administrators, professors, and academic personnel in research and continuing education/extension. The appropriate employment market is generally the state or local community for most administrative positions and for service and support staff.
- f. Advertisement and notices of employment opportunities indicate a filing date for consideration.
- g. Notice of employment and training opportunities are made to existing personnel.
- h. Employment applications meet federal and state requirements relating to equal opportunity.
- i. The Office of Affirmative Action maintains records to demonstrate efforts and results of efforts to achieve equity and to act affirmatively and reasonably to correct imbalances.

(2) Salaries, wages, and benefits

- a. University compensation and benefit programs are administered without regard to conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.
- b. The salary range for academic positions is determined in advance of recruitment on the basis of prevailing national levels and departmental scales for the educational attainment, experience, and specialty desired.

(3) Facilities, activities, and working conditions

- a. University facilities are maintained on an equitable and nondiscriminatory basis.
- b. Physical facilities have been adapted within the limits of the financial resources available to insure access to the University by the physically handicapped.
- c. Opportunities for involvement in University activities are provided on an equitable or nondiscriminatory basis.

(4) Promotion and training

- a. Promotions, contract renewals, the granting of tenure, and reductions in force of academic personnel are handled in accordance with established University procedures and qualification criteria for all persons and free of discrimination.
- b. University policy requires that promotions, demotions, layoffs, recalls from layoffs, transfers, and temporary hires for service and support personnel are determined without regard to conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.
- c. Participation in training and educational programs

sponsored by the University, including apprenticeships, is open to all employees within eligible job classifications.

- d. The University offers developmental programs for professional and personal growth to enhance promotion potential.

(5) Student admission and retention

- a. The University gives students equal access to its academic programs without regard to conditions of race, color, sex, religion, national origin, age, or physical ability. Furthermore, the University seeks to recruit, enroll, retain, and graduate minority group members and women in those fields in which they are underrepresented.
- b. The University of Missouri has a unique responsibility for graduate and professional public higher education in the state of Missouri. Therefore, academic departments offering doctoral and/or advanced professional programs in disciplines and professions in which there is a deficiency of minorities and women have adopted methods to encourage enrollment, retention, and graduation of minority group members and women.
- c. Affirmative action is taken to offer graduate teaching and research assistantships to minorities and women.
- d. Business, government, industry, and labor are solicited to assist and provide support to minorities and women through financial aid and by providing work experiences as they pursue academic objectives.
- e. Personnel representatives of prospective employers using University services and facilities to interview and recruit students must be equal opportunity employers, and must give all qualified students equal opportunity for interviews, without regard to conditions of race, color, sex, religion, national origin, age, disability, or veteran status.

(6) Appeal and grievance procedures

- a. Grievance procedures are available for the processing of complaints and grievances of alleged discrimination based on conditions of race, color, sex, religion, national origin, age, physical ability, or veteran status.
- b. A student grievant has access to the student grievance procedures through the Office of Student Affairs, the school or college, the campus, and central administration.
- c. The Office of Equal Opportunity currently provides advice and information to grievants on the grievance procedures.

(7) Records and reports

- a. The administrative head of each University unit must be prepared to demonstrate that equal opportunity is practiced and that affirmative action is taken in recruiting and employment of full-time and part-time personnel, admission and retention of students, provision of facilities and programs, and purchasing and contracting.
- b. Each responsible administrative unit of the University must be prepared to show that procedures followed and selections made are in compliance with policies on equal employment and affirmative action. Admissions applications are retained for one year and employment

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applications are retained for one year. University business involving contracts and bids for various services are retained in compliance with University of Missouri record management policies.

- c. Those responsible for recruiting, admitting, and retaining students—undergraduate, graduate and professional—maintain files and records documenting efforts to provide equal opportunity and act affirmatively to attract and retain minority group members, women, and older and handicapped persons. A report is made annually to the appropriate administrative committee.
- d. Campus administrative officers have records demonstrating efforts to provide equal opportunity and show affirmative action in the interests of minority group members, women, and handicapped and older persons in the availability and use of University facilities, including recreational facilities.
- e. Those responsible for personnel recruitment and employment personnel, including graduate teaching and research assistants, have records that reflect their adherence to equal opportunity and affirmative action practices.
- f. Academic or administrative units receiving complaints or grievances based on allegations of discrimination report those cases to the Affirmative Action Office.

(8) Reviewing and monitoring

- a. A University Committee on Equal Employment Opportunity and Affirmative Action (EEO/AA) is appointed annually by the Chancellor.
- b. EEO/AA committee membership includes a reasonable cross section of personnel, including a representation of women, minorities, and the handicapped.
- c. The EEO/AA committee advises the Director of Affirmative Action on matters relating to affirmative action and University equal employment policy.
- d. Administrative officers (chancellor, vice chancellors, deans, directors, department chairpersons, and all other supervisory personnel) are responsible for implementation of equal opportunity and affirmative action policies and practices within their areas of jurisdiction, and the effectiveness of implementation will be an element in the evaluation of the performance of each officer.

(9) Dissemination

- a. Equal opportunity and affirmative action policies and programs are disseminated throughout the University and discussed at appropriate school, college, departmental, management, and supervisory meetings. The subjects covered include attraction, admission, and retention of students; recruitment, employment, training, promotion, and transfer of employees.
- b. University employees, faculty, staff, and students are kept informed of equal opportunity programs and affirmative action goals through campus publications and communications, the Personnel Policy Manual, the Faculty Handbook, divisional and departmental meetings, staff orientation programs, and posters.

- c. Copies of the Equal Employment and Affirmative Action policies are available to a cross section of community organizations, news media, area colleges, secondary schools and recruiting sources.
- d. Copies of the Affirmative Action Policy will be made available on request to employees, applicable governmental agencies, and contractors or subcontractors.
- e. University invitations to bid, purchase orders, and specifications to architects and engineers contain the University's equal opportunity policy.
- f. University correspondence, employment notices and advertising, academic information, and other public notices contain the University's equal opportunity phrase.

• Sexual Harassment

This University of Missouri policy aims for an increased awareness regarding sexual harassment by making available information, education and guidance on the subject for the University community.

- A. Policy Statement—It is the policy of the University of Missouri, in accord with providing a positive discrimination-free environment, that sexual harassment in the work place or the educational environment is unacceptable conduct. Sexual harassment is subject to discipline, up to and including separation from the institution.
- B. Definition—Sexual harassment is defined for this policy as either:
 - (i) unwelcome sexual advances or requests for sexual activity by a University employee in a position of power or authority to a University employee or a member of the student body, or
 - (ii) other unwelcome verbal or physical conduct of a sexual nature by a University employee or a member of the student body to a University employee or a member of the student body, when:
 - 1. Submission to or rejection of such conduct is used explicitly or implicitly as a condition for academic or employment decisions; or
 - 2. The purpose or effect of such conduct is to interfere unreasonably with the work or academic performance of the person being harassed; or
 - 3. The purpose or effect of such conduct to a reasonable person is, to create an intimidating, hostile, or offensive environment.
- C. Non-Retaliation—This policy also prohibits retaliation against any person who brings an accusation of discrimination or sexual harassment or who assists with the investigation or resolution of sexual harassment. Notwithstanding this provision, the University may discipline an employee or student who has been determined to have brought an accusation of sexual harassment in bad faith.
- D. Redress Procedures—Members of the University community who believe they have been sexually harassed may seek redress, using the following options:
 - 1. Pursue appropriate informal resolution procedures as defined by the individual campuses. These procedures are available from the campus Affirmative Action/Equal Opportunity Officer.

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2. Initiate a complaint or grievance within the period of time prescribed by the applicable grievance procedure. Faculty are referred to Section 370.010, "Academic Grievance Procedures"; staff to Section 380.010, "Grievance Procedure for Administrative, Service and Support Staff" and students to Section 390.010, "Discrimination Grievance Procedure for Students".

Pursuing a complaint or informal resolution procedure does not compromise one's rights to initiate a grievance or seek redress under state or federal laws.

- E. Discipline—Upon receiving an accusation of sexual harassment against a member of the faculty, staff, or student body, the University will investigate and, if substantiated, will initiate the appropriate disciplinary procedures. There is a five-year limitation period from the date of occurrence for filing a charge that may lead to discipline.

An individual who makes an accusation of sexual harassment will be informed:

1. at the close of the investigation, whether or not disciplinary procedures will be initiated; and
2. at the end of any disciplinary procedures, of the discipline imposed, if any.

- **Auxiliary Aids for Students w/Disabilities**

The University maintains its commitment to the education of qualified handicapped students by providing them an equally effective opportunity to participate in or benefit from its educational programs as afforded non-handicapped students.

As a part of this commitment and upon the request of a qualified disabled student, the Vice Chancellor for Student Affairs or designee will arrange for an assessment of the student's abilities and his or her need for some type of auxiliary aid.

This assessment will include an evaluation of the extent of the student's disability and the requirements of the particular course or education program in which the student is enrolled or plans to be enrolled.

If after the assessment of the student and the course, the University determines that some type of auxiliary aid is required, it will assist the qualified disabled student in obtaining the necessary auxiliary aid from other sources. If the necessary auxiliary aid is not available from other sources, the University, at its option, shall provide the necessary auxiliary aid or reimburse the student for the reasonable cost of the necessary auxiliary aid.

Requests by students for such assessments must be made no later than six weeks prior to the beginning of the next semester in order to provide sufficient time for the assessment and for obtaining any necessary auxiliary aid. Unfavorable determinations made pursuant to this policy may be appealed by the handicapped student through the University of Missouri Discrimination Grievance Procedures for Students, a copy of which will be provided to any student whose request for auxiliary aid is denied. (Additional resource materials are available through the Office of Equal Opportunity.)

- **AIDS Policy Statement**

Current knowledge indicates college and university students or employees with AIDS, ARC, or a positive antibody blood test do not pose a health risk to either

students or employees in a usual academic or residential setting. The policy of the University of Missouri is to permit students and employees with AIDS to continue to engage in as many of their normal pursuits as their condition allows. Managers should be sensitive to the medical problem and ensure that such employees are treated consistent with the treatment of other employees. Students will be allowed to continue their enrollment and activities (including continued residency in student housing) as long as they continue to meet academic standards and medical evidence indicates their conditions are not a threat to themselves or others. Every effort will be made to maintain confidentiality at all times.

The University also has a legitimate interest in the welfare of all students, employees, and visitors to the campus. Every reasonable precaution will be taken to minimize the risk that an employee's or student's condition will present a health and/or safety hazard to others.

The University will not discriminate against individuals with HIV infection, AIDS or ARC, but this protection does not include individuals with secondary infections or diseases that would constitute a direct threat to the health or safety of others or who may because of the disease or infection be unable to perform duties of their employment. In such cases, the appropriate University personnel or student policy will determine what changes, if any, will be made in the student's or employee's academic or work program.

In the event of public inquiry concerning AIDS on campus, the Chancellor or the Chancellor's designee will provide appropriate information on behalf of the University. Existing policies regarding confidentiality of employee and student records will be followed.

Consistent with its concern for students and employees with AIDS, the University offers a range of resources through the AIDS Task Force on each campus and through other campus services.

- a. Student, employee, and management education and information;
- b. Referral to agencies and organizations that offer supportive services for life-threatening illnesses;
- c. Consultation to assist employees in effectively managing health, leave, and other benefits.

The AIDS Task Force on each campus will continue to meet periodically to review and update policy and to make recommendations as new medical facts become available. Each Task Force will continue to encourage programs to educate all members of the campus community about the reality of AIDS.

To address specialized needs, each campus is authorized to adopt and implement special policies related to AIDS which are consistent with this policy statement. The Affirmative Action Office is located in 414 Woods Hall. The telephone number is 516-5695.

- **Affirmative Action on Committee Appointments Policy**—As a part of the implementation of the Affirmative Action Plan of the University of Missouri, any person appointing any committee for the University or any campus, in selecting the membership, shall give due consideration to the inclusion in such membership of women and minorities unless membership thereon is ex-officio.

Other Procedures or Regulations

Discrimination Grievance Procedure for Students

390.010

December 17, 1982, and January 25, 1990

A. GENERAL

1. It is the policy of the University of Missouri to provide equal opportunity for all enrolled students and applicants for admission to the University on the basis of merit without discrimination on the basis of their race, color, religion, sex, national origin, age, or disability, or Vietnam era veteran status. Sexual harassment shall be considered discrimination because of sex.
2. To insure compliance with this policy, all University of Missouri prospective or enrolled students shall have available to them this student discrimination grievance procedure for resolving complaints and/or grievances regarding alleged discrimination.
3. This grievance procedure neither supersedes nor takes precedence over established University procedures of due process for any and all matters related to Academic Dishonesty, Grade Appeals, Traffic Appeals, Disciplinary Appeals, or other specific campus procedures which are authorized by the Board of Curators and deal with faculty/staff responsibilities.
4. These proceedings may be terminated at any time by the mutual agreement of the parties involved.

NOTE: A grievance concerning specific incidents filed under this discrimination grievance procedure shall not be processed on behalf of any student who elects to utilize another University grievance procedure. In addition, the filing of a grievance under these procedures precludes the subsequent use of other University grievance or appeals procedures for the same incident.

B. DEFINITIONS

1. A complaint is an informal claim of discriminatory treatment. A complaint may, but need not, constitute a grievance. Complaints shall be processed through the informal procedure herein set forth.
2. A grievance is the written allegation of discrimination which is related to:
 - a. Recruitment and admission to the institution.
 - b. Admission to and treatment while enrolled in an education program.
 - c. Employment as a student employee on campus.
 - d. Other matters of significance relating to campus living or student life, including, but not limited to:
 - Assignment of roommates in resident halls
 - Actions of fraternities and sororities
 - Membership in and/or admission to clubs/organizations
 - Student Health Services
 - Financial aid awards
3. A student is any person who has applied for admission or readmission, or who is currently enrolled, or who was a student of the University of Missouri at the time of the alleged discrimination.
4. Persons with disabilities—For the purpose of this student discrimination grievance procedure, a

"person with a disability" has been substituted for "handicapped individual" (Section 504, Rehabilitation Act of 1973) and shall be defined as "...any person who

- a. Has a physical or mental impairment which substantially limits one or more of such person's major life activities,
- b. Has a record of such impairment, or
- c. Is regarded as having such an impairment."

For purpose of this definition, "major life activity" means any mental or physical function or activity which, if impaired, creates a substantial barrier to employment and/or education.

Any reference in this document to written materials or to written or oral presentations within the student discrimination grievance procedure may be adjusted to accommodate persons with disabilities for whom the stated materials or required presentations would not be appropriate. Cost of such accommodation will be borne by the University, with no charge to the individual.

5. Appropriate Administrative Officer—The primary administrative officer on the staff of the Chancellor (in the area of Student Affairs/ Services, Administrative Services, Development, and Academic Affairs) having administrative responsibility for the unit in which the discrimination is alleged to have occurred.
6. Grievance Consultant—At any step the Director of Equal Opportunity or of Affirmative Action may be asked to serve as a consultant by any of the parties involved in this grievance procedure.

C. COMPLAINTS

1. Policies and Procedures—A student with a complaint will be provided with copies of appropriate policies and procedures pertaining to student complaints and grievances, and the Chief Student Personnel Administrator or his/her designee and the Officer for Equal Opportunity or for Affirmative Action shall be available to assist the student in understanding the opportunities afforded through such policies and procedures. The student may choose to have an advisor participate in any stage of the grievance procedure, subject to the restrictions of the hearing procedures set forth in Section 390.010 F.
2. Joint Complaint—If more than one student is aggrieved by the same action, these students may, by mutual written agreement among themselves, file with the Chief Student Personnel Administrator a complaint and pursue their complaints jointly under this grievance procedure. If the number of students in such a case is so large as to make it impracticable for them to be heard individually in a joint proceeding, they may, by mutual agreement, elect one or more of their number to act on behalf of them all.
3. Students may informally discuss a complaint with the relevant supervising administrator. Every reasonable effort should be made to resolve the matter informally at this administrative level. If a satisfactory resolution is not reached, the student may pursue the matter through each level of administrative jurisdiction up to and including the Appropriate Administrative Officer, or file a grievance within the time specified in D.1.b.
4. Complaints Involving Recruitment
 - a. Undergraduate applicants must first present

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- complaints about recruitment to the Director of Admissions. If a satisfactory resolution is not reached, the applicant may appeal the matter to the immediate supervising officer of the Director of Admissions.
- b. Applicants for graduate study may request a meeting with the academic department head and the Dean of the College, or their designees, who are actually involved in the recruitment effort to discuss the matter informally. If a satisfactory resolution is not reached, the applicant may appeal to the Dean of the Graduate School and finally to the Appropriate Administrative Officer.
5. **Complaints Involving Admissions (Undergraduate or Professional)**
- a. Undergraduate and professional student applicants shall present complaints to the Director of Admissions or to the Dean of the School or College, depending upon where the application was originally filed.
- b. This University official shall compare the person's academic qualifications against the official University admissions criteria and review the denial. If the denial is sustained, the applicant may appeal this decision to the official's immediate supervisor or to the appropriate admissions committee.
6. **Complaints Involving Admissions (Graduate)—** Applicants to the Graduate School may ask for a meeting with the academic department head of the program to which the applicant was seeking admission. This official shall explain the reasons for the denial of recommendation for admission. If a satisfactory resolution is not reached, the applicant may then appeal to the Dean of the Graduate School or to the appropriate admissions committee. If the denial is upheld, the applicant may appeal the decision to the appropriate administrative officer.
7. **Complaints Involving Admissions to or Treatment in an Educational Program or in the Granting of Assistantships—**An undergraduate or graduate student enrolled at the institution who has a discrimination complaint involving admission to or treatment in an educational program or in the granting of assistantships may request a conference with the appropriate department head and with the Dean of the School or College (or the Dean's designee) to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 F.
8. **Complaints Involving Nonacademic Matters Related to Campus Living and Student Life—**A currently enrolled student who has a University-related complaint concerning discrimination in nonacademic matters including but not limited to assignment of roommates, actions of fraternities and sororities, membership in and/or admissions to clubs/organizations, student health services and financial aid awards may request a conference with the appropriate administrative supervisor, department head and/or director to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 D.
9. **Complaints Involving Student Employment on Campus—**A student enrolled at the University who alleges that discrimination occurred either in applying for work or while working as a student employee at a University job may request a conference with the supervisor, department head or director of the employing unit to discuss the matter informally. If a satisfactory resolution is not reached, the student may present a grievance pursuant to Section 390.010 D.
10. **Complaints Involving Financial Aid (Undergraduate, Graduate, Professional):**
- a. Undergraduate, graduate, and professional student aid applicants shall present complaints to the Director of Student Financial Aid where the application was originally filed or the award originally made.
- b. This University official shall compare the person's financial and academic qualifications against the official University financial aid criteria and review the award, amount, or denial of the aid. If the original judgment is sustained, the applicant may appeal this decision to the official's immediate supervisor or to the appropriate financial aid committee.

D. INITIATING A GRIEVANCE

1. **Policies and Procedures—**A student with a grievance will be provided copies of appropriate policies and procedures pertaining to student complaints and grievances, and the Chief of Student Personnel Administrator or designee and the Office for Equal Opportunity or for Affirmative Action shall be available to assist the student in understanding the opportunities afforded through such policies and procedures. The student may choose to have an advisor participate in any stage of the grievance procedure, subject to the restrictions of the hearing procedures set forth in Section 390.010 F.
- a. **Joint Grievance—**If more than one student is aggrieved by the same action, these students may, by mutual written agreement among themselves, file with the Chief Student Personnel Administrator a grievance and pursue their grievances jointly under this grievance procedure. If the number of students in such a case is so large as to make it impractical for them to be heard individually in a joint proceeding, they may, by mutual agreement, elect one or more of their number to act on behalf of all of them.
- b. Regardless of their nature, all discrimination grievances are to be filed with the Chief Student Personnel Administrator. A grievance must have been filed by a student within one-hundred-eighty (180) calendar days of the date of the alleged discriminatory act.
2. **Filing a Grievance**
- a. All grievances must be presented in writing and contain the following information:
- 1) A clear concise statement of the grievance which includes the name of the person(s) against whom the grievance is made, the date(s) of the alleged discrimination and a statement describing the specific supporting evidence;
 - 2) A brief summary of the prior attempts to resolve the matter which includes the names of persons with whom the matter was discussed and the results of those previous discussions;

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- 3) A specific statement of the remedial action or relief sought.
- b. Within seven (7) working days, the original grievance form with an explanation will be returned to the student if, in the judgment of the Chief Student Personnel Administrator, the statements are vague or do not meet the above requirement. The student may make the necessary corrections and resubmit the grievance within seven (7) days.
3. Any grievance not filed within the time limits specified in Section 390.010 D.1.B shall be deemed waived by the grievant. The Chief Student Personnel Administrator may extend the time limits only if adequate cause for an extension of the time limits can be shown by the student.
4. For informational purposes, copies of the grievance shall be forwarded to the Appropriate Administrative Officer and the Director of Equal Employment and/or Affirmative Action.
5. Within fifteen (15) working days of receipt of a grievance that satisfies the requirement of Section 390.010 D.1.b, the Appropriate Administrative Officer with the consent of the parties involved may establish an informal hearing with the aggrieved student, the responding faculty/staff/organization, the respondent's supervisor and the Appropriate Administrative Officer's designee. The Appropriate Administrative Officer shall not involve himself/herself in this meeting. If this informal means of resolving the grievance fails, a grievance committee will be impaneled as called for in Section 390.010 E.1.

E. FORMATION OF GRIEVANCE COMMITTEE

1. It is the Appropriate Administrative Officer's responsibility to initiate the selection of the grievance committee within fifteen (15) working days after the request for the formation of a grievance committee or after the completion of the informal hearing provided for in Section 390.010 F.5 without satisfaction to the grievant.
2. A grievance hearing panel shall be established by October 1 of each year from which a grievance committee should be constituted. The panel shall consist of ten (10) faculty, ten (10) staff and ten (10) students. Selection of the panel will be made by the Chief Student Personnel Administrator from recommendations by the appropriate faculty, staff and student associations. Selection of membership will consider sex, race, disability, academic rank, student classification and employee classification. Membership on the hearing panel shall be for two years. A member's term shall expire on September 30 of the second year unless he/she is serving at that time on a hearing committee still in the process of reviewing an unresolved grievance. In such case, the member's term shall expire as soon as the committee has submitted a written report of its findings and recommendations to the Appropriate Administrative Officer.
3. A hearing committee shall be composed of five (5) members. The grievant shall select two (2) members from the grievance hearing panel provided by the Chief Student Personnel Administrator. The responding faculty/staff/organization shall select two (2) members

from the grievance hearing panel. Both parties should have their selections made within 15 working days of the receipt of the request. The four committee members shall then select an additional member from the grievance hearing panel to serve as chair. Neither members of the immediate departmental unit nor student members of pertinent student organizations involved in the grievance shall be eligible to serve on the committee.

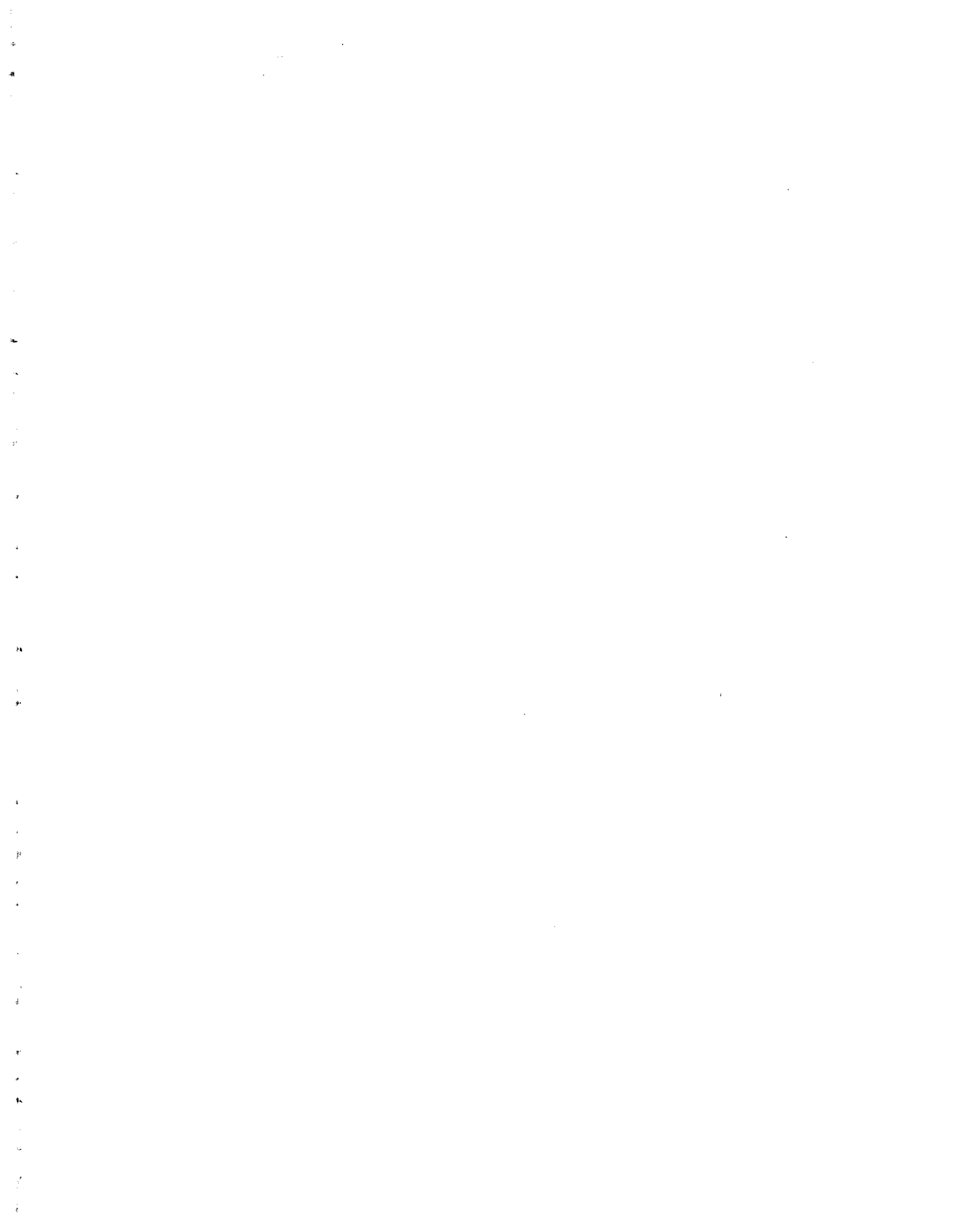
4. Any person selected to a grievance committee will be expected to serve on such committee and to be present at all sessions. If a member is absent from a single session, he/she will be required to review all tapes or transcribed proceedings of that session prior to the next meeting of the committee. Should a member be absent from two sessions or should a member request to be excused from service for reasons of illness, necessary absence from the campus or other hardship, then that member shall be replaced in the same manner used in the original selection (see Section 390.010 E.3). If a member is unable or ineligible to serve for whatever reason, the replacement shall review all tapes or written transcripts and all submitted evidence prior to service on the committee. Five members of the hearing committee, duly selected as in Sections 390.010 E.3 and E.4 must attend the opening and closing session of the hearing.

F. HEARING PROCEDURES FOR FORMAL GRIEVANCES

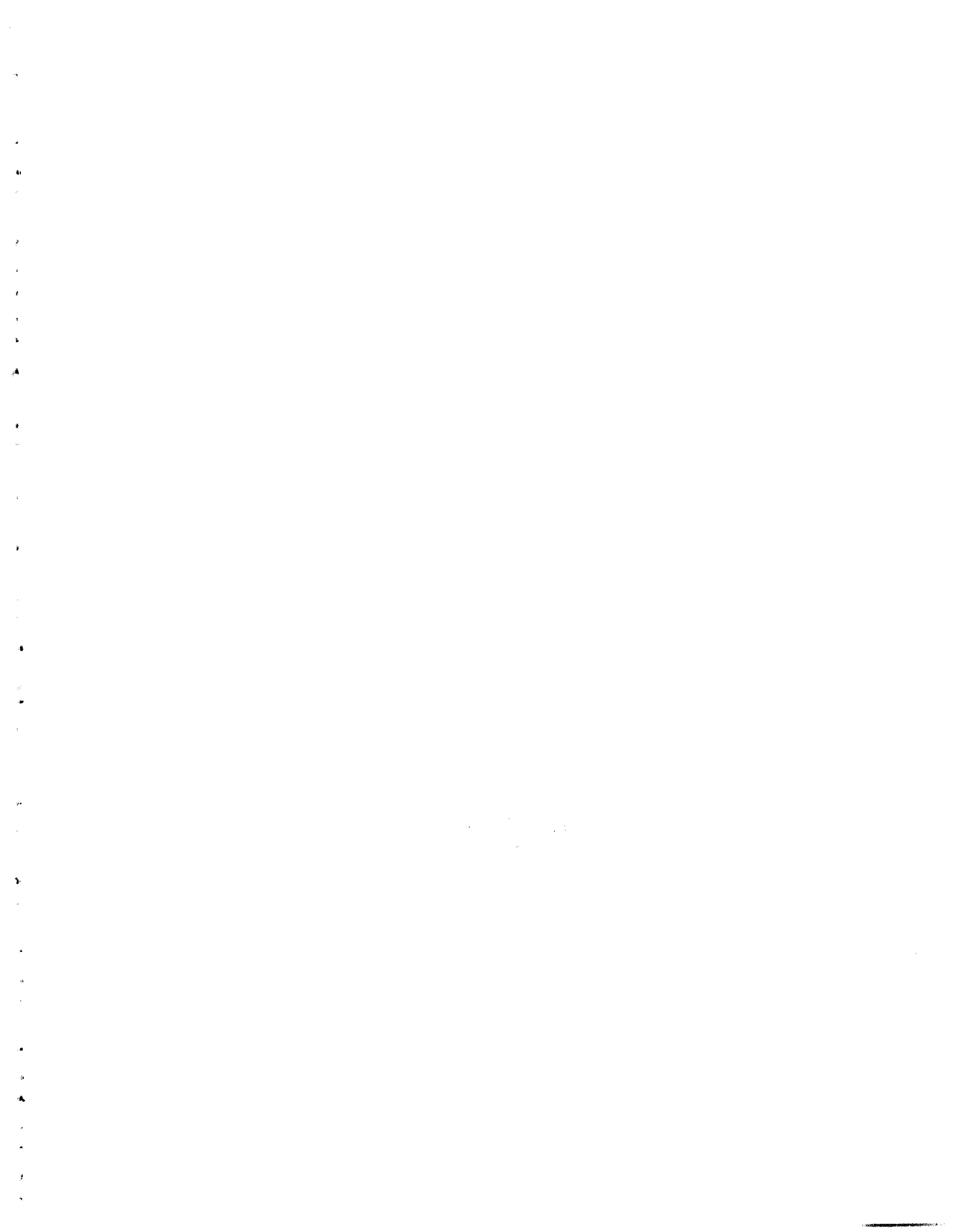
1. It shall be the responsibility of the Appropriate Administrative Officer to coordinate the procedures contained herein, to make provisions for hearing rooms, to coordinate secretarial and recording services and to otherwise serve the grievance committee as needed.
2. At the first organizational meeting of the grievance committee, the committee shall elect a chairperson from among the members to preside over subsequent meetings. Then the chairperson shall schedule a hearing at the earliest convenient time when all affected parties can be present.
3. A quorum consists of a minimum of four members of the committee except as provided by Section 390.010 E.4.
4. The grievance committee shall invite the grievant and the responding person to all hearings. Attendance at the hearings shall be limited to persons who have an official connection with the case as determined by the chairperson. The grievant and the responding person may choose to be accompanied by an advisor. Others whose participation in the hearing is considered essential in order to assist the committee in establishing the facts of the case shall appear before the committee only long enough to give testimony and to answer questions of committee members.
5. It is within the duties and responsibilities of all members of a grievance committee to commit themselves to observe procedures consistent with fairness to all parties concerned. For example, it is a matter of principle that members of the grievance committee will not discuss a case with anyone outside of the hearing process and that their finding will not be

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- influenced by anything other than the evidence presented to them in meetings in which all affected parties are present.
6. The grievance committee shall set forth the rules of procedure for the hearing within the guidelines set forth herein. The chairperson may, for good cause and with the concurrence of a majority of the entire committee, authorize deviation from the suggested format, in which case the principal parties shall be notified.
 - a. The grievant shall be heard first in all phases of a grievance hearing and shall be primarily responsible for the presentation of his/her position.
 - b. The advisor of the grievant or respondent may advise that person and may briefly explain his or her position but shall not be permitted to testify or to cross-examine.
 - c. A reasonable time limit should be established for opening and closing statements and shall be announced prior to the hearing.
 - d. Length of hearing sessions may be established in advance; every effort should be made to conduct the hearing as expeditiously as possible, with equal fairness to both parties.
 - e. The interested parties shall provide the chairperson with the names of the advisor and potential witnesses at least forty-eight (48) hours prior to the hearing. It is the responsibility of the interested party, working with the chairperson, to ensure the presence of these individuals in a timely manner.
 - f. After initial witnesses for both parties have been heard, such witnesses may be recalled for additional questioning if requested by either party or the grievance committee. The committee may call new witnesses whose testimony it deems relevant or helpful.
 - g. In order to promote the truthful, unfettered exchange of information and ideas, all testimony pertaining to the grievance hearing shall be held in confidence.
 - h. Only evidence relevant to the grievance may be introduced. Questions regarding the admissibility of evidence shall be decided by the chairperson.
 7. At any point in the proceedings prior to the time at which the committee reaches its final decision, the grievant may withdraw any portion or all of the grievance with the consent of a majority of the committee members and of the respondent. In all cases of withdrawal at the consent of the committee and of the respondent, the grievant shall not have the privilege of reopening the same grievance at any time in the future. In the event that the student refuses to participate further in the committee hearing, the committee may choose to continue the case or to move to closure with an appropriate closing statement as per Section 390.010 F.9.
 8. A confidential tape recording of the grievance hearing shall be made and will be accessible to the parties involved, the committee, the Appropriate Administrative Officer, the Chancellor, the President, members of the Board of Curators and authorized representatives on a need-to-know basis. Either party to the grievance may request that the committee provide a written transcript of testimony. The cost of preparation of such a transcript is to be paid by the party making such request unless Section 390.010 B.4 is applicable. After the report of the grievance committee has been prepared, the tapes and relevant materials will be sealed and filed in the Appropriate Administrative Office. Unless extraordinary circumstances apply, these materials will be destroyed at the end of five years.
 9. At the conclusion of the grievance hearing, the members of the grievance committee shall meet in closed session to deliberate upon their findings. A majority vote of the entire committee shall be required on all decisions. The grievance committee shall make a written report on findings and recommendations to the Appropriate Administrative Officer of the University, with copies to the grievant(s) and the responding person(s). The written report will contain:
 - a. A statement of the purpose of the hearing,
 - b. Issues considered,
 - c. A summary of the testimony and other evidence presented,
 - d. Findings of fact as developed at the hearing, and
 - e. Recommendations for final disposition of the case.
 10. The Appropriate Administrative Officer will make his/her decision. This decision and the actions that have been taken shall be presented to both parties in writing. If the administrative officer does not accept the recommendations of the grievance committee, a written statement of the reasons for so ruling must be given to both parties and to the chairperson of the committee.
 11. If requested by the grievant or the responding party, normally within seven (7) calendar days of the notification of the decision, the decision of the Appropriate Administrative Officer may be subject to a review of the records by the Chancellor. Any review and decision by the Chancellor shall be made normally within thirty (30) calendar days. The decision of the Chancellor can be appealed to the President, who shall have thirty (30) calendar days in which to make a decision, which shall be final.
 12. Grievances shall receive prompt attention. The hearing and the report of the grievance committee shall normally be completed within sixty (60) calendar days of the formation of the grievance committee, and a final decision shall be made by the Appropriate Administrative Officer normally within ten (10) calendar days thereafter. In any case in which these time schedules should prove to be inadequate, the committee shall present, in writing, an amended time schedule to all parties involved.



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**SCHOOL OF
EDUCATION**

UM-St. Louis 1997-98 Bulletin



1997-98 Calendar

1997 Fall Semester

August

- 25 Monday, classes begin at 8:00 a.m.
30 Saturday, Labor Day Holiday begins at 3:00 p.m.

September

- 2 Tuesday, classes resume at 8:00 a.m.

November

- 25 Tuesday, Thanksgiving holiday begins at 11:00 p.m.

December

- 1 Monday, classes resume at 8:00 a.m.
10 Wednesday, classes end at 11:00 p.m.
11, 12 Thursday, Friday, intensive study days *
15 Monday, final examinations begin
23 Tuesday, first semester closes, end of day

1998 Winter Semester

January

- 11 Sunday, mid-year commencement
12 Monday, classes begin at 8:00 a.m.
19 Monday, Dr. Martin Luther King Holiday

February

- 28 Saturday, Spring Recess begins at 3:00 p.m.

March

- 9 Monday, classes resume at 8:00 a.m.

May

- 4 Monday, classes end at 11:00 p.m.
5, 6 Tuesday, Wednesday, Intensive Study Days*
7 Thursday, final examinations begin
14 Thursday, second semester closes, end of day
17 Sunday, annual commencement

1998 Four-Week May Intersession

May

- 18 Monday, classes begin at 8:00 a.m.
25 Monday, Memorial Day Holiday

June

- 12 Friday, session closes, end of day

1998 Eight-Week Summer Session

June

- 15 Monday, classes begin at 8:00 a.m.

July

- 3 Friday, Independence Day Holiday

August

- 5, 6 Wednesday, Thursday, final examinations
6 Thursday, session closes, end of day
9 Sunday, summer commencement

* Intensive Study Days: no classes held, no exams scheduled



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