

1-1977

## The Graduate Program 1977-1979

University of Northern Iowa

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**University  
of  
Northern Iowa**



**The Graduate Program**

**1977-1979 Bulletin**

# **The Graduate Program 1977 - 1979**



## **University of Northern Iowa Cedar Falls, Iowa**

UNIVERSITY OF NORTHERN IOWA BULLETIN. Issued four times a year by the University of Northern Iowa, 1222 West 27th Street, Cedar Falls, Iowa 50613, during the months of January, February, March, and October. Second-class postage paid at Cedar Falls, Iowa 50613.

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# UNI 1977 - 1979

## Spring Semester 1977

Jan.	10	Mon., Orientation and Registration, 8 a.m. to 4 p.m.
Jan.	11	Tue., Instruction begins, 8 a.m.
March	5	Sat., End of first half-semester, 12 noon.
March	5	Sat., Spring vacation begins, 12 noon.
March	14	Mon., Instruction resumes, 8 a.m.
April	8	Fri., Academic Holiday.
May	9-13	Mon.-Fri., Final examinations.
May	14	Sat., Semester ends, 4 p.m.
May	14	Sat., Commencement.

## Summer Session 1977

June	6	Mon., Registration, 8 a.m. to 4 p.m.
June	7	Tue., Instruction begins, 7:30 a.m.
July	1	Fri., End of first 4-week session.
July	4	Mon., Legal Holiday.
July	5	Tue., Instruction resumes, 7:30 a.m.
July	29	Fri., 8-week session ends.
July	29	Fri., Commencement.
August	1-12	Post Session.

## Fall Semester 1977

Aug.	22-24	Mon.-Wed., Orientation and Registration, 8 a.m. to 4 p.m.
Aug.	25	Thur., Instruction begins, 8 a.m.
Sept.	5	Mon., Legal Holiday.
Oct.	22	Sat., End of first half-semester, 12 noon.
Nov.	23	Wed., Thanksgiving vacation begins, 12 noon.
Nov.	28	Mon., Instruction resumes, 8 a.m.
Dec.	15-21	Thur.-Wed., Final examinations.
Dec.	22	Thur., Semester ends, 5 p.m.

## Spring Semester 1978

Jan.	9	Mon., Orientation and Registration, 8 a.m. to 4 p.m.
Jan.	10	Tue., Instruction begins, 8 a.m.
March	4	Sat., End of first half-semester, 12 noon.
March	4	Sat., Spring vacation begins, 12 noon.
March	13	Mon., Instruction resumes, 8 a.m.
March	24	Fri., Academic Holiday.
May	8-12	Mon.-Fri., Final examinations.
May	13	Sat., Semester ends, 4 p.m.
May	13	Sat., Commencement

**Summer Session 1978**

June	5	Mon., Registration, 8 a.m. to 4 p.m.
June	6	Tue., Instruction begins, 7:30 a.m.
June	30	Fri., End of first 4-week session.
July	3-4	Mon.-Tue., Legal Holiday.
July	5	Wed., Instruction resumes, 7:30 a.m.
July	28	Fri., 8-week session ends.
July	28	Fri., Commencement.

**Fall Semester 1978**

Aug.	21-23	Mon.-Wed., Orientation and Registration, 8 a.m. to 4 p.m.
Aug.	24	Thur., Instruction begins, 8 a.m.
Sept.	4	Mon., Legal Holiday.
Oct.	20	Fri., Academic Holiday.
Oct.	21	Sat., End of first half-semester, 12 noon.
Nov.	22	Wed., Thanksgiving vacation begins, 12 noon.
Nov.	27	Mon., Instruction resumes, 8 a.m.
Dec.	14-20	Thur.-Wed., Final examinations.
Dec.	21	Thur., Semester ends, 5 p.m.

**Spring Semester 1979**

Jan.	15	Mon., Orientation and Registration, 8 a.m. to 4 p.m.
Jan.	16	Tue., Instruction begins, 8 a.m.
March	10	Sat., End of first half-semester, 12 noon.
March	10	Sat., Spring vacation begins, 12 noon.
March	19	Mon., Instruction resumes, 8 a.m.
April	13	Fri., Academic Holiday.
May	14-18	Mon.-Fri., Final examinations.
May	19	Sat., Semester ends, 4 p.m.
May	19	Sat., Commencement.

**Summer Session 1979**

June	4	Mon., Registration, 8 a.m. - 4 p.m.
June	5	Tue., Instruction begins, 7:30 a.m.
June	29	Fri., End of first 4-week session.
July	2	Mon., Second 4-week session begins, 7:30 a.m.; 8-week session instruction continues.
July	4	Wed., Legal Holiday.
July	5	Instruction resumes, 7:30 a.m.
July	27	Fri., Summer sessions end.
July	27	Fri., Commencement.



As the University of Northern Iowa completed its first century of existence it also completed its first twenty-five years of offering graduate degrees. The latter anniversary passed almost unnoticed locally in the events commemorating the bicentennial of the nation and the centennial of the university.

Yet, the graduate program already has very significant accomplishments to its credit (more than four thousand degrees awarded) and an even more promising future. Enrollment in the graduate programs of the university has grown steadily.

The more complex world of the future will demand higher levels of expertise from more people. The UNI graduate program is prepared to serve that need.

*John J. Kamerick*  
JOHN J. KAMERICK  
President



# The Graduate Program



The graduate program at the University of Northern Iowa is a strong and growing program of advanced study with degree programs in a wide range of disciplines leading to graduate degrees. The university now offers six graduate degrees:

- Master of Arts
- Master of Arts in Education
- Master of Business Administration
- Master of Music
- Specialist in Education
- Specialist

UNI's graduate program continues to expand to meet the increasing demands of higher education and advanced preparation in a diversity of career fields.

In 1951 the university was authorized by the State Board of Regents to offer a program of graduate work leading to the Master of Arts in Education, and the program began with the summer session of 1952. The graduate program was extended in 1960 with the addition of a sixth-year program leading to the Specialist in Education degree. These programs were developed to prepare professionally competent personnel in education — highly qualified teachers, supervisors, administrators, school psychologists, and specialists in various fields for elementary and secondary schools as well as for colleges.

In recognition of a more general need for advanced study, the university further expanded the graduate program in 1965 with the addition of the Master of Arts degree. This program is open to students who plan to pursue careers in fields other than education and is available, as well, to students interested in doing advanced work in teaching fields — elementary, secondary, and college level. More advanced study in these areas was made possible under the program leading to the Specialist degree inaugurated in 1970.

The addition of the Master of Business Administration degree in 1975 and the Master of Music degree in 1976 demonstrates the university's continued recognition of the changing needs of higher education and the institution's desire to meet those needs. The M.B.A. degree is open to students whose career interests are in the fields of business and is structured in its presentation to those already working in the general community as well as students who have not yet entered their major career field. The Master of Music is a professional degree designed for the student planning a career in college or secondary school teaching, for a performance career as a professional musician or composer, or for further study at the doctoral level.

Graduate majors are available in most departments, and graduate-level courses are offered by all departments of the university. A cooperative program leading to the Ph.D. degree in educational administration is also available (see page 66.)

Those who wish to continue their professional and cultural growth without fulfilling the requirements for a graduate degree may do so if they satisfy the requirements for admission to graduate study. All students taking work beyond the bachelor's degree, whether they are studying for an advanced degree or not, are classified as graduate students. Detailed information on the university's Graduate Program may be obtained from the Dean of the Graduate College, University of Northern Iowa, Cedar Falls, Iowa 50613.

The University of Northern Iowa is a member of the Council of Graduate Schools in the United States.

## **The Quad-Cities Graduate Study Center**

The University of Northern Iowa is one of nine colleges and universities of Iowa and Illinois which are participating in the Quad-Cities Graduate Study Center, with offices in Rock Island, Illinois. The cooperating institutions offer graduate courses, and appropriate courses completed at the Center may be regarded as residence credit by the institution at which the student is working toward a graduate degree. An interested student should confer in advance with the head of his major department. Preliminary inquiries may be directed to the Dean of the Graduate College.

## **Accreditation**

The University of Northern Iowa is a member of the American Association of Colleges for Teacher Education (AACTE) and the Council of Graduate Schools in the United States. The university is fully accredited through the master's degrees and the sixth-year specialist's degrees by the North Central Association of Colleges and Secondary Schools (NCA) and by the National Council for Accreditation of Teacher Education (NCATE). The university's programs are also accredited by the National Association of Schools of Music, the National Council of Social Work Education, the American Speech and Hearing Association, the Iowa State Department of Public Instruction, and the National University Extension Association, and approved by the American Chemical Society. In addition, the University Museum has achieved accreditation by the American Association of Museums.

## **The Faculty**

The administration of the graduate program is under the direction of the Dean of the Graduate College. Assisting him are the Graduate Faculty, the Graduate Council, and the Department Committees.

Graduate Faculty members are well qualified to give advanced instruction, to direct research in their areas of specialization, and to advise graduate students. Chosen from the regular university staff, the Graduate Faculty is composed of approximately 285 selected members.



# University Facilities and Educational Services



## The Library

The University Library is located at the center of the campus in a newly expanded building. First occupied in 1964, the building has been extended to double its original size and has been almost completely refurbished. The Library now has a capacity of 600,000 volumes and provides seating for 1,600 persons.

As of July 1, 1976, book collections totalled 447,258 volumes, including a well selected reference collection of 13,165 volumes. The Library has current subscriptions to almost 3,000 periodicals and 50 newspapers, with most periodical files complete from their beginning. The Library also has a rapidly growing collection of materials in microform (14,020 reels of microfilm, 11,126 microcards, and 161,639 microfiche), as well as 20,888 maps and 4,840 disc recordings. As a selective depository for United States government publications, thousands of items are added annually to a collection numbering more than 167,936 items already held. Of special interest to teachers is a Youth Collection of 13,813 volumes — a representative body of elementary and secondary school library materials.

A full-time staff of 57 (including 20 professional librarians) and more than 150 part-time, student assistants and other hourly employees provides a public service week in excess of 102 hours. Among special facilities and services available are typing and group study rooms, faculty studies, a Graduate Study Room, numerous lounges of various types, Art and Music Room (with outstanding group and individual listening facilities for discs, cassettes, and taped programs), Documents and Maps Room, Special Collections Room, Microforms Room, Browsing Room, special facilities for blind students, Career Collection, calculators, photocopiers, and electronic carrels for listening and viewing (cassettes, disc recordings, tapes, etc.).

## The J. W. Maucker Union

The J. W. Maucker University Union, named for former UNI President James W. Maucker, is an informal meeting place for all members of the campus community. The unique structure, located east of the university Library, contains facilities which are useful for a wide range of activities including cultural, recreational, and conference events.

General services include a campus information center, check cashing service, ticket sales for certain campus events, meeting rooms, and dining services which range from coffee service to receptions and luncheons. Recreational facilities include a billiards room, table tennis facilities, and an arts and crafts center. Informal instruction is provided, also, in the crafts area. Canoes are available for rent through the Union's Program Office. The building houses offices for some student groups.

Social and cultural activities include art exhibits on a regular basis, weekly movies, a series of informal "mini courses," and a comprehensive program of outdoor recreational activities. The Union is financed through fee monies and income-producing services within the building.

## University Museum

The University Museum, accredited by the American Association of Museums, is located in the Plant Services Building on 31st Street west of Hudson Road, Cedar Falls. The Museum is used extensively as an educational resource by both university classes and area schools and as a cultural facility by local clubs and individual visitors.

Museum collections embrace four subject categories: geology, biology, anthropology, and history. The geology collection consists of minerals, rocks, and fossils of worldwide distribution. The bird collection consists of most birds indigenous to the midwest as well as some exotic, rare, and extinct species. Large and small mammals, reptiles, fish, arthropods, and marine invertebrates, including a vast collection of shells from around the world, are also a part of the biology collection. American, Iowa, and local history are represented from colonial times to the present by a wide variety of artifacts and printed documents. A large and elegant demitasse collection includes pieces from the world's finest china factories in the past several centuries. The anthropology area, which began with a collection of Indian arrowheads, axes, mauls, and Pueblo pottery, is at present the most rapidly expanding area at the Museum and includes important collections from Africa, Asia, the Pacific Islands, and South America.

The Museum is open, free of charge, from 9 a.m. until noon and from 1 to 4 p.m. Mondays through Fridays throughout the year and from 2 to 4:30 p.m. two Sundays a month from September through May and one Sunday a month in summer. It is closed on legal and university holidays. Although large groups such as classes and clubs are asked to telephone or write the Museum for appointments, all other visitors are invited to come without appointments any time the Museum is open.

## Educational Media Center

The primary function of the Educational Media Center is to provide a variety of media, equipment, and services for the total university. The Educational Media Center consists of seven closely related areas — the Audio Production Services, the Audio-Visual Services (including the Audio Listening Center), Graphic and Photographic Services, the Media Laboratories, Motion Picture Production Services, and Television Services.

*Audio Production Services* provides opportunities for professional sound recording, mixing, and editing in studio or on location. Located in the Education Center, this service is equipped to produce high quality master tapes in both reel-to-reel and cassette formats.

*Audio-Visual Services*, located in the Commons Building, is the university-wide service agency charged with the responsibility of obtaining, distributing, and coordinating media software and equipment. The A-V Center provides a complement of audio-visual equipment in each instructional building and also maintains a variety of media equipment which is available for checkout. The Audio-Visual Center maintains a library of media software consisting of 8 and 16mm films, regular and sound filmstrips, audio tapes and records, and slides. Facilities for previewing or examining materials are available in the Center, and a 48-carrel Audio Listening Center is available for individual or group use.

Five large lecture halls in the Education Center are equipped with the latest in multi-media utilization systems. Each lecture hall contains a multi-image rear screen projection system remotely controlled from an electronic podium. This system is capable of projecting 16mm films, slides, and filmstrips in any combination. Media utilization is scheduled through the Audio-Visual Center.

*Graphic and Photographic Services*, located on the ground floor of the Commons (west), provides consultation, design, and the production of media materials. Almost any type of audio-visual material can be produced locally to assist faculty and staff in developing effective and efficient instruction. Examples of such materials include overhead

transparencies, posters, charts, reproduction copy for offset, photographs, slides, and programmed slide series.

The *Media Laboratories*, located on the second floor of the Commons, provide facilities, equipment, and self-instructional programs for all students and faculty who want to produce their own instructional materials or learn the operation of a wide variety of audio-visual equipment. Self-instructional programs and staff assistance is provided for the operation of media equipment. In addition, a media supply room houses materials available for purchase.

*Motion Picture Production* provides a university-wide service in super 8mm and 16mm filming, including budgeting, production planning, filming, titling, limited animation, and sound recording. Two studios and an editing room have been established in the Commons for on-campus production activities.

*Television Services* provides numerous capabilities to the university community. A professional television studio is connected to five large classrooms, all equipped with television monitoring facilities. A smaller classroom-studio, with all equipment remotely controlled, can be scheduled for recording of student-teacher performance and other classroom activities. Previewing areas, for both small and large group viewing of pre-recorded video tapes, are also available.

The Communication Center, in the basement of the Education Center building, utilizes a unique color television system to distribute all types of audio-visual media to every classroom and laboratory in the building. The Center also contains a color television studio and control room for the origination of professional color television programming.

### **Curriculum Laboratory**

The Curriculum Laboratory is a facility where students and faculty, as well as in-service teachers and administrators, may pursue educational studies and projects related to curriculum and instructional development. A service of the College of Education, the Curriculum Laboratory is located in Room 222 of the Education Center.

Two computer terminals are a part of the Curriculum Laboratory complex for use by students and faculty, and are located in Room 232 inside the Laboratory area. These terminals are available for computerized retrieval of Curriculum Laboratory materials. Coin-operated photocopying is also available.

Included in the 50,000 education publications are the following elementary and secondary-level materials:

curriculum guides	kits
resource units	professional pamphlets and
materials and equipment	research monographs
catalogs	elementary and secondary
games in simulations	textbooks
instructional pictures	educational methods books
educational periodicals	standard references

The Curriculum Laboratory is open during the academic year and summer sessions on the following schedule:

- academic year — Monday-Thursday: 7:45 a.m. to 10 p.m.  
Friday: 7:45 a.m. to 4 p.m.  
Saturday: 1 to 5 p.m.  
Sunday: 1 to 9 p.m.
- summer session — Monday through Friday: 7:30 a.m. to 4:30 p.m.  
plus Tuesday and Thursday: 6 to 9 p.m.

### **The Educational Clinic**

The Educational Clinic is part of the Department of Educational Psychology and Foundations. Through its work with individuals and small groups, the clinic performs an important task in the education of regular and special classroom teachers as well as special services personnel such as majors in early childhood education, special education, educational consultants, special learning disability teachers, psychologists, social workers, and counselors. Emphasizing family-school collaboration, the clinic maintains a primarily instructional and behavioral modification approach to learning disorders and questions of adaptability.

The clinic is concerned with a wide range of problems related to preschool enrichment, early identification of gifted and handicapped children, intellectual capability, aptitude, academic achievement, motivation, and personality adjustment. The clinic demonstrates, for teachers and service personnel, methods of evaluating a child's educational potential, provides an opportunity for service personnel interested in clinical teaching and special education to work with exceptional children in clinical experiences, translates psychological test findings and recommendations into educational terms and procedures, offers consultative services to the schools of Iowa at the request of school officials, and performs such research as practicable along lines that provide increased understanding of the learning and remedial processes.

### **The Speech and Hearing Clinic**

The Speech and Hearing Clinic offers speech and hearing services to students and others (children and adults) in the vicinity of the university. These clinical services form an integral part of the program of professional preparation in speech pathology and audiology. Majors in speech pathology and audiology at both the undergraduate and graduate levels carry out clinical services under the supervision of the instructional staff of the university. Services offered by the clinic include audiological evaluations, speech and language evaluations, and remedial speech and hearing programs.

The speech and hearing services provided by the UNI Speech and Hearing Clinic have been accredited by the Professional Services Board of the American Speech and Hearing Association. The clinic is located in the ground-level floor of the Auditorium Building.

### **Institutional Research**

**TEST SCORING SERVICES**—The Test Scoring Services section of Institutional Research contains equipment which processes "mark sense" documents, e.g., multiple-choice answer sheets. The equipment can be used to convert data recorded on "mark sense" documents to a computer-readable punched card. The punched card can then be processed on the university's computer equipment. The staff in Test Scoring Services can assist students, who are under faculty sponsorship, design and process "mark sense" documents.

**ACADEMIC COMPUTING SERVICES**—The computer services for the faculty and students involved in instruction and research are provided by Academic Computing Services. The services available are among the most advanced in the country, utilizing two large-scale computer systems and an independent, dedicated, interactive computer system. Many students will use the computer facilities as a result of taking courses which require it. Other students, under faculty sponsorship, may also use the services.

**EXAMINATION SERVICES**—Institutional Research and Examination Services serves as a National Test Center for the Graduate Record Examination (GRE), the Graduate Management Admission Test (GMAT), and the Medical College Admission Test (MCAT).

## Laboratory School

Malcolm Price Laboratory School, located on the north edge of the campus, serves as a direct experience laboratory for professional education programs of the university. The school provides a comprehensive educational program for a multi-racial student body of 750 pupils in nursery school-kindergarten and grades one through twelve.

In addition to its role as a teacher education laboratory, the Laboratory School is widely recognized for its innovative and experimental programs, and for its work in research and curriculum development. The school is strongly committed to service to the elementary and secondary schools of the state, providing leadership through regularly sponsored conferences, workshops, and publications, and through its heavy involvement in the UNI program of extension and consultant services. The Laboratory School operates on an open-door policy; visitation and consultation are encouraged.



## Iowa Lakeside Laboratory

The three Regents universities, the University of Northern Iowa, the University of Iowa, and the Iowa State University, jointly maintain a field biology station at Lake Okoboji. A scientific advisory board made up of representatives from each of the three state institutions has charge of the program. Unusual opportunities for field studies are available for students and teachers of biology. A variety of courses open to undergraduates and graduates is offered during the summer in two sessions of five weeks each. The Lakeside Laboratory Bulletin, available about February 1, lists the courses to be offered the following summer with detailed directions of enrollment. The courses regularly scheduled at the Laboratory are listed in the courses of the Department of Biology. Further information may be secured by writing to the Department of Biology, University of Northern Iowa. Registration is made through the Registrar's Office, University of Northern Iowa, Cedar Falls, Iowa 50613, and requires the specific approval of enrollment by the instructors of the specified courses.

## **Iowa Teachers Conservation Camp**

Iowa Teachers Conservation Camp, a field laboratory program in Iowa conservation problems and environmental education, is offered at various locations in Iowa each summer. Two courses, 84:104 Iowa Conservation Problems I and 84:105 Iowa Conservation Problems II, may be offered. Each three-week course carries three credit hours and is open to both undergraduate and graduate students.

The program is jointly sponsored by the Iowa Department of Public Instruction, the Iowa Department of Soil Conservation, the University of Northern Iowa, and the State Conservation Commission. Further information and registration materials may be secured by writing to the Department of Biology, University of Northern Iowa, Cedar Falls, Iowa 50613.

## **Institutes and Workshops**

Institutes in which graduate credit may be earned are held from time to time on campus. In recent years, the University of Northern Iowa, in conjunction with the National Science Foundation, has offered summer institutes in mathematics, science, and social science.

Institutes on counseling and guidance, English, history, home economics, and language disabilities, as well as other areas, have been part of the summer program, supported by funds from H.E.W. U.S. Office of Education. The university has also sponsored summer programs on Asia for in-service teachers and non-specialist, with the support of the Asia Society, the Japan Society of New York, and the Asia Foundation of San Francisco.

Each summer a number of workshops in such fields as aerospace education, computer language, reading improvement, elementary school science, health education, home economics, language disabilities, shorthand, music education, and junior high school science are typically available. In these, students may earn credit while developing greater understanding and skill in some specialized area. Nationally recognized authorities are frequently brought to the campus to give leadership in these workshops. Workshops are not designed for students who are enrolled in the regular summer session.

## **Division of Extension and Continuing Education**

The University of Northern Iowa has had an organized extension program since 1913. As an integral part of its total responsibility to the state, the university has a legislative charge to provide public services to assist in the cultural, economic, and social development of Iowa residents. The Division works cooperatively with UNI staff in providing services to the public schools, business and industry, and other community and professional groups through a variety of programs. Included in Extension and Continuing Education are consultative services, extension-credit work, non-credit classes, conferences and workshops, and publications.

UNI offers a number of off-campus classes throughout Iowa during the academic year and during the summer. With some limitations, a variety of workshop-type extension courses are offered on campus from time to time.

UNI extension class credit may be applied to a graduate degree program provided the courses meet appropriate departmental requirements and apply to over-all program requirements. Extension class credit also may be used to meet salary schedule requirements and may be utilized as credit needed for teacher certification or certificate renewal.

Students planning to enroll in on-campus, summer workshop-extension classes should be advised that summer extension classes require the student's entire day thus precluding enrollment in any other course meeting during the workshop period.



## **Saturday and Evening Classes**

As a service to persons in the vicinity of Cedar Falls, some resident university courses are scheduled for evening hours and for Saturday mornings. Some of these are especially for graduate students, others are open to junior and senior students; a few are available for freshmen and sophomores. While the selection of courses is made with in-service teachers in mind, other courses are scheduled as the demand seems to justify.

Students who plan to enroll for Saturday and/or evening classes ONLY may register by mail. Mail-in forms are available in the Office of the Registrar upon request. Schedules of evening and Saturday classes are generally available in August for the fall semester and in November for the spring semester. Specific instructions for registration by mail are contained in the schedule and on the mail-in registration form.

Students who register for Saturday and/or evening classes in addition to other classes will register for them at the time of the regular class registration, and may not register by mail.

Specific information for each semester's registration is available at the Office of the Registrar.

## **Career Planning and Placement**

The Office of Career Planning and Placement is organized for the purpose of providing pertinent information and counseling for students regarding careers and employment opportunities. The office staff assists prospective graduates and alumni in obtaining employment in positions in accordance with their qualifications and personal interests and in developing satisfying careers. Registration is not a requirement but is strongly recommended prior to graduation.

To be eligible for placement service, an undergraduate must have completed 30 semester hours at this university or must be in the final year of the teacher education program. Registrants must qualify for recommendation by the university for an initial teaching certificate, or for an additional endorsement or approval. On the graduate level, the student must have been admitted to candidacy for an advanced degree or qualify for an additional endorsement approval and have completed 10 semester hours at UNI.

The Office of Career Planning and Placement provides students with current career information, labor market trends, employment opportunities in teaching, government, business, and industry. Personal and group counseling sessions are available for all students for assistance in career planning and job hunting techniques.

There is no charge for consulting with office staff regarding career or placement concerns. There is a \$7.00 fee for individuals who wish to register with the office by establishing a set of credentials.

## **Living Accommodations**

The university has available to single graduate students residence hall rooms in Bartlett Hall with access to dining services in the Common Dining Center. There are a number of room and board price options offered. Information concerning single graduate housing can be obtained from the Housing Office, Redeker Center, University of Northern Iowa, Cedar Falls, Iowa 50613.

Accommodations for married graduate students are available in university-owned married student housing. There are a number of different types of units and rental rates available. Information concerning housing for married students can be obtained from the Married Housing Office, 105 E Street, Hillside Courts, Cedar Falls, Iowa 50613. Assignments are made on the basis of date of application.

Graduate students living off campus may take meals in on-campus dining centers at regular student prices. Arrangements concerning these meal plans can be made in the Dining Center Office located in the Commons.

### **Social Life and Cultural Opportunities**

Recreational facilities such as tennis courts, swimming pools, and golf course are available to graduate students. Students are encouraged to attend the various all-university events such as UNI Theatre and Summer Theatre, UNI Music Theatre, films, dances, the controversial speakers program, and intercollegiate athletic events. Those who live in residence halls are encouraged to participate in the social and educational functions of the respective halls.

The professional, interest, and honorary organizations welcome the membership of graduate students. Furthermore, graduate students may participate in drama, speech activities, and musical groups such as the university bands, chorus, and choir. Graduate students may work on the staffs of the various university student publications and the student radio station, KCRS.

Throughout the academic year nationally known artists and entertainers are brought to the campus under the sponsorship of the Artists Series and Chamber Music Series. Pop concerts are an integral part of university social/cultural life.

Graduate students may participate in outdoor recreational activities such as canoeing, skiing and bicycling which are sponsored by the J. W. Maucker Union. The Maucker Union also sponsors a Crafts Shops.

### **Student Spouse Activity Program**

The spouses of full-time UNI students may, by paying a fee of \$14.00 per semester or \$6.00 for the summer session, entitle themselves to the university services and benefits which are available to students; e.g., health services, counseling services, part-time employment services, and reduced rates for many university cultural, social, and athletic events. This program is designed to encourage spouses to participate as citizens of the UNI community.

Spouses who wish to procure an Identification Card should pay the appropriate fee at the Cashiers Window, UNI Business Office, 256 Gilchrist Hall. Spouses must be accompanied by their student husband/wife. The Identification Card is issued by the Scheduling Office, 244 Gilchrist Hall, upon presentation of the fee receipt.

### **Student Health Service**

The Student Health Center provides medical care for all students currently enrolled at the university. The spouse of a student is also eligible for medical services upon payment of the optional Spouse Activity Fee at the Business Office in Gilchrist Hall. The services at the Student Health Center are provided by a well qualified staff of physicians, nurses, pharmacist, technicians, and administrative personnel. The medical services include advice and treatment for current illnesses, preventive medicine, as well as mental and physical health care. Although major and dental services are not available, the staff will gladly furnish supervision and aid in obtaining these services when needed.

The Student Health Center, located on the campus at the corner of 23rd and Minnesota streets, just north of the Education Center and west of Lawther Hall, includes an outpatient clinic, laboratory, X-ray, pharmacy and physical therapy facilities. Nominal charges are made for these services.

The Health Center is open from 8 a.m. to 5:30 p.m., Monday through Friday, and from 9 to 10 a.m. on Saturdays when the university's classes are in sessions. When the Health Center is closed, health problems should be discussed with a Health Aide. Health Aides work under the direct supervision of the Health Center Staff and function on a health education layman's level of competence. All residence hall directors, graduate resident advisers, and resident assistants have been trained in first aid and the handling of medical problems. Arrangements have also been made for emergency coverage at Allen Hospital in Waterloo when the Health Center is closed.

It is recommended that all students have current immunizations. In some cases of illness it may be necessary to have a complete medical history and physical examination before treatment can be carried out. If necessary, this examination will be completed at the Health Center.

Many health and accident insurance policies cover members of a family who are full-time students or until they reach a specific age. A group insurance plan is available to all UNI students through the university on a voluntary basis for those who are not covered by health and accident insurance. Information on the cost of this insurance is available from the Health Center. For your own protection, no student should be without insurance coverage.

### **Nondiscrimination Policy of the University of Northern Iowa**

Believing that the freedom of an individual should in no way be restricted or circumscribed because of race, national origin, or religious beliefs, the administration of the University of Northern Iowa pledges its unqualified endorsement and support of the Nondiscrimination Policy Statement adopted by the Iowa State Board of Regents on September 25, 1954.

The administration of the University of Northern Iowa also pledges its compliance with Iowa Fair Employment Practices and Public Accommodation laws and the federal Civil Rights Act of 1964 and its cooperation with the Iowa Civil Rights Commission.

The University of Northern Iowa recognizes a responsibility to observe the spirit as well as the letter of the federal and state laws regarding discrimination. It is the intent of the university not only to avoid policies and practices which tend to deny opportunity to, or deprecate or denigrate, any individual or group because of race, color, creed, sex or national origin, but also to work actively to provide opportunities for disadvantaged individuals.



# Financial Assistance

## GRADUATE ASSISTANTSHIPS

Several kinds of assistantships are available to qualified graduate students who are working toward a graduate degree at UNI. Graduate assistantships and teaching assistantships are available through the Graduate College under the following conditions:

1. **GRADUATE ASSISTANTSHIPS** are available for graduate students who are in residence through the academic year. These assistantships require the students to carry 9-12 hours of course work each semester. Most of the assistantships for students working toward the master's degree carry a stipend of \$2,100, but stipends may range up to \$2,700. The associated work assignments vary from 10 to 15 hours per week. For students working toward a specialist's degree, the stipend is usually \$2,200; in special cases the stipends could be between \$2,200 and \$2,700. The associated work assignments vary from 12 to 15 hours per week. For both the master's and specialist's assistantships, the work of the student will be so arranged that he may normally complete his degree program in one academic year plus the equivalent of one or two summer sessions. Work assignments consist of assisting designated professors with certain non-teaching functions; some graduate assistants serve as aides on faculty research projects.
2. **TEACHING ASSISTANTSHIPS** are available for graduate students who hold the master's degree and are working on the specialist's degree and who are in residence through the academic year. The teaching position must be in the area of specialization. These provide a varying stipend up to a maximum of \$3,500 for the academic year. Teaching assistants will carry a partial course-work load and will instruct, under careful supervision, introductory courses; the combination of teaching load and course-work may not exceed 12-15 credit hours per semester.

With the exception of the student activities fee, which is required of all students and which is subject to change without notice, the two assistantships listed above include a tuition scholarship for the academic year and the following summer session.

Application forms may be obtained from the office of the Dean of Graduate College or the department in which the student is applying for an assistantship. Applications should be filed by March 1 with the department.

Recommendations for awarding of assistantships are made by department head to the dean of the given college who selects the recipients from the college. Appointments are announced by the Dean of the Graduate College.

**GRADUATE RESIDENT ADVISERS**—In addition to the above, assistantships are available for graduate students who are interested in working and living in the residence halls. These assistantships involve a variety of responsibilities and experiences, usually directly related to the student's formal program of graduate study. The graduate resident adviser assistantship is for the academic year only, and the student is expected to work from 15 to 18 hours per week. The assistantship carries a stipend of \$1,600 plus room for nine months and allows a student to carry a maximum of 11 hours of graduate work each semester.

With the exception of the student activity fee, which is required of all students, this assistantship includes a tuition scholarship for the academic year.

The graduate resident advisers are utilized in the Division of Student Services. Application forms for this assistantship may be obtained from the Office of the Director of Housing and must be filed with that office no later than June 1.

## **SCHOLARSHIPS**

The Mary Jensen Shackelford Award, established in 1968, is available to graduate students at the University of Northern Iowa who are seeking a Master of Arts in Education degree. To be eligible, a student must have at least six hours of graduate work at this institution with a minimum grade point average of 3.0 and desirable personal and professional qualifications as determined by the selection committee. Each award is for \$500 and will be made to a full-time graduate student for the regular academic year only. Additional information on the award may be secured at the Office of the Dean of the Graduate College and the Office of the Director of Financial Aids.

One of the Martin J. and Cora G. Nelson Scholarships is awarded to an outstanding graduate student specializing in higher education, educational administration, or student personnel services. To be eligible, the student must have earned at least 15 semester hours of graduate credit at the University of Northern Iowa and have been admitted to candidacy for a graduate degree. Inquiries may be directed to the Office of the Dean of the Graduate College and the Head of the Department of School Administration and Personnel Services.

The Wray D. Silvey Award is made to an individual who has demonstrated an interest in public school personnel work, has an above average academic record, possesses potential for leadership, and is pursuing graduate study at UNI. Inquiries may be directed to the Head of the Department of School Administration and Personnel Services and the College of Education Scholarship Committee.

Ida Mae Wilson Scholarships are based on the following criteria: (1) need, (2) leadership, (3) high academic standing, (4) promise as a future teacher. Interested students should apply to the Director of Financial Aids at the University of Northern Iowa.

## **LOANS**

Qualified students may secure loans from either the National Defense Education Act fund or the Aubrey and Winslow Grubb fund. These loans are available to graduate students who are on a continuous program and who meet certain standards of scholarship. Information about both types of loans may be secured at the Office of the Director of Financial Aids.

## **PART-TIME EMPLOYMENT**

The Director of Financial Aids will assist graduate students who need part-time employment. A limited number of opportunities for such work are available on the campus. However, to carry a full load of graduate studies requires so much of the student's time that part-time employment is usually unwise. Individuals who have full-time employment should not register for more than 6 semester hours of work in any one semester or 3 semester hours of work in the 8-week summer session.



# Admission to Graduate Study

*(This section applies to all students taking graduate courses at the University of Northern Iowa after receiving the bachelor's degree.)*

## APPLICATION

Anyone possessing the bachelor's degree from this or any other recognized institution who wishes to register for either undergraduate or graduate credit in this university must make application for admission to graduate study through the Registrar. Seniors in their final semester in this university who are within 14 semester hours of graduation, or in their final summer session and within seven (7) hours of graduation, and who wish to register for graduate credit in that semester or summer session must apply for admission to graduate study. The combined total of course credits (undergraduate and graduate) may not exceed 15 semester hours in a semester or eight semester hours in a summer session. The graduate work thus completed will be counted as graduate credit only if the student actually earns the bachelor's degree at the end of the given semester or summer session. In registering for such mixed credit, the student must obtain on the reverse side of the registration form written approval for each graduate course from the Head of the Department in which the course is offered.

A student who expects to earn a graduate degree at this university must file a transcript from the college or university granting the baccalaureate degree if other than the University of Northern Iowa. A student who has earned graduate credit at another college or university must file an official transcript of such credit. A student who does not hold a teaching certificate and expects this university to recommend him for an original certificate must also file an official transcript. However, students who do not expect to become degree candidates and who do not expect the University of Northern Iowa to recommend them for certificates do not need to file transcripts. An official statement of the degree and date awarded will be sufficient.

Although the University of Northern Iowa no longer requires a physical examination and medical history as part of the admission process, an acceptable medical history form must be completed and on file at the Health Center before receiving treatment, this includes furnishing evidence of a tuberculin skin test having been taken within the last year. At times, a complete history and physical examination will be necessary to aid in accomplishing proper diagnosis and treatment. If this is necessary, the physical examination and medical history can be done at the Health Center. A fee will be charged for this service.

Diphtheria and tetanus booster immunization shots should be obtained every ten years, in accordance with current recommendations of the United States Health Service. *Tuberculin negative persons* are advised to have a tuberculin skin test annually, in accordance with a recommendation of the Iowa Tuberculosis and Respiratory Disease Association.



## TYPES OF ADMISSIONS

1. Unconditional admission to graduate study will be granted a student if:
  - a. He is a graduate of a college or university accredited by the National Council for Accreditation of Teacher Education or by the North Central Association of Colleges and Secondary Schools or by a corresponding regional accrediting agency.
  - b. All the necessary papers and information have been filed with the Registrar.
  - c. There is nothing in the student's undergraduate record or other data to indicate that he is of doubtful promise as a graduate student.
2. Conditional admission to graduate study may be granted a student if:
  - a. At the time of registration some of the required information and data have not been received by the Registrar.
  - b. The student has not completed the work for the bachelor's degree at the time he applies for admission to graduate study.
3. Probational admission to graduate study may be granted (each case is considered on an individual basis) to a student if:
  - a. He is a graduate of a college that at the time of his graduation was not accredited by the National Council for Accreditation of Teacher Education or by the North Central Association of Colleges and Secondary Schools or by a corresponding regional accrediting agency.
  - b. His undergraduate record and other data indicate that he is of doubtful promise as a graduate student.

The conditional admission status will be removed by the Registrar as soon as the student has filed all the required records and reports, or in the case of a senior, he has received the bachelor's degree.

The probational admission status may be removed by the Registrar when the student has earned 8 hours of graduate credit in this institution with an average grade of B or higher.

*Note:* Individuals who have received unconditional admission to graduate study should *not* assume that they will be accepted by a department in a program of study leading to a graduate degree. Admission to candidacy is a subsequent, separate step (see page 24).

## GRADE POINT REQUIREMENTS

Graduate students are expected to maintain high academic standards. At the end of each term graduate student records are reviewed, and students with unsatisfactory performance are placed on probation, or advised to discontinue graduate study, or suspended.

Following are the categories used for review and action by the Graduate Council:

1. Failing more than one-half of all work attempted—Suspend
2. After three (3) enrollments or 15 semester hours
  - a. Cumulative average less than 2.00—Suspend
  - b. Cumulative average of 2.00—2.49—Review for probation
3. After twenty-four (24) semester hours
  - a. Cumulative average less than 2.20—Suspend
  - b. Cumulative average 2.20—2.49—Advise to discontinue graduate study
  - c. Cumulative average 2.50—2.80—Review for probation
4. If students complete two enrollments while on probation without qualifying for removal of probation, they are advised to discontinue graduate study.

In determining a graduate student's grade index, all course work attempted in graduate study at this university will be used as the basis of computation. If a graduate student repeats a course, both grades are counted in computing the index.

Post-baccalaureate students enrolled for work to meet requirements for certification as elementary or secondary teachers are given the same grade index advantage as is given undergraduate students for courses repeated (see page 53 of the 1976-78 UNI General Catalog). This applies only to those courses required for certification.

## REGULATIONS AFFECTING REGISTRATION

Each student admitted to graduate study is assigned an adviser. The adviser will assist the student in the registration process, involving the selection of courses and such other matters as:

1. **THE GENERAL GRADUATE EXAMINATIONS.** These examinations are administered by the Office of Institutional Research during the period of the graduate student's first registration. The Miller Analogies Test, a test of general academic ability, is required of all graduate students in most departments. A Professional Examination, an instrument measuring professional interest, attitudes, and understandings, is required of (1) all students on the Master of Arts in Education program except those majoring in College Student Personnel Services, (2) students on the Master of Arts program or the Master of Music program taking the non-thesis plan and Professional Core A, and (3) all students on specialist degree programs. The Graduate Management Admission Test is required for the Master of Business Administration degree. The university will assess a minimal fee for these examinations.
2. **MAXIMUM ACADEMIC LOAD.** The maximum graduate student load during each semester of the academic year is 15 hours; that permitted during the eight-week summer session is 8 hours; that during the two-week post session, 2 hours. Persons employed full time should not register for more than 6 hours of graduate credit in any semester.
3. **LEVEL OF COURSES.** Graduate students normally take courses in the 100(g) series and 200 series. A graduate student may take courses in the 100 series (without "g")



or below for *undergraduate credit*, but such courses do not carry graduate credit. However, all courses, graduate or undergraduate, taken as a graduate student, count in determining grade point average.

4. **CREDIT FROM OTHER INSTITUTIONS.** A maximum of 10 semester hours of graduate credit earned in another accredited institution may be applied toward meeting the minimum requirements for a master's degree at the University of Northern Iowa.
5. **VETERANS.** The university cooperates with the Veterans Administration in providing for the education of veterans under the provision of federal laws. Dependents of veterans or of those persons who may be classified as prisoners of war or missing in action may also receive financial assistance from the Veterans Administration. The Office of Veterans Affairs and the Office of the Registrar will assist students eligible under any of these laws and provide the required reports. Subsistence will depend upon the number of course hours for which the student enrolls. University officials are authorized to make certain exceptions in the matter of veterans doing graduate work. Questions should be referred to the Coordinator of Veterans Affairs.

## FEES

Fees for graduate study or for work undertaken by any person holding a baccalaureate degree are as follows:

<i>Academic Year</i>	<i>Resident</i>	<i>Non-Resident</i>
Per semester (9 hours or more) .....	\$330*	\$690*
Four (4) hours or less, per hour .....	37	37
Five (5) through eight (8) hours, per hour .....	37	78
Minimum fee .....	74	74
 <i>Summer Session</i>		
Seven (7) hours or more .....	\$238*	\$490*
Six (6) hours or less, per hour .....	37	78
Minimum fee .....	74	156

\*All fees are subject to change by the State Board of Regents. This amount includes fee designated by the State Board of Regents for support of Student Activities (both Graduates and Undergraduates)

- a. Academic year, per semester .....
- b. Summer Session .....

### NOTE:

Beginning with the 1977 Fall Semester, there will be an increase of tuition fees. Please see the 1977 Fall Semester Schedule of Classes for the new statement of fees.

# Master's Degree Programs

## COMMON REGULATIONS AND REQUIREMENTS

### Admission to Candidacy

Admission to candidacy is not the same as admission to graduate study. A student may wish to take only selected courses and have no intention of becoming a degree candidate. A student who wishes to earn the master's degree must first be admitted to graduate study, and then seek admission to candidacy for the degree. Admission to candidacy is granted after the conditions explained below have been met. Students must have a cumulative grade point average of at least 3.00 for courses taken as a graduate student to be eligible for candidacy.

Admission for candidacy is normally made soon after the first semester or summer session of residence work *and candidacy must be approved before the beginning of the semester or summer session in which the student expects to receive his degree.* The forms on which the application is made are available in departmental offices. The application is left with the head of the major department. *Unconditional admission* to graduate study is a prerequisite for the approval of candidacy for the master's degree.

The department in which the application for candidacy is filed may recommend the applicant to the Dean of the Graduate College for approval as soon as:

1. The General Graduate Examinations, if required, have been completed successfully. The Graduate Management Admission Test is required for the Master of Business Administration degree.
2. The Departmental Candidacy Examination has been completed successfully.

This examination is prepared and administered by the department in which the student plans to pursue a major. The examination may be either written or oral or a combination of the two. Performance tests related to the special skills in such areas as art, music, speech, and business education may be included as part of the candidacy examination for students pursuing majors in these areas. Each student should consult with his department head concerning the nature and content of these examinations.

The departmental examinations are conducted periodically and the student should consult the head of the department as to the time and place. The student will usually take this examination during the first semester of residence.

3. Either the thesis plan or the non-thesis plan has been designated by the student. On several majors, students selecting the non-thesis option must also complete either Professional Core A or Professional Core B. For most of the majors leading to the Master of Arts in Education degree, the student must hold or be eligible for an Iowa Professional Teaching Certificate; teaching experience may also be required.
4. A program of studies prepared by the candidate and the adviser has been approved by the departmental committee. This committee, with the student's adviser, has responsibility for the review of the student's program of studies to insure balance, breadth, and needed specialization. Each department offering a graduate major has one or more departmental committees.
5. The departmental committee recommends candidacy.
6. The application has been approved by the department head.

7. The application has been approved by the dean of the appropriate college.

The Dean of the Graduate College may approve the application at once or may delay action until additional scholarship or other data are available or may return it to the department with comments. The Dean of the Graduate College is in general charge of each graduate student's program.

**THESIS COMMITTEE.** For the student following the thesis plan, the thesis committee is appointed by the Dean of the Graduate College after his approval of the student's application for candidacy. It usually consists of the student's adviser as chairman and two additional faculty members. The committee assists the student in further defining his course work, in supervising his research and writing, and eventually accepts or rejects the thesis.

The nature of the thesis is described on p.28.

**SELECTION OF THESIS TOPIC.** The student following the thesis plan of study is urged to make at least a tentative selection of a topic by the end of his first semester in residence. The delineation of an exact topic is not necessary before applying for candidacy, but the designation of a probable area of study must be made.

## Graduation Requirements

### THESIS PLAN

1. A minimum of 30 semester hours of graduate credit, of which at least 24 hours must be in course work excluding thesis research credit. At least 20 semester hours must be earned at the University of Northern Iowa.
2. A minimum of nine (9) semester hours in 200-level credits other than xx:299 Research, plus six (6) semester hours in xx:299 Research (for thesis).
3. The course requirements for a specific major and any additional courses designated by the departmental committee.
4. Core requirement.
  - Master of Arts in Education
    - 20:214 Advanced Educational Psychology—2 hrs.
    - or
    - 26:234 Philosophy of Education—2 hrs.
    - 25:294 Educational Research—3 hrs.
  - Master of Arts
    - Varies with the major. See pp. 37 to 51.
  - Master of Business Administration
    - No core required.
  - Master of Music
    - No core required.

### NON-THESIS PLAN:

1. The minimum number of hours of graduate credit varies with the major. All include at least 30 semester hours. (see pp. 31 to 51.) At least 20 semester hours must be earned at the University of Northern Iowa, of which at least six (6) semester hours must be earned in a single semester or summer session.
2. A minimum of nine (9) semester hours in 200-level credits other than xx:299 Research, plus 3 additional semester hours of 200-level credits which may or may not be in xx:299 Research depending upon the policy of the major department and the specific study plan formulated for the individual student.
3. The course requirements for a specific major and any additional courses designated by the departmental committee.

4. Core Requirements:

Master of Arts in Education

20:214 Advanced Educational Psychology—2 hrs.

or

26:234 Philosophy of Education—2 hrs.

25:294 Educational Research—3 hrs.

Master of Arts

Professional Core A or Professional Core B—required only by certain majors.

Master of Business Administration

No core required.

Master of Music

No core required.

*Professional Core A* (prerequisite: Iowa Professional Certificate or equivalent)

20:214 Advanced Educational Psychology—2 hrs. or

26:234 Philosophy or Education—2 hrs.

25:294 Educational Research or

a departmental course in Research and Bibliography

A course in curriculum or methods of instruction in the major field or any additional course numbered 200 from courses in the 20: through 29: series.

*Professional Core B* (Students completing Professional Core B with an appropriate distribution of courses in one or more subject areas may be recommended for Iowa Public Junior College certification. Iowa requires a course in American history or American government for all certification.)

27:252 Current Issues in Higher Education—2 hrs. (or 3 hrs.)

27:250 Teaching in College—3 hrs.

:297 Practicum—2 hrs.

5. At least one research paper approved by the department and filed in the departmental office.

## Other Requirements and Criteria

1. **SCHOLARSHIP.** A cumulative grade index of 3.00 (B average) must be earned at the University of Northern Iowa in all courses attempted as a graduate student. No credit toward graduation is allowed for a course in which a grade below C is earned, and courses in which the grade earned is below C are not applicable in meeting graduation requirements or in satisfying specific course requirements.
2. **RECENCY OF CREDIT.** Courses taken more than 7 years prior to the granting of the degree cannot be used to meet degree requirements.
3. **CANDIDACY.** The requirements for candidacy are described on pp. 24-25.
4. **TRANSFER CREDIT.** Graduate credit from other approved institutions may be accepted to a maximum of one-third of the total amount of credit included in the student's graduate study plan. However, if use of a correspondence course is authorized, the permissible amount of transfer credit is correspondingly reduced. Application of transfer credit toward a graduate major is dependent upon its acceptability in the judgment of the major department.
5. **CORRESPONDENCE CREDIT.** Correspondence courses may not ordinarily be applied toward a graduate degree program. In unusual circumstances a student may request that a maximum of 3 semester hours of 100g-level correspondence credit may be applied to a graduate degree program. The request must be made prior to registering for the course.

6. **RADIO AND TELEVISION CLASS CREDIT.** Credit earned in radio and television classes usually may not be applied toward the master's degree.
7. **SATURDAY, EVENING, AND SHORT-TERM CLASSES.** Some classes are scheduled for Saturday morning, or for an evening, or for extended sessions daily for two or three weeks. These classes differ from other residence classes only in that they involve fewer meetings and longer single sessions. Such classes are offered in Cedar Falls and at other announced locations in various parts of the state. Lists of the classes may be secured by writing to the Office of the Registrar during the month preceding the opening of a semester or summer session.
8. **CHANGES IN COURSE NUMBERS, ETC.** Occasionally the university makes changes in course designations: title, number, or hours of credit. A graduate student continues to use the designations as they existed at the time he was enrolled in a given course.

9. **EXAMINATIONS.**

**THESIS PLAN.** In addition to whatever examinations are required for each course, the candidate for the degree on the thesis plan will take (1) General Graduate Examinations, as required (see p. 22), and (2) the Departmental Candidacy Examination (see p. 24). Further, if final written and oral examinations are required by his thesis committee and his major department, the candidate will be required to pass them.

**NON-THESIS PLAN.** The candidate for the degree on the non-thesis plan is required to take the same examinations required on the thesis plan and in addition, (3) a Final Comprehensive Examination (which may be written or oral), which is prepared and administered by the major department. Results must be reported to the Office of the Dean of the Graduate College at least 15 days before semester Commencement and at least one week before summer session Commencement.

10. **RESEARCH CREDIT.** Registration for 299 Research will not be accepted until the student has submitted a statement or outline of the proposed research project and has secured the approval of the person directing the research project and the head of the appropriate department. A copy of the completed research report, approved by the director of the research project and the department head, will be filed in the departmental office.

Research carries residence credit and may be pursued either on campus or off campus, but **not** in an extension class. There is no prerequisite, although it is strongly recommended that 25:294 Educational Research or a departmental course in research be completed before registering for Research. It is expected that the work will be completed during the given semester or summer session.

11. **RESIDENCE.** At least two-thirds of the total minimum hours required for either the thesis or non-thesis plan must be taken with members of the UNI faculty; this is exclusive of thesis credit. Correspondence credit may not be counted in the above hours. At least six semester hours must be earned in a single semester or summer session.

After a student has been admitted as a candidate for the master's degree in this university, and provided that prior arrangements have been made with the Dean of the Graduate College, he may take work at the University of Iowa, Iowa State University of Science and Technology, or the Quad-Cities Graduate Study Center for which residence credit may be given at the University of Northern Iowa.

12. **THESIS.** A thesis is required of all candidates who choose the thesis plan of study. Because the thesis is considered to serve a functional need, no attempt is made to limit the topics considered acceptable.

The thesis may take the form of studies, experiments, surveys, compositions, creative work, and projects and may concern itself with such matters as methodology, understanding children, and materials of instruction, or may delve rather deeply into some aspect of a specialized academic field. Whatever the nature of the subject, its development into an acceptable thesis is considered to contribute to the growth of such attributes as maturity of judgment, initiative, writing ability, and organizing ability. While the thesis may make no significant contribution to the world's knowledge, its preparation should develop in the writer a broader understanding of the world's knowledge and a more genuine appreciation of the research efforts of others.

The work on a master's thesis will normally be considered to cover about 6 semester hours of work. To earn this credit, a student registers for *Research* and usually not in one block. The instructor will assign a grade for a semester's registration in *Research* based upon the progress made, but may assign an *Unfinished (U)* if he feels the work has not reached the place where it can be evaluated. Registration for the last segment of *Research* credit for which a student registers (for work on his thesis) should be postponed until the thesis is near completion. The Dean of the Graduate College may authorize the extension of time for the completion of an *Unfinished in Research* up to one additional calendar year; but if at the end of that time the work has not been completed, the grade of *U* will be changed to an *F (Failure)*.

Completion of a thesis project occurs when the thesis has been approved by the Committee and the Dean of the Graduate College.

13. **FILING OF THESIS.** The thesis must be presented in final form to the thesis committee at least 30 days before graduation. A specimen title page and form for final approval may be obtained in the Office of the Dean of the Graduate College. The student must present two acceptable copies, an original and one copy, both on bond paper of either 16- or 20-pound weight; these are retained by the university library. The student's major department may request a third copy for its files. After the thesis committee has accepted the thesis, the student must transmit the two copies to the Dean of the Graduate College not later than two weeks before semester graduation or one week before summer commencement. When the student has been notified of the acceptance of his thesis, he will secure a fee card to cover the thesis binding cost of \$6 for the library copies and will pay this fee at the business office.
14. **FILING OF ABSTRACTS OF THESIS.** An abstract or summary of the thesis is required of each candidate following the thesis plan toward the master's degree. The abstract will be approximately 500 words in length and will be filed in triplicate in the Office of the Dean of the Graduate College.
15. **APPLICATION FOR GRADUATION.** The candidate for the master's degree must make application for graduation not later than the end of the ninth week of the semester or the fourth week of the summer session in which he plans to receive the degree. The application form may be secured in the Office of the Registrar. Applications received after the dates designated will be placed with those for the following session.
16. **ATTENDANCE AT COMMENCEMENT.** The candidate for the master's degree is expected to secure the appropriate academic costume and to appear at Commencement for the awarding of the degree.

## Summary of Hour Requirements

A summary of the hour requirements for both the thesis and the non-thesis plans is listed below:

	<i>Thesis</i>	<i>Non-Thesis</i>
Minimum graduate hours required .....	30*	30-37**
Minimum hours of credit at UNI .....	20	20-25†
Maximum usable hours combined in transfer and Correspondence credit .....	10‡	10-12‡
Maximum usable hours of correspondence credit (requires special permission to use) .....	3	3
Minimum hours required in courses numbered 200 and above .....	9#	12##

\*Included 6 semester hours for research.

\*\*Includes at least one research paper. Total hours depends on major chosen.

†Must include 6 or more hours in one semester or summer session.

‡Up to one-third of the hours on the graduate study plan.

#In addition to the 6 hours research credit for thesis.

##In some departments this may include 3 hours of xx:299 Research.

## Certification and Endorsements

**CERTIFICATION.** For approval in some graduate programs, a student must have earned or be eligible for an Iowa Professional Certificate or its equivalent endorsed in an area appropriate to the graduate major. Credit earned in education, psychology, or teaching to secure a teaching certificate as a prerequisite to candidacy for the master's degree may not be used toward the master's degree. Iowa requires a course in American history or American government for all certificates. For information on certification, consult the Registrar.

**TEACHING CERTIFICATE AND ENDORSEMENTS.** Students interested in securing certificates to teach in another state should secure information directly from the State Department of Public Instruction in that state and should consult the Registrar of his college.

*Students with an Iowa Professional Certificate, the master's degree, and four years of successful teaching experience are entitled to an Iowa Permanent Professional Certificate with appropriate endorsements.*

## Second Master's Degree

To receive a second master's degree, a student must meet all the requirements for the second degree with the exception that eight hours of work from the first degree may be used for the second degree. The requirements for work at the University of Northern Iowa, "200" work, and all other specific requirements shall be met for the second degree in addition to work completed for the first degree. For all course work taken beyond the first master's degree, the cumulative grade point index must be 3.00 or higher.



# Master of Arts in Education Degree

This degree is designed for students whose work is primarily in professional education. Majors are available in the following areas:

**EDUCATIONAL MEDIA**

*Educational Media*

**EDUCATIONAL PSYCHOLOGY**

*General Educational Psychology*

*School Psychology*

*Teaching*

**ELEMENTARY EDUCATION**

*Elementary Education*

**READING**

*Developmental Reading and Language Arts—Elementary*

*Developmental Reading—Secondary*

*Remedial Reading*

**SCHOOL ADMINISTRATION AND SUPERVISION**

*Secondary Principalship*

*Elementary Principalship*

*Elementary Supervision*

**SCHOOL BUSINESS MANAGEMENT**

*School Business Management*

**SPECIAL EDUCATION**

*Special Education*

*Gifted*

**STUDENT PERSONNEL SERVICES**

*Elementary Guidance and Counseling*

*Secondary Guidance and Counseling*

*College Student Personnel Services*

Although a special curriculum is not available for supervisors of student teaching, a student can arrange a program which will qualify him for such a position.

Two plans of study leading to the degree of Master of Arts in Education are available: one plan requires the writing of a thesis; the other does not. The program prescribed for each student depends upon his undergraduate preparation, his experience, and his future plans. The needs of the student as determined by him, his adviser, and his departmental committee are the guiding factors in program planning. Regardless of the plan of study followed, graduate work leading to the degree of Master of Arts in Education should constitute a cohesive, logically planned program, not merely an accumulation of credit in a variety of courses. Only selected students are admitted to candidacy.

Detailed information for each of the above programs, and specific requirements for each major area, may be obtained from the head of the department offering the majors.



These include:

*Department of Curriculum and Instruction*

Educational Media  
Elementary Education  
Reading  
Special Education

*Department of Educational Psychology and Foundations*

Educational Psychology

*Department of School Administration and Personnel Services*

School Administration and Supervision  
School Business Management  
Student Personnel Services

## REQUIREMENTS FOR VARIOUS MAJORS

*On each curriculum and for each major, the student who plans to receive the degree of Master of Arts in Education must meet the graduate requirements described on pp. 20 to 29.*

Many programs at this level carry with them the requirements for certificate endorsement. In some cases, the student may be building up his competency in a field in which he has had little or no preparation at the bachelor's level. For these reasons some of the programs must carry with them a substantial number of specific requirements. Whenever possible, however, an effort is made to keep the specific course requirements for each major at a minimum so that the student, with the help of his adviser and the departmental committee, may plan the graduate program which will best meet his individual needs.

Worksheets showing the specific requirements of each major and emphasis are available in the office of the department which offers the major.

## EDUCATIONAL MEDIA

### Major in Educational Media

This major is designed to prepare educational media specialists for a variety of professional positions in educational settings, including: school building level, school district level, vocational-technical school, junior college, and university. The student must hold certification valid for either elementary or secondary school teaching to meet requirements in Iowa for endorsement as an Educational Media Specialist.

The major is available on both the thesis and non-thesis options for a minimum total of 30 semester hours on either option.

Required: 24:131; 24:135; 24:137 or 24:138; 24:147; 24:205; 24:230; 24:289; 24:290; 27:220 or 27:227.

Electives: as recommended by the department.

## EDUCATIONAL PSYCHOLOGY

### Major in General Educational Psychology

Competency is required through examination or the following courses: 40:008, 20:100 or 20:116; 25:181; 25:180.

Required: A minimum of 20 semester hours in courses numbered with the prefix 20, 25, 26, or 40; 15 hours must be chosen from a selected list.

A student who expects to teach in college should take: 27:250 and 27:252.

### Major in School Psychology

Prior to certification the student must have completed a minimum of one year of successful teaching experience and/or successful completion of 2-6 semester hours of 20:291.

Competency is required through examination or through the following courses: 25:181; 25:180.

Required: 20:230 or 20:142; 25:282; 25:283; 20:194; 22:150; 20:289; 20:290; 29:205; 23:112 or an acceptable course in reading.

Some of these courses required may be satisfied by previous undergraduate work. Electives as recommended by the department.

### Major in Teaching

This major is designed to serve the professional needs of experienced teachers.

Required: A minimum of 30 semester hours as follows:

Component I:	Advanced Professional course work	8-12 hours
Component II:	Theoretical-Philosophical course work	8-12 hours
Component III:	Advanced Academic course work in one department	8-12 hours

## ELEMENTARY EDUCATION

### Major in Elementary Education

The student must be fully certified to teach in the elementary schools prior to his completing this major. In addition to the professional core, if the student has not had the following courses or their equivalent, satisfactory completion of the courses or a proficiency equivalent will be required as part of the major: 20:100; 25:181; 25:180.

This program has been designed to include a maximum amount of flexibility to permit the student, his adviser and the committee to plan his program in such a way as to assure that it will strengthen him as an elementary teacher or as a college teacher of elementary education. No specific course requirements have been set. For some students, it will permit a maximum amount of depth in one or more subjects; for others, it will allow for breadth; for still others, it may eliminate deficiencies in preparation. However, the program will be carefully planned early in the career of the student to assure maximum benefits.

## **READING**

### **Major in Developmental Reading and Language Arts—Elementary**

These courses satisfy the requirements for certification as a reading teacher. The student must be fully certified to teach as an elementary teacher prior to completing this major. Competency is required through examination or the following courses: 20:100; 21:044 or 62:165; 23:110 or 23:130.

Required: 21:210 or 23:212; 23:113; 23:111; 21:144; 23:290; 23:289 Trends in Reading and Language Arts.

Required: 2 additional hours of 23:289 as specified by the Department of Curriculum and Instruction.

Required: 3-6 hours from the following supporting areas: linguistics, library science, art, music, physical education, English, speech pathology, speech.

### **Major in Developmental Reading—Secondary**

These courses satisfy requirements for approval as a secondary reading teacher. The student must be certified to teach in secondary schools. Competency is required through examination or the following courses: 20:116; 23:130; 23:132; 25:180; 25:181; 62:165.

Required: 23:289; 23:290; 23:147; 23:210; 23:212.

Recommended electives: 24:132; 23:114; 23:140; 23:244.

### **Major in Remedial Reading**

This major satisfies course requirements for endorsement as a Reading Clinician. Student must be certified to teach in either the elementary or secondary schools. Competency is required through examination of the following courses: 20:100 or 20:116; 23:110 or 23:180; 21:044 or 21:144 or 62:165; 23:147; 23:148; 25:180; 25:181.

Required: 23:210; 23:212; 23:240; 23:289; 23:290.

Recommended electives: 23:112; 23:113; 23:114; 23:140; 23:192; 23:242; 23:244.

## **SCHOOL ADMINISTRATION AND SUPERVISION**

The student must complete the usual degree and certification requirements as well as those for the particular endorsement he seeks. He must complete a minimum of one year of successful teaching appropriate to the major prior to graduation.

In addition to the general requirements, a student will be required to complete:

27:102 and 27:204

Practicum in an appropriate area.

A course in child growth and development, guidance and counseling, educational psychology, or in the area of the exceptional child.

### **Major in Secondary Principalship**

Required: 27:228 and 27:227.

### **Major in Elementary Principalship**

Required: 27:221 and 27:220.

### **Major in Elementary Supervision**

Required: 27:221; 27:141; 27:212; 27:220.

### *Note: Superintendency*

The program for the preparation of the superintendent of schools is a two-year program. The requirements may be met by completing the appropriate Specialist in Education degree program or prescribed program beyond the master's degree. A program sheet with specific details may be obtained from the departmental office.

## **SCHOOL BUSINESS MANAGEMENT**

### **Major in School Business Management**

This major is offered cooperatively by The Department of School Administration and Personnel Services and the Department of Business Education and Office Administration. Students completing the major in the Department of School Administration and Personnel Services are awarded the Master of Arts in Education degree; students completing the major in the Department of Business Education are awarded the Master of Arts degree. For the Master of Arts in Education, the program is as follows:

Required: 27:102; 27:230; 27:240; 27:243.

Electives as approved by chairman and co-chairman.

The student's chairman will be appointed by the Department of School Administration and Personnel Services and a co-chairman by the Department of Business Education. Candidacy and comprehensive examinations will be under the joint jurisdiction of the two departments.

### **SPECIAL EDUCATION**

The student must be fully certified to teach in either the elementary or secondary schools (depending on the major chosen) prior to completing a major in this area.

Competency is required through examination or the following courses: 20:100 or 20:116 (whichever appropriate), and 22:150.

### **Major in Special Education**

Required: Professional Core A.

Required: Competence through examination or course work at either the graduate or undergraduate level in 22:170, 22:171, 22:174, and 4 semester hours of 22:192 from tutorial, profound, preacademic, primary, intermediate, or secondary.

Required: Competence demonstrated through proficiency evaluation or course work at the graduate level in 22:184, 22:252, and 22:290 which must be taken concurrently.

Emphasis: The student may choose one of the following three emphases; and competency may be demonstrated through proficiency evaluation or course work.

#### *Profound/Severe/Preacademic:*

Required: 22:183;

22:187, 22:289, 22:290 taken concurrently;

and 5-8 semester hours of electives from a selected list.

#### *Elementary:*

Required: 22:180; 22:182; 23:147; 23:192;

22:289 and 22:290 taken concurrently;

and 2-6 semester hours of electives from a selected list.

#### *Secondary:*

Required: 22:181; 22:182;

22:251, 22:289, 22:290 taken concurrently;

and 6-10 semester hours of electives from a selected list.

### **Major in Gifted**

Required: 22:154; 25:282; 21:289; 20:194 or 28:250.

Electives from a selected list—5 hours.

*Note: Educational Strategist/Teaching Consultant Program*

The special education offerings include an approval program for the preparation of special education resource strategists/teaching consultants which includes course work which is beyond the requirements for the master's degree but which may be completed near or at the end of the master's degree course work. The prescribed requirements for this program also may be completed while completing the appropriate Specialist in Education degree or after completion of the master's degree.

To be recommended for this approval, a student must have completed an acceptable master's degree (in special education or the equivalent), to be approved in at least one disability area (i.e., mental retardation, emotional disturbance, learning disabilities), have at least two years of teaching experience, and qualify for Endorsement 10, 20, or 35. A program sheet with specific details may be obtained from the departmental office, Department of Curriculum and Instruction.

A total of 28 semester hours is required as follows:

*Phase I*

Required: 22:170; 22:174; 22:192 (Tutorial)

*Phase II*

Required: 22:171; 22:192 (Group);

and two from the following: 22:180, 22:181, 22:183, 22:187.

*Also required:* 22:240; 22:245; 22:289 (2 hrs.); 22:290.

## **STUDENT PERSONNEL SERVICES**

The student must complete the usual degree and certification requirements and those for the particular endorsement he seeks.

### **Major in Elementary Guidance and Counseling**

Required: 29:104; 29:207; 29:210; 29:220 or 29:124; 29:126; 29:227; 29:290 (3 hrs.); 20:270; 25:181.

Student must be certified as an elementary teacher. One year of teaching experience or appropriate internship required for degree.

### **Major in Secondary Guidance and Counseling**

Required: 29:102, 29:110; 29:203; 29:205; 29:220 or 29:124; 29:210; 29:227; 29:290 (3 hrs.); 25:181.

Student must be certified as a secondary teacher. One year of teaching experience or appropriate internship required for degree.

### **Major in College Student Personnel Services**

Competency is required through examination or the following courses: 25:180; 25:181.

Certification to teach is not required for this major.

Required: 29:205; 29:230; 29:289; 29:290 (two different practicum experiences—6 hours).

Electives from a selected list—8 hours.



# Master of Arts Degree

A number of curricula lead to the degree of Master of Arts. Programs are available for advanced preparation of elementary and secondary teachers, for college teaching, including programs for Iowa Public Junior College certification and for graduate study without reference to teaching. The following majors are offered.

- |                      |   |
|----------------------|---|
| Art                  | Mathematics for Elementary Schools        |
| Audiology            | Music                                     |
| Biology              | Music Education                           |
| Business             | Physical Education                        |
| Business Education   | Physics                                   |
| Chemistry            | Political Science                         |
| Communications Media | School Business Management                |
| Counseling           | Science                                   |
| Earth Science        | Science Education                         |
| English              | Social Science                            |
| English Linguistics  | Sociology                                 |
| French               | Spanish                                   |
| Geography            | Speech                                    |
| German               | Speech Pathology                          |
| History              | Teaching English as a Foreign Language    |
| Home Economics       | Teaching English in the Community College |
| Industrial Arts      | Technology                                |
| Library Science      | TEFL and Foreign Languages                |
| Mathematics          |   |

The Master of Arts program is a highly flexible one. The plan of study prescribed for each student depends upon his undergraduate preparation, his experience and his future plans. The needs of the student as determined by him, his adviser, and his departmental committee are the guiding factors in course selection. It should be stressed, however, that regardless of the plan of study followed, graduate work leading to the degree of Master of Arts should constitute a cohesive, logically planned program, not merely an accumulation of credit in a variety of courses. On most programs both the thesis and the non-thesis plans are available. Only selected students are admitted to candidacy.





## REQUIREMENTS FOR VARIOUS MAJORS

*On each curriculum and for each major, the student who plans to receive the master's degree must meet the graduate requirements described on pp. 20 - 29.*

### Major in Art

Each student's program will be determined by his background and his needs after consultation with his advisor. The department assumes that most candidates for a master's degree will have undergraduate preparation in the field of art.

On admission to graduate study each candidate will have his undergraduate record and a portfolio of his work evaluated to determine what, if any, undergraduate work must be made up before graduate hours will apply to a degree program. In the total preparation for a master's degree (both undergraduate and graduate work) a student is expected to have completed:

A minimum of 60 semester hours in art, including at least 14 hours in art history.

"Equivalent experience" will be taken into consideration by the evaluating graduate faculty group.

Three options are offered: the thesis, non-thesis, and the studio thesis. A minimum of 30 hours of applicable graduate work, including six hours of graduate art history, is required using any option.

The studio thesis will consist of an exhibition, performance, or project to be evaluated by an assigned studio thesis committee. Slides, reproductions, or other suitable visual record of the thesis are required to be filed, along with catalog information identifying the work. Examples from the thesis will ordinarily be selected and retained. In certain cases, a written statement may also be required by the evaluating committee if it seems pertinent to explain techniques, processes, or attitudes.

If a student wishes to pursue a certificate for endorsement as a supervisor of art, he must have completed four years of successful teaching in art and must include in his graduate program:

60:296

and at least 7 hours from 27:141, 27:212, 27:220; 27:226, 27:227.

Before the master's degree is conferred the student must demonstrate proficiency in his major area. Specific information relative to these requirements and options is available in the office of the Department of Art.

## Major in Audiology

The professional program in audiology is designed to prepare students for careers as clinicians providing services to the acoustically impaired, with primary emphasis on children in public schools. Recommendations for clinical certification will be given only upon completion of all academic requirements. Although this major is available in either the thesis or the non-thesis option, a thesis will be permitted only with the department's approval. The thesis option is recommended for only superior students who plan to continue their study beyond the master's level. The non-thesis plan requires four additional semester hours of course work.

Required in audiology: 27 semester hours of the following courses—

51:265; 51:270; 51:272; 51:272; 51:273; 51:274; 51:275; 51:258; 51:289.

Required in a related or tool area: 6 semester hours in a single area to be elected by student approved by his adviser. Suggested areas: acoustics, statistics, psychophysical measurements, electronics, speech pathology, language pathology.

To meet certification requirements in Audiology of the American Speech and Hearing Association, a student is required to have 12 semester hours in the area of Basic Communication Processes such as:

- a) anatomic and physiologic bases of speech and hearing,
- b) physical bases and processes in the production and perception of speech and hearing,
- c) linguistic and psycho-linguistic variables related to normal use of speech, language or hearing;

and six (6) semester hours in Speech Pathology. The specific courses to be taken will be chosen in consultation with the student's adviser and may be taken before or concurrently with the major sequence, although they are not part of the major sequence.

*Comprehensive examination:* every student is required to write a six (6) hour examination which would normally be taken during the final semester of study.

A minimum of 275 clock hours of varied and supervised clinical experience is required for the major. All students are required to participate in professional activities a minimum of 15 clock hours per week. Time spent in supervised clinical activities may be counted toward the 275 clock hours of direct supervised clinical work required for ASHA certification as well as audiology practicum.

## Major in Biology

This major is available on both the thesis and non-thesis options. No core is required on either option. Prospective majors must complete an application with the department prior to beginning their programs. Graduate record examination (GRE) scores for aptitude and for advanced biology tests must also be submitted to the department.

Required: 84:292; 82:200.

Required: 84:189g or 84:289 — 2 hrs. (at least one hour must be 289).

Minimum number of hours for the non-thesis option is 37 semester hours, 34 hours plus a three-hour research paper. At least 23 hours must be in the field of biology.

Minimum hours for the thesis option is 30 hours, of which 6 hours is the thesis. At least 12 hours exclusive of research and thesis must be in the Biology area.



## Major in Business

The program for this major leading to the Master of Arts degree is being phased out, and beginning with the 1975 Fall Semester students have not been permitted to make an initial enrollment under this program. The Master of Arts degree with a major in Business will not be awarded after August 31, 1980.

(All students wishing to make the transition from the M.A. in Business program into the Master of Business Administration program should consult with the graduate program adviser.)

The major in Business is a non-teaching program designed to qualify men and women for creative leadership in a dynamic business society. Admission to candidacy for the degree is dependent upon the candidate's undergraduate record and test scores on the Graduate Management Admission Test. The GMAT examination must have been taken prior to enrollment in the program.

The length of the program will depend upon the candidate's undergraduate background and business experience. Both the thesis and the non-thesis options are available for the majors in Business. For either option the program is:

Required: 12:262; 13:263; 15:260; 15:263; 15:299; 92:139

Electives: Minimum of 12 hours for non-thesis.

Minimum of 6 hours (plus thesis) for thesis.

Electives must be approved by the candidate's graduate committee and selected from the fields of business, economics, mathematics, anthropology, sociology, or psychology.

Candidates selecting the non-thesis option must write a major research paper for which no credit will be given. The candidate must make a formal oral defense of this paper before the graduate faculty of the Department of Business.



### **Major in Business Education**

Both the thesis and the non-thesis options are available for the major in Business Education. A professional core of seven or eight semester hours is required; it may consist of Core A, Core B, or the following courses: 17:113; 17:114; 17:119. When approved in advance by the departmental graduate committee, the core may be composed of other combinations of professional courses.

Required: 15:292 or 25:294; 17:203 and/or 17:207.

Graduate and undergraduate credit combined must include at least 50 semester hours in business, business education, and closely related subjects and must include credit in economics and in accounting.

Candidates selecting the non-thesis option must write a formal research paper approved by the departmental graduate committee. This may be a paper written independently without credit or may be one presented to meet a requirement of a business education course numbered 200 or higher.

### **Major in Chemistry**

This major is available with or without teaching emphasis on either the thesis or non-thesis plan. A minimum of 30 semester hours is required for this major, and the total number of hours will depend upon the student's undergraduate preparation and professional objectives.

Courses in chemistry to be applied to this program must be beyond the requirements for the B.A. Chemistry Teaching or the B.A. Chemistry Major A. Individual programs will be worked out in consultation with the departmental Graduate Adviser.

All non-teaching programs must include at least three (3) hours of research, 86:299.

All programs must include 82:200 or an equivalent course.

Professional Core B is recommended for two-year college teaching preparation.

All new graduate students should take an orientation examination, administered by the Chemistry Department, during registration or on the first day of classes. Policies on graduate study in chemistry may be obtained from the departmental office.

Attention is also called to the chemistry-physics teaching emphasis program available under the Science Major for the Master of Arts degree. Students may inquire at the Chemistry Department office for information on this program.

### **Major in Communications Media**

This major is offered by the Department of Curriculum and Instruction as a program in media production and message design for persons planning to work in non-school settings, and is available on both the thesis and the non-thesis options. A minimum of 30 hours is required for either option.

Majors in this area will complete a basic core of course work applicable to all preparing for work as media specialists or communications designers. Specific areas of interest will determine the supporting electives. A teacher's certificate is not required. The student's baccalaureate degree may be in any field.

Required: 24:131; 24:135; 24:137 or 24:138; 24:147; 24:205; 24:230; 24:289.

Electives: 16 hours from Educational Media and other academic disciplines related to the individual learner's area of emphasis. Selection of the emphasis shall be made in consultation with the student's adviser.

### **Major in Counseling**

The program is designed for persons who plan to counsel in non-school settings such as churches, industry, student centers, employment services, domestic peace corps, job corps, and similar situations. Students who major in this area will complete a basic core of courses applicable to all preparing for work as counselors. Courses in psychology and measurement are provided as a background. Specific areas of interest and the professional field in which the person plans to work will determine the supporting course work and the appropriate electives. Since persons working on this major will be interested in counseling activities in settings other than that of education, there will be no necessity for the student to hold a teaching certificate. The student's baccalaureate degree may be in a liberal arts or a profession, including teaching, however.

Required: 29:203; 29:205; 29:220 or 29:124; 29:110 or 29:225; 29:227; 29:252;  
29:290 (3 hrs.)

29:289 Agency Counseling—2 hrs.

29:289 Seminar: Preparation and Processing Grant Proposals—2 hrs.

Required: a minimum of five (5) hours from a selected list.

Worksheets giving complete details of this program are available in the office of the Department of School Administration and Personnel Services.

### **Major in Earth Science**

Each student who majors in Earth Science will complete Professional Core A or Professional Core B or a special core arranged by the student and his graduate committee.

Required: 87:292 or 25:294; 82:200.

Electives: As approved by the department; a minimum of 18 hours of graduate credit hours in earth science.

A maximum degree of flexibility is permitted so that each program of studies can be adjusted to the particular needs of the individual. The total number of graduate hours required for the major will depend upon the student's undergraduate preparation. A minimum of 30 graduate credit hours is required for this major.

A research paper in earth science is required of students on the non-thesis program. Credit may be earned for the paper by enrolling for 87:299. It is expected that the paper and research will involve field and laboratory study.

### **Major in English**

The major in English is available on both the thesis and the non-thesis options.

Required of all students: 62:201.

Thesis option: Minimum of 30 hours including 6 hours for the thesis.

Non-thesis option: Minimum of 30 hours—

Core A or Core B. Required: 62:193 or equivalent.

No Core: Program planned by student and adviser.

At least one semester before the degree is conferred, all candidates for degrees in English must demonstrate a basic competence in a foreign language. This requirement may be met in one of two ways: either by obtaining at least a C grade in the second semester of a language course at this university (or its equivalent at another accredited institution) or by passing a proficiency examination. This requirement does not apply to a student whose native language is other than English. Work taken to satisfy the foreign language requirement does not count toward the number of hours required for the completion of the degree.

(See p. 50 for the major in Teaching of English as a Foreign Language.)

(See p. 50 for the major in Teaching of English in the Community College.)

### **Major in English Linguistics**

This major is offered on both the thesis and non-thesis options for a minimum total of 30 hours on either option. If a student has taken either of the stated required courses or their equivalents, he may substitute electives for these hours.

Required: 63:254; 63:256.

The remainder of the 30 hours shall be selected by the student in consultation with his adviser. Such electives may include appropriate course work from outside the discipline (e.g., foreign languages, philosophy, mathematics, anthropology, psychology, speech pathology, or literature).

Native speakers of English must demonstrate proficiency in another language by earning at least a "C" grade in a second semester, college-level language course or by passing a specially designed examination. Native speakers of other languages must register for 63:105 in order to demonstrate their proficiency in English; however, at the end of the first week of the term, the instructor may release the student from this requirement. Work taken to satisfy the language proficiency requirement does not count toward the 30 semester hours required to complete the program.

It is recommended that all students acquire some knowledge of at least one of the following: computer programming, mathematical logic, or set theory.

### **Major in French**

This program prescribes no required courses. Each student's program will be determined by his needs and in consultation with his adviser. A minimum of 30-32 hours is required for both the thesis and the non-thesis options.

### **Major in Geography**

All students planning to enroll in this major must take diagnostic examinations before beginning graduate work. The core of these examinations will be subject matter from the following courses: 97:010 or 97:025, 97:031, 97:109, 97:183. These examinations are required in order to assist in recommending specific courses which the student should take. The student must also demonstrate facility with material covered by the course 97:101.

Required: 97:193; 97:203; 97:288.

Required: thesis, or a research paper as prescribed by the department.

Students must take a final examination, written and/or oral, at the discretion of the Geography faculty.

### **Major in German**

This major is available on both the thesis and the non-thesis programs. A minimum of 30-32 hours is required for either option.

Required: 74:201 or equivalent; 74:203 or equivalent; 74:250.

The remainder of the program will be determined by the student's needs in consultation with his advisor.

### **Major in History**

This major is available on either the thesis or non-thesis option with a minimum of 30 semester hours required for each (thesis, 24 hours plus 6 hours credit for the thesis). A research paper is required on the non-thesis option. Prospective majors must consult with the department head about further requirements prior to beginning their programs.

Required: 96:290 or 96:292; 96:193; and 96:289 United States Historiography or 96:289 European Historiography or another approved historiography course.

Students must take a final comprehensive examination, both written and oral.

A reading proficiency in a foreign language is recommended. This is particularly essential for those persons intending to pursue graduate studies beyond the M.A. degree.

Students must take 3-6 semester hours outside the field of history.

### Major in Home Economics

A minimum of 30 semester hours is required in both the thesis and non-thesis options for this major. Additional hours may be required if, upon entering the graduate program, the student lacks the equivalent of the undergraduate major in the graduate emphasis. Total hours for the thesis option includes 6 hours of credit for the thesis. Students selecting the non-thesis option are required to write a research paper and take a written comprehensive examination on their graduate program. Two emphases are offered in this major.

Required for both emphases: 31:281

and electives as approved by the departmental graduate committee. (These electives may include courses in related disciplines such as chemistry, biological science, art, psychology, educational psychology, social work and/or sociology.)

#### I. *Emphasis in Home Economics Education*

Required: 31:280; 31:282; 31:283.

#### II. *Emphasis in General Home Economics*

Required: 31:284; 31:290.

At least 15 of the total hours for either program must be in the emphasis area selected. 31:281, 31:284, 31:285, 31:286, 31:289, and 31:290 may be counted toward either emphasis depending upon the content of the course.

### Major in Industrial Arts

The industrial arts major is available on both the thesis and non-thesis options. A minimum of 30 semester hours is required for the thesis option, and 32 semester hours for the non-thesis plan.

Required for Professional Core A (*K-14 teachers*): 20:214 or 26:234; 33:214; 33:226; 33:228; 33:270 (6 hours) or thesis; 33:292.

Required for Professional Core B (*post-high school teachers*): 27:250; 27:252; 33:214; 33:226; 33:270 (3 hours) or thesis; 33:292; 33:297.

Required for Departmental Core (*individually planned programming*): 33:292; 33:270 (6 hours) or thesis; and program requirements based on student's needs and interests as cooperatively planned by student and adviser and approved by departmental Graduate Committee.

All students must complete a minimum of 40 semester hours in industrial arts counting both undergraduate and graduate courses. To be admitted as a candidate for the degree in this major, a student must have completed a minimum of 20 semester hours of undergraduate and/or graduate credit in industrial arts.

Candidates selecting the non-thesis option must write a formal research paper (usually initiated in 33:270) approved by the departmental Graduate Committee.

### **Major in Library Science**

Applicants for the master's degree must hold or be eligible for the Iowa Professional Certificate or its equivalent upon completion of the degree.

Required 35:113; 35:121; 35:295.

Additional course requirements for either the thesis or non-thesis plan will be determined by the department. Requirements will be largely governed by certification needs.

Non-thesis plan requires a minimum of 32 semester hours.

### **Major in Mathematics**

This major requires as a prerequisite a bachelor's degree with a major in mathematics or the equivalent. It prescribes no specific graduate courses; upon successful completion of the Candidacy Examination, the courses for a student's program are chosen with the help of his Committee Chairman.

A minimum of 30 semester hours is required for both the thesis and the non-thesis options.

Students expecting to teach may choose one of the two core programs; however, no core is required in this program.

### **Major in Mathematics for Elementary Schools**

This major is specifically intended for teachers and supervisors. Candidates are expected to hold appropriate certification or to provide for it in the program.

It is suggested that all candidates take Core A. Those particularly interested in college teaching may use as part of their additional courses in education: 27:250; 27:252; 80:297.

Required (all programs): 80:185; 80:235; 80:280; 80:281.

Recommended electives in mathematics: 80:111; 80:112; 80:113; 80:134; 80:130 or 80:158; 80:144; 80:153; 80:160; 80:165; 80:172; 80:174; 80:180 or 80:183; 80:175; 80:297.

Recommended courses in other departments: 20:100; 24:132; 21:144; 23:110; 21:152; 27:212; 27:220; 27:221; 27:250; 27:252; 21:289; 21:290; 28:150 or 28:250; 37:013; 52:102; 82:200.

Other electives as agreed upon by the student and his Committee Chairman.

Programs will depend on the level of mathematical training presented at the time of admission to candidacy.



## MUSIC

*(Students wishing to take courses for graduate credit in the Department of Music, or wishing to pursue a degree program in this department, should consult with the Graduate Coordinator for Music Programs prior to registration for any course. Detailed information concerning requirements and procedures will be provided, and specified evidence of previous accomplishments will be reviewed.)*

Two major programs of study lead to the Master of Arts degree in music: the major in Music Education which serves the needs of public school teachers who wish to continue their training at a higher level, and the major in Music which involves a course of study comprising a minimum of specialization and a maximum of curricular flexibility.

An applicant for a graduate degree program in the Department of Music should possess the baccalaureate degree in music or a demonstrated equivalent. The student should have attained a high degree of proficiency in one or more of the following areas: performance, theory-composition, music education, or music history.

A prospective major must take a written diagnostic examination in the areas of theory and music history, and in the area of claimed competency, if different from the above (e.g., piano, brass, or woodwind instruments). This examination normally is taken immediately prior to initial registration as a graduate student. If necessary, a student will take remedial courses to make up any deficiency; such remedial courses will not count toward degree requirements.

In addition to other requirements, the student must pass a comprehensive examination which preferably will take place after completion of course work required for the degree. Students who do not complete a recital or thesis must also pass a written examination prior to the oral examination.

Students on either major program may elect Professional Education courses from either Professional Core A or Professional Core B to fulfill electives. By including 27:227 or 27:228 and 27:220 or 27:221 in the graduate program, and with four years of prior successful teaching experience, the candidate becomes eligible for a certificate endorsement in music supervision. In this case, 57:240 should be included in the student's program.

### Major in Music

This major is offered on both the thesis and non-thesis options for a minimum of 30 hours. Students selecting the non-thesis option will write a research paper.

Required: 52:221; 58:210; 58:211;

Music history and literature (59:xxx) — 6 hrs.;

Applied music (54:1xx) — 4 hrs.

Electives: Music (all areas except applied music) — 8 hrs.

Other electives as approved by the department — 6 hrs.

### Major in Music Education

This major is offered on both the thesis and non-thesis options for a minimum total of 30 hours.

Required: 52:221; 57:220; 58:210; 58:211;

Music history and literature (59:xxx) — 6 hrs.;

Music methods (at least 4 hours at 200 level) — 6 hrs.

Required for thesis option: 52:299 — 6 hrs.

A maximum of four (4) semester hours of applied music (54:1xxg) may be used as electives on the non-thesis option. The non-thesis option requires the completion of a research paper.

### **Major in Physical Education**

This major is available only to students taking Professional Core A or B. A minimum of 30 hours is required on the thesis option, and a minimum of 32 hours on the non-thesis plan. The student must have at least 40 semester hours of physical education at the undergraduate and graduate level, exclusive of activity courses.

Required: 37:273.

Electives as recommended by the departmental committee.

Candidacy and comprehensive examinations will be required of all students.

For certificate endorsement as a supervisor of physical education, the student must have four years of successful teaching experience and include in her or his program of study:

27:141 and 37:276

and at least 6 hours from: 24:132; 20:191; 26:234; 27:220; 27:227; 28:250.

### **Major in Physics**

Two emphases are available.

**PHYSICS TEACHING.** The program is for high school teachers. Professional Core A or a departmentally approved core is required. The total number of hours required (minimum of 30) will depend upon the student's undergraduate preparation. Both non-thesis and thesis options are available but non-thesis is recommended unless the student has a large number of undergraduate credits in physics.

**JUNIOR COLLEGE TEACHING.** Professional Core B or a departmentally approved core is required. However, Professional Core B must be taken by students who do not hold (or are not eligible to hold) an Iowa Professional Certificate endorsed for Junior College Teaching, or its equivalent. A larger number of physics courses (combined undergraduate and graduate) is required than for the other program. The thesis option is normally required. If the student has a strong undergraduate background in physics, the program can be completed with the minimum of 30 graduate hours including thesis.

Both programs require 82:200 unless a suitable undergraduate course is approved as a substitute.

88:120, 88:130, 88:131, 88:157, and 88:158 may not be used for credit on this major.

Attention is also called to the Chemistry-Physics Teaching emphasis program available under the Science Major for the Master of Arts degree. Students may inquire at the Physics Department office for information on this program.

### **Major in Political Science**

This major is available on both the thesis and non-thesis options. For the thesis plan, a minimum of 24 semester hours plus 6 hours for the thesis is required. A student on the non-thesis plan must complete a minimum of 33 graduate hours.

Required: 94:292 and 94:275.

A student may, with departmental approval, take as much as 12 hours in other disciplines. Each student's program will be determined by his needs and in consultation with his adviser and graduate committee.

All students must take a final comprehensive examination, both written and oral.



### **Major in School Business Management**

This major is offered cooperatively by the Department of Business Education and Office Administration and the Department of School Administration and Personnel Services. Students completing the major in the Department of Business Education and Office Administration are awarded the Master of Arts degree; students completing the major in the Department of School Administration and Personnel Services are awarded the Master of Arts in Education degree. For the Master of Arts degree the program is as follows:

Required: 27:102; 27:240; 27:289 or 15:282; 27:230.

Electives as approved by chairman or co-chairman.

The student's chairman will be appointed by the Department of Business Education and Office Administration and a co-chairman by the Department of School Administration and Personnel Services. Candidacy and comprehensive examinations will be under the joint jurisdiction of the two departments.

### **Major in Science**

A minimum of 32 hours is required for this major. The student's total number of graduate hours will depend upon his undergraduate preparation. This major requires either a thesis or a research paper.

A student must complete 82:200 or an acceptable substitute.

Detailed information on this major, including directions for procedures to follow in planning an individualized program and in requesting assignment of an adviser, may be obtained from the Dean of the College of Natural Sciences, UNI, or the Dean of the Graduate College.

A chemistry-physics teaching program is available with this major. Detailed information may be secured in the Chemistry Department office or the Physics Department office.

### **Major in Science Education**

Major offered on both the thesis and non-thesis options. Program requires a minimum of 32 semester hours.

Required: 82:280; 82:200 (or acceptable substitute); 28:250 or 8x:297; 25:294 or 84:292 or 86:292 or 87:292 or 88:292.

Required: At least 12 hours in one and no less than 6\* hours in a second of the following disciplines: biology, chemistry, earth science, and physics (\*or in closely related courses in disciplines different from the 12-hour emphasis).

Required: Minimum of 6 hours as optioned—

Thesis option—thesis in science education or a laboratory science;

Non-thesis option—electives as approved by the Science Education Coordinating Committee.

Candidate must:

- 1) hold an Iowa Professional Certificate or its equivalent;
- 2) have undergraduate preparation in science and mathematics equivalent to UNI B.A. in science major-teaching degree;
- 3) complete three years of teaching experience before degree is conferred;
- 4) pass a comprehensive examination in (a) science education and (b) the science areas of emphasis (unless a thesis is written, in which case one examination of the two — candidate's choice—will be written).

Additional information on this major may be obtained from the Dean of the College of Natural Sciences, UNI, or the Dean of the Graduate College.

### **Major in Social Science**

This major is available only to students taking Professional Core A or B. A student must select two areas of study, one which should be his emphasis, from the following departments:

- Economics
- Geography
- History
- Political Science
- Sociology and Anthropology

Additional information on this major may be obtained from the Dean of the College of Business and Behavioral Sciences or the Dean of the Graduate College.

### **Major in Sociology**

The major in sociology is available only on the thesis option. A minimum of 30 hours, including six (6) hours of research credit is required.

Required: 98:200 and 98:201.

Electives: at least 12 hours in sociology with six of these elective hours at the 200 level.

Candidates for the degree may take six hours outside sociology. These electives must be approved by the Department of Sociology.

A reading knowledge of a foreign language is recommended.

Comprehensive examinations, written and/or oral, at the discretion of the department.

Students entering graduate study in this department should have taken the following courses or should be able to demonstrate competency in them: 98:058, 98:060, 98:080, 98:085, and 98:170.

### **Major in Spanish**

The major in Spanish is available on both the thesis and non-thesis options. A minimum of 30-32 hours is required for either option.

Required: one 200-level literature course — 3 hrs.

one 200-level linguistics course — 3 hrs.

one 100-level culture and civilization course — 3 hrs.

The remainder of the program will be determined by the student's needs in consultation with his adviser.

### **Major in Speech**

A total of 30 semester hours is required for this major on both the thesis and non-thesis options.

Required: 50:225.

Students taking Professional Core A or B must also take: 50:230 and 50:283.

## Major in Speech Pathology

This major is available on two plans (A and B), both of which have the following requirements in common. These requirements include both graduate and undergraduate courses considered essential to certification and the master's degree. Starred (\*) courses will normally have been completed at the undergraduate level and must precede additional work in speech pathology.

Required in speech pathology: \*51:010; \*51:105; \*51:106; \*51:111; \*51:125; \*51:135; \*51:150; \*51:155; \*51:156; \*51:165; \*51:195; \*51:196; 51:130; 51:140; 51:240; 51:241; 51:255; 51:275; 51:295; 51:289 (Differential Diagnostics).

Required in physics: \*88:008.

The student, in consultation with his adviser, must choose electives to meet the American Speech and Hearing Association requirements in basic and related areas.

In addition to the above courses, the student must complete 150 clock hours of supervised clinical practice. Neither Professional Core A nor Core B are required on this major.

**PLAN A.** A minimum five-year program based on an undergraduate teaching major. The non-thesis option will require 30 to 36 semester hours, depending upon the previous preparation of the individual student.

The professional program in speech pathology is a program of both undergraduate and graduate courses leading to a Master of Arts degree. Recommendation for certification in speech pathology is made only upon completion of the combined undergraduate-graduate program. This program is designed primarily to prepare students for careers as clinicians providing remedial services to the speech and hearing handicapped, with emphasis on children in public schools.

A student on this program must complete all the requirements for the B.A. degree, Speech Pathology Major—Teaching, and must meet all the requirements for admission to graduate work at UNI, and complete all other requirements for the master's degree.

The completion of the undergraduate major or its equivalent will be considered adequate undergraduate preparation for the graduate portion of the program. Deficiencies in undergraduate preparation must be made up before the student can begin his graduate sequence in speech pathology.

**PLAN B.** This program is for students who do not desire formal teaching certification but who will be eligible for the Iowa Statement of Professional Recognition in speech pathology. If the student has no previous school experience and no teaching certification, the student will take 51:195 and 28:250. If the student's undergraduate major was other than speech pathology, he will complete the same work as the other students plus any deficiencies in background work.

*Note:* The maximum academic load, per semester, for any regular graduate student in speech pathology is 12 semester hours of course registration. In addition, as an integral part of the training program, students are assigned part-time professional activities of a clinical and/or research nature. These activities are commensurate with each student's abilities and professional goals. Time required for such activities is approximately 10 hours per week. No registration is required for these part-time professional activities and no academic credit is given; however, clock hours spent in direct, supervised, clinical work will be counted toward ASHA certification. This requirement applies to all graduate students in speech pathology who are enrolled for more than six semester hours. Part-time professional activities are in no way connected with or related to the awarding of an assistantship or fellowship.

### **Major in Teaching English in the Community College**

This major is ordinarily taken only on the non-thesis option. To be accepted for this major the student must have a baccalaureate major in English which included the following: film course (3 hours); advanced composition (3 hours); ethnic literature (3 hours); structure of English (3 hours); British literature to World War I (6 hours); American literature to World War I (6 hours); and contemporary literature (6 hours). Any deficiencies must be taken as additional work beyond the requirements of the master's program. All certification in Iowa requires a course in either American history or American government.

Required: 63:147; 63:144 or 63:194

Required: 62:193; 62:195; 62:201; 62:292; 62:297; 23:130; 27:252; 20:189 (2 hours)\*

Required: a 3-hour course in journalism, television, or radio

Electives: Six (6) hours in 200-level literature courses

(\*20:189g to be repeated once for a total of two hours credit.)

If the student has completed any of the above courses at the undergraduate level, he or she may substitute additional electives to complete the total program hours.

A comprehensive examination is required of all students taking this major.

### **Major in Teaching of English as a Foreign Language**

All students who have not had the following courses, or the equivalent, must include these courses as a part of their graduate major: 62:162; 63:141; 63:144; 63:147; 63:194. Students selecting the non-thesis option are strongly recommended to take six hours of education and/or psychology, chosen to meet their individual needs.

Required: 63:235; 63:297.

At least one semester before the degree is conferred, all candidates for degrees in English must demonstrate a basic competence in a foreign language. This requirement may be met in one of two ways; either by obtaining at least a C grade in the second semester of a language course at this university (or its equivalent at another accredited institution) or by passing a proficiency examination. This requirement does not apply to a student whose language is other than English. Work taken to satisfy the foreign language requirement does not count toward the number of hours required for the completion of the degree.



## Major in Technology

This major requires a minimum of 33 semester hours and is available on both the thesis and non-thesis options in three specific emphases.

The candidate must:

- 1) possess a baccalaureate degree in technology, industrial arts, mathematics, physics, engineering, or some related field;
- 2) have earned a minimum of 8 semester hours of college mathematics and 8 semester hours of college physics and/or chemistry or other science related to the major area (this may be either graduate or undergraduate credit);
- 3) have earned a minimum of 15 semester hours in a major technical field and 8 semester hours in supporting technical subjects;
- 4) have or acquire one year of recent and significant trade or technical experience in industry in his particular field of emphasis.

The successful completion of a written Departmental (Department of Industrial Technology) Candidacy Examination is required in all three emphases, and students on non-thesis programs must successfully complete a written final comprehensive examination. In addition to the above, the emphases in Vocational-Technical Teaching and in Vocational-Technical Education Supervision and Administration must have credit in the following courses (or their equivalent): 33:101; 33:181; 33:188; and 33:191. These courses do not apply for credit on the major.

### *Emphasis in Vocational-Technical Teaching*

Required: 27:250; 33:214; 33:270 (6 hours); 33:292; 33:297; 80:170.

Electives as approved by the department from a selected list.

### *Emphasis in Vocational-Technical Education Supervision and Administration*

Required: 15:101 or 15:105; 15:160; 15:260; 20:214; 27:252; 33:226; 33:270; 33:292; 80:170.

Electives as approved by the department from a selected list.

### *Emphasis in Industrial Supervision and Management*

Required: 80:170; 15:210; 15:260; 33:187; 33:270; 33:202; 33:299.

Required: 92:139 or 92:141 or 92:224.

Electives as approved by the department from a selected list.

## Major in TEFL and Foreign Languages

This major is offered cooperatively by the Department of English Language and Literature and the Department of Modern Languages, and is under the joint jurisdiction and supervision of the heads of these two departments.

The major is normally available on only the non-thesis basis. A minimum of 30 semester hours is required. If a student has not completed 7x:101 and either 62:162 or 63:125 (or the equivalent) before entering the master's degree program, he must add these courses to the required stated below. There is no separate foreign language requirement.

Required: 63:141; 63:194; 63:235; 63:256 or 63:289; 63:297.

Required: one of the following language emphases for total minimum emphasis of 15 hours.

*French:* 72:125; 72:180; 72:201; 72:203; 72:281 (or equivalent seminar on a linguistics topic); 70:190.

*German:* 74:123; 74:180; 74:201 (or equivalent); 74:203; 70:190.

*Spanish:* 78:180; 70:203; 78:220; 78:123 or 78:140; 78:282 or 78:205; 70:190.



# Master of Business Administration Degree

Graduate study in business at UNI provides a broad, integrated program with emphasis in the functional areas of business and on selected, specialized techniques in order to provide a graduate with a balance between theoretical knowledge and practical business operations. The M.B.A. curriculum is designed to meet the needs of students with undergraduate backgrounds in the liberal arts, technical sciences, or engineering, as well as those with degrees in business.

The plan of study prescribed for the degree is structured to develop graduates who will have acquired (1) an understanding of the theoretical and practical aspects of the process of policy formulation and implementation, (2) a comprehension of environmental factors—economic, legal, social, and political—which affect the individual in the performance of managerial responsibilities, (3) an understanding of analytical techniques and the use of quantitative data in the administration of business controls, (4) the ability to communicate ideas effectively in oral and written form, and (5) a basic knowledge of selected functional areas within the field of business administration.

Admission to candidacy for the Master of Business Administration degree is dependent upon the quality of the applicant's undergraduate record and a test score on the *Graduate Management Admission Test*. The GMAT must be taken prior to enrollment in the program.

## Major in Business Administration

This major is a non-teaching program designed to qualify men and women for creative leadership in business. Students who enter the program with the undergraduate requirements of a baccalaureate degree in one of the areas of business will normally require 30 semester hours to complete the program; those who enter the program with a baccalaureate degree in an area other than business may be required to complete a proportionately greater number of hours. Candidates selecting the non-thesis option will be required to pass a comprehensive examination in the last semester of the program.

Required: 12:262; 13:263; 15:262; 15:263; 15:266; 15:267; 92:210;  
15:289 Seminar: Business Policy—3 hrs.

Electives: a minimum of 6 hours or completion of a thesis.

Detailed information for the M.B.A. may be obtained from the Head of the School of Business, UNI.

# Master of Music Degree



*(Students wishing to take courses for graduate credit in the Department of Music or wishing to pursue a degree program in this department should consult with the Graduate Coordinator for Music Programs prior to registration for the course. Detailed information concerning requirements and procedures will be provided, and specific evidence of previous accomplishments will be reviewed.)*

The Master of Music degree is a professional degree designed to prepare the graduate for (1) a college or secondary school teaching career, (2) a performance career as a professional musician or composer, or (3) further graduate work at the doctoral level. The following majors are offered:

Composition  
Music History  
Performance

An applicant for a graduate degree program in the Department of Music should possess the baccalaureate degree in music or a demonstrated equivalent. The student should have attained a high degree of proficiency in one or more of the following areas: performance, theory-composition, music education, music history. A prospective major must take a written diagnostic examination in the areas of theory and music history, and in the area of claimed competency if different from the above (e.g., piano, brass, or woodwind instruments). This examination normally is taken immediately prior to initial registration as a graduate student.

In addition to the common regulations and requirements applicable to all master's degree programs, the following are required for admission for the specific major:

Composition majors: portfolio and, if possible, tape recordings of compositions.

Music History majors: scholarly paper.

Performance majors: in-person audition (a tape recording would be accepted if the in-person audition would pose undue hardship).

Successful completion of a comprehensive examination is required of all students in this degree program. This examination will normally take place after the candidate has completed the course work required for the degree.

If a student is required to take remedial courses to make up any deficiency in preparatory work, those courses may not be counted toward degree requirements.

## Major in Composition

This major is available on the non-thesis option only. The program requires a minimum of 30 semester hours and the completion of a composition recital acceptable to the student's recital committee.

Required: 52:221; 58:210; 58:211;  
Applied composition (54:2xx) — 8 hrs.;  
Music literature (59:xxx)—6 hrs.

Electives: 10 hours primarily in the areas of Music Literature and Theory.

### **Major in Music History**

This major requires a minimum of 30 semester hours and the completion of a thesis in music history.

**Required:** 52:221; 58:210; 58:211;  
59:299 Research for thesis—6 hrs.;  
Music literature (59:xxx)—13 hrs.

**Electives:** 5 hours (maximum of 2 hrs. may be in applied music).

### **Major in Performance**

This major is available on the non-thesis option only and requires the completion of a minimum of 30 hours.

**Required:** 52:221; 58:210; 58:211;  
59:120 (2-4 hrs.);  
Applied music (54:2xx)—10 hrs.;  
Music literature (59:xxx)—6 hrs.

**Electives:** 4-6 hours primarily in the areas of Music Literature and Theory.

**Additional requirements:** One public recital acceptable to the student's recital committee; two successful applied jury examinations; and for voice majors: demonstrated proficiency in foreign languages.





	MASTER OF ARTS IN EDUCATION	MASTER OF ARTS
A. <i>Purpose and Objectives</i>	<ol style="list-style-type: none"> <li>1. Preparation of school service personnel                             <ol style="list-style-type: none"> <li>a. administrators</li> <li>b. supervisors</li> <li>c. counselors</li> <li>d. school psychologists</li> </ol> </li> <li>2. Advanced preparation of elementary and secondary teachers</li> <li>3. Preparation of community college teachers</li> </ol>	<ol style="list-style-type: none"> <li>1. Graduate study in field of specialization</li> <li>2. Advanced preparation of elementary and secondary teachers</li> <li>3. Preparation for college teaching</li> </ol>
B. <i>Program Options</i>	<ol style="list-style-type: none"> <li>1. Thesis plan</li> <li>2. Non-thesis plan</li> </ol>	<ol style="list-style-type: none"> <li>1. Thesis plan (open to all)</li> <li>2. Non-thesis plan (except for majors in Geography and Sociology)</li> </ol>
C. <i>Eligibility for Candidacy</i>	<ol style="list-style-type: none"> <li>1. Unconditional admission to graduate study</li> <li>2. General graduate examinations and dept. candidacy examinations passed</li> <li>3. Hold or be eligible for Iowa Professional Certificate or equivalent*</li> </ol>	<ol style="list-style-type: none"> <li>1. Unconditional admission to graduate study</li> <li>2. General graduate examination(s) and dept. candidacy examinations passed</li> </ol>
D. <i>Program Requirements</i>	<ol style="list-style-type: none"> <li>1. On the non-thesis plan: at least one research paper approved by the department and filed in the departmental office</li> <li>2. On all majors:                             <ul style="list-style-type: none"> <li>25:294 Educational Research—3 hrs.</li> <li>20:214 Advanced Educational Psychology—2 hrs.</li> <li>or</li> <li>26:234 Philosophy of Education</li> </ul> </li> <li>3. On some majors:                             <ul style="list-style-type: none"> <li>Teaching experience as specified</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. On the non-thesis plan: at least one research paper approved by the department and filed in the departmental office</li> <li>2. On certain majors: work outside the major, or competence in a foreign language, or Prof. Core A or B (see major for specific requirements)                             <ul style="list-style-type: none"> <li><i>Core A</i></li> <li>(1) 20:214 or 26:234—2 hrs.</li> <li>(2) 25:294—3 hrs., or departmental research course</li> <li>(3) Methods course in major field, or 200-level course in Education or Teaching</li> <li><i>Core B**</i></li> <li>(1) 27:250 Teaching in College—3 hrs.</li> <li>(2) 27:252 Current Issues in Higher Educ.—2 hrs.</li> <li>(3) 297 Practicum—2 hrs.</li> </ul> </li> </ol>
<p>*Except for majors in College Student Personnel Services, General Educational Psychology, and School Business Management.</p> <p>**Students completing Professional Core B with appropriate courses in one or more subject areas may be recommended for Iowa Public Junior (Community) College certification.</p>		

MASTER OF BUSINESS ADMINISTRATION—See p. 52 for specific information.

MASTER OF MUSIC—See p. 53 for specific information.



# Specialist in Education Degree

The Specialist in Education degree is designed to serve a qualitative need for highly trained specialists in various fields of educational endeavor. Many salary schedules have recognized advanced preparation beyond the master's degree, but such recognition is often based on a collection of hours not necessarily representing a planned program of study. The Specialist in Education degree requires careful planning with the resultant advantages. It is a program designed to meet the needs of students in professional areas in which the master's degree is not sufficient, but in which the rigorous research emphasis of the doctorate is not necessary. The sixth year of preparation is being recognized in certification standards of several states and as a membership requirement in the American Association of School Administrators.

The program at the University of Northern Iowa leading to the Specialist in Education degree involves breadth of preparation as well as depth in a particular field of specialization. Persons majoring in a professional area of specialization will take work in cognate fields to help develop this broadened base of understanding, such work to be determined in cooperation with the student's adviser. At the same time the program is flexible enough to permit variation in accord with individual backgrounds and aspirations. The flexibility is such that persons with the master's degree in either professional education or in an academic area may participate in the program.

Majors are available in the following areas:

#### CURRICULUM AND SUPERVISION

*Curriculum Coordinator*  
*Elementary Consultant*  
*Secondary Consultant*

#### EDUCATIONAL PSYCHOLOGY

*Evaluation*  
*School Psychology*

#### READING

*Reading Clinician*

#### SCHOOL ADMINISTRATION

*Superintendent*  
*Elementary Principal*  
*Secondary Principal*

#### SCHOOL BUSINESS MANAGEMENT

*School Business Management*

#### SPECIAL EDUCATION

*Special Education:*  
*Administration Emphasis*  
*Curriculum Consultant Emphasis*

**STUDENT PERSONNEL SERVICES**

*Director of Guidance Services  
Elementary Guidance and Counseling  
Secondary Guidance and Counseling  
College Student Personnel Services*

**BUSINESS EDUCATION**

*Major in Business Education*

**INDUSTRIAL ARTS**

*Major in Industrial Arts*

Detailed information for each of the above program areas may be obtained from the head of the department offering the major. These include:

*Department of Curriculum and Instruction*

*Reading  
Special Education*

*Department of Educational Psychology and Foundations*

*Educational Psychology*

*Department of School Administration and Personnel Services*

*Curriculum and Supervision  
School Administration  
School Business Management  
Student Personnel Services*

*Department of Business Education and Office Administration*

*Business Education*

*Department of Industrial Technology*

*Industrial Arts*

The programs leading to this degree are open to students who hold a master's degree from an accredited graduate school, who have had at least one year of teaching experience, and who meet the requirements set forth below.

With special approval, the student may work directly toward the Specialist in Education degree without going through a master's degree program.



## Admission to Candidacy

A student must successfully complete the following examinations: (a) Miller Analogies test, (b) Professional Education Examination, and (c) Departmental Examinations; however, the major in College Student Personnel Services involves only parts (a) and (c).

A student's application, including program, must be approved by the departmental committee, the head of his department, the dean of the appropriate college and the Dean of the Graduate College. Normally he may be admitted to candidacy during or immediately following the first semester of enrollment following the receipt of the master's degree, but capable students may be admitted to candidacy for the Specialist in Education degree at any time after being admitted to candidacy for the master's degree.

## Graduation Requirements

The student shall complete the general requirements for the Specialist in Education degree and shall meet the requirements as specified by the departmental committee using a combination of graduate courses taken for the master's degree and beyond. The student must be eligible for certification as a teacher, if required for the major, before the degree will be granted. In some cases, appropriate certification endorsement will be recommended for those who meet the standards set by the university in conjunction with the appropriate certification agency. Receipt of the degree is not a necessary prerequisite to recommendation for the appropriate endorsement(s) unless state standards require such. Students seeking only specific endorsement will not be required to secure admission to candidacy, complete the thesis requirement, or take comprehensive examinations. A cumulative graduate grade point average of 3.00 or better will be required prior to recommendation for endorsement(s).

**HOURS OF CREDIT.** A student must earn a minimum of 30 semester hours of graduate credit beyond the master's degree. Credit earned in excess of that required for the master's degree may be applied toward the 30-hour requirement if that credit is earned during the final period of enrollment for the master's degree.

Certain limitations on the amount and kinds of credit must be observed:

**200-level Credit.** A student must earn at least 24 semester hours of credit in courses numbered 200 or above, counting both the master's and the post-master's work but not counting any *Research* credit.

1. **Research Credit.** The provisions regarding research credit are the same as those for the master's degree and in addition to the amount of such credit used toward the master's degree. (See p. 27). Not more than six (6) hours of research credit can be included in the 30 (or more) hours of post-master's credit.
2. **Recency of Credit.** Courses taken more than 7 years prior to the granting of the degree cannot be used to meet degree requirements.
3. **Transfer Credit.** In addition to the transfer credit permitted on the master's degree, 8 semester hours of transfer credit for *post-master's* work may be applied toward the degree of Specialist in Education.
4. The regulations regarding credit in correspondence courses, and radio and television classes are the same as those for the master's degree. (See p. 26-27).

**SCHOLARSHIP.** A cumulative grade index of 3.00 (B average) must be earned at the University of Northern Iowa in all courses attempted after receiving the master's degree. No credit toward graduation is allowed for a course in which a grade below C is earned.

**CANDIDACY.** The requirements for admission to candidacy are described on p. 58.

**ON-CAMPUS RESIDENCE.** A student must have completed at least 18 hours in residence credit on campus, including one semester or two summer sessions of fulltime enrollment in residence after the master's degree.

**EXAMINATIONS.**

- (a) A student must pass a comprehensive oral examination, including a defense of the thesis, if any. The examination will be conducted and evaluated by the departmental committee and a faculty member designated by the Dean of the Graduate College, although other members of the faculty may participate.
- (b) A student may be required by the departmental committee to pass a written comprehensive examination. If required, it should precede the oral examination.

**THESIS.** A student who did not complete a thesis for the master's degree must complete one for the specialist's degree. A department may require a student who has written a master's thesis to write a thesis for the specialist's degree also. The thesis must be presented in the style and form prescribed for the master's thesis. It must have the approval of the thesis committee and the Dean of the Graduate College.

The work on a thesis will normally be considered to involve about 6 semester hours of credit. To earn this credit, a student registers for *Research* and usually not in one block. The instructor will assign a grade for a semester's registration in *Research* based upon the progress made, but may assign an *Unfinished (U)* if he feels the work has not reached the place where it can be evaluated. Registration for the last segment of *Research* credit (for work on a thesis) should not be made until the thesis is near completion. The Dean of the Graduate College may authorize an extension of time for the completion of an *Unfinished* in *Research* up to one additional calendar year; but if at the end of that time the work has not been completed, the grade of *U* will be changed to an *F (Failure)*. Completion of the thesis project occurs when the thesis has been approved by the thesis committee and the Dean of the Graduate College.

The Dean of the Graduate College will appoint three members of the Graduate Faculty as an advisory committee to guide the student in selecting and completing an appropriate thesis project.

**FILING OF THESIS AND ABSTRACT OF THESIS.** The same regulations apply as for the master's degree. See p. 28.

**APPLICATION FOR GRADUATION.** The same regulations apply as for the master's degree. See p. 28.

**ATTENDANCE AT COMMENCEMENT.** The same regulations apply for the master's degree. See p. 28.



## REQUIREMENTS FOR VARIOUS MAJORS

Course work requirements for the Specialist in Education degree are defined in terms of a two-year graduate program, including work taken on the master's degree. A minimum of 60 semester hours is required for completing the program.

Worksheets giving complete details of the various majors and emphases are available in the offices of the departments in which the majors are offered.

### CURRICULUM AND SUPERVISION

The programs in curriculum and supervision provide preparation to serve as curriculum director or consultant in city and county systems or college instructor. Competency is required through examination or the following courses: 25:181; 25:180.

General requirements: 20:214; 24:131; 24:132; 26:234; 25:294; 27:141; 27:204 or 27:210; 27:290; plus 8 semester hours of non-professional course work.

#### Major in Curriculum Coordinator

Must hold a certificate for elementary or secondary teaching prior to completing the program.

Required: 27:212; 27:220; 27:226; 27:227.

#### Major in Elementary Consultant

Must hold a certificate for elementary teaching prior to completing the program

Required: 27:226; 27:227.

#### Major in Secondary Consultant

Must hold a certificate for secondary teaching prior to completing the program.

Required: 27:226; 27:277.

### EDUCATIONAL PSYCHOLOGY

The major in school psychology prepares a student for work in educational psychology at the public school and college levels. The major in evaluation provides preparation in the area of research and measurement in schools and in higher education.

Competency is required through examination or the following courses: 40:008; 20:100 or 20:116; 25:181; 25:180.

General requirements: 20:139; 25:281; 25:282; 25:283; 25:294; 29:203.  
8 semester hours of non-professional course work.

#### Major in Evaluation

Required: 20:214; 26:234; 29:102; 27:220 or 27:227; 25:280; 80:172;  
25:289 Evaluation—2 hrs.  
25:289 Research Problems—2 hrs.

#### Major in School Psychology

Required: 20:214 or 26:234; 20:118; 20:142 or 20:230; 40:118; 29:104; 22:150;  
51:101; 20:194; 29:205;  
:289—2 hrs.

An approved course in reading.

6 semester hours selected from a list of restricted electives.

Supervised internship under the direction of a certified school psychologist.

## **READING**

### **Major in Reading Clinician**

To be eligible for a degree in this major the student must be certified as an elementary or secondary teacher. This program and two years of teaching experience satisfy requirements for certification as Reading Clinician.

Competency is required through examination or the following courses: 20:100; 20:116; 21:044 or 21:144; 23:110; 23:130; 23:147; 23:148; 25:180; 25:181; 62:165.

Required: 20:214 or 26:234; 23:212; 23:114; 23:210; 23:240; 23:244; 25:294; 23:242;  
:289—2 hrs.  
:290—2-4 hrs.

8 semester hours required in non-professional course work.  
Work in speech pathology and sociology recommended.

## **SCHOOL ADMINISTRATION**

The sixth-year program in administration prepares qualified people to serve as superintendent, assistant superintendent, business manager, or principal, or to teach in related areas at the college level.

The student must hold a certificate to teach in the elementary or secondary school and must have successfully completed one year of teaching at the elementary or secondary level prior to completing his degree. (Check certification requirements.)

General requirements: 25:294; 20:214 or 26:234; 25:180; 27:102; 27:240; 27:241; 27:210; 27:141; 25:181; 27:289; 27:290; 27:230.

One course in educational psychology, or guidance.  
8 semester hours of non-professional course work.

### **Major in Superintendent**

Required: 27:220; 27:221; 27:227; 27:228.

### **Major in Elementary Principal**

Required: 27:212; 27:220; 27:221.

### **Major in Secondary Principal**

Required: 27:226; 27:227; 27:228.

## **SCHOOL BUSINESS MANAGEMENT**

### **Major in School Business Management**

This major is offered cooperatively by the Department of School Administration and Personnel Services and the Department of Business Education and Office Administration. The program is as follows:

Required: 25:294; 20:214 or 26:234; 27:102; 27:240; 27:241; 27:210; 15:163; 15:210; 15:270; 27:289 or 15:282; 27:230.

Electives as approved by chairman or co-chairman.

The student's chairman and co-chairman will be appointed according to the department in which the student files his major. Candidacy and comprehensive examinations will be under the joint jurisdiction of the two departments.

## **SPECIAL EDUCATION**

### **Major in Special Education**

#### *Administration Emphasis:*

To be eligible for this degree, the student must be certified as a teacher of the hand-icapped or as a school psychologist or speech and hearing clinician.

Required: 25:294; 20:214 or 26:234; 27:280; 22:184; 22:252; 22:278; 22:289; 22:290; 27:102 or 27:228 or 27:221; 27:210 or 27:204 or 27:141 or 27:212 or 27:226.

plus

Two courses in mental retardation, emotionally disturbed or speech correction, and

8 semester hours chosen from non-professional course work.

#### *Curriculum Consultant Emphasis:*

To be eligible for this degree, the student must be certified as a teacher of the hand-icapped and must have completed at least one year of successful teaching experience. The program prepares the qualified person to serve as a curriculum consultant for special education in local, intermediate, or state school systems.

Competency is required through proficiency examination or course work in the follow-  
ing courses: 22:170; 22:171; 22:184; 22:252; 22:278; 22:289; 22:290; and 22:180, 22:183,  
22:182, or 22:181.

Required: (*Professional Core*): 25:294; 26:234 or 20:214

Required: three courses from the following: 27:102; 27:141; 27:204; 27:212; 27:220;  
27:226; 27:227; 27:230.

Required: 8 semester hours chosen from non-professional course work.

## **STUDENT PERSONNEL SERVICES**

The appropriate program in student personnel services may lead to counseling work in the elementary or secondary school, colleges or universities.

The majors in the area of Student Personnel Services, with the exception of the major in College Student Personnel Services, must comply with the following: In consultation with his adviser, the student will complete a minimum of twelve (12) semester hours in psychological and/or sociological foundations from courses with the following departmental prefixes: 20, 22, 25, 26, 27, 31, 40, or 98, which must include a course in Psychology of Personality and a course in Abnormal Psychology.

### **Major in Director of Guidance Services**

Must be certified as a teacher and must have successfully completed one year of teaching at the elementary or secondary level. (Check certification require-  
ments.)

Required evaluation and research: 20:270; 25:180; 25:181; 25:294.

Required: 29:102; 29:104; 29:110; 29:126; 29:220 or 29:124; 29:203; 29:205; 29:210;  
29:207; 29:225; 29:227; 29:234;

29:290 Elementary Counseling Practicum—3 hrs.

29:290 Secondary Counseling Practicum—3 hrs.

29:290 Group Counseling Practicum—3 hrs.

Required: Thesis (6 hrs.)



### **Major in Elementary Guidance and Counseling**

Must hold certificate to teach in the elementary school and have successfully completed one year of elementary school teaching before completing the program. (Check certification requirements.)

Required evaluation and research: 25:181; 25:180; 20:270; 25:294.

Required: 29:104; 29:124; 29:126; 29:207; 29:210; 29:220; 29:225; 29:227; 27:220.

29:289 Contemporary Problems in Personnel Services—2 hrs.

29:290 Elementary School Guidance—6 hrs.

29:290 Field Experience—3 hrs.

Required: Thesis (6 hrs.)

### **Major in Secondary Guidance and Counseling**

Must hold certification to teach in the secondary school and have successfully completed one year of secondary school teaching before completing the program. (Check certification requirements.)

Required evaluation and research: 25:180; 25:181; 25:294.

Required: 29:102; 29:110; 29:124; 29:126; 29:205; 29:210; 29:220; 29:225; 29:227; 27:227;

29:289 Contemporary Problems in Personnel Services—2 hrs.

29:290 Secondary Counseling—6 hrs.

29:290 Field Experience in Secondary Counseling—3 hrs.

Required: Thesis (6 hrs.)

### **Major in College Student Personnel Services**

Competency is required through examination or the following courses: 25:181; 25:180.

General requirements: 20:214; 26:234; 25:294.

Required: 27:252; 29:230.

29:289 College Student Personnel Programs (may be repeated once)

29:290 Practicum in Education and Psychology: (three areas required)

College Counseling Services—2 hrs.

College Student Housing—2 hrs.

College Student Personnel Administration—2 hrs.

College Student Activities—2 hrs.

8 semester hours chosen from a list of restricted electives.

Required non-professional: 8 semester hours including academic psychology.



## **BUSINESS EDUCATION**

### **Major in Business Education**

The number of hours in Business and Business Education Courses, counting both graduate and undergraduate hours, must total at least 60 and must include basic background in Economics. At least 15 hours of Business and Business Education credit must be taken during the student's sixth-year program.

Required: 20:214; 26:234; 15:292 or 25:294; 25:181; 15:167; 15:297; 17:203; 17:207; 17:280; 17:284.

and 8 semester hours in cognate fields (cognate fields could include fields such as economics, education and psychology, and mathematics).

Students interested in serving as a master teacher in one of the Business Education areas must have a minimum of 20 semester hours of graduate credit in subject matter courses chosen from the following areas with no less than 6 hours of graduate credit in each of two areas: Accounting, General Business, Marketing, Secretarial. At least 9 hours of this requirement must be taken during the student's sixth-year program.

Student's seeking to be college teachers, supervisors, or to hold certain administrative posts in the field of business or vocational education will need to select courses particularly suited to the desired goal. Such courses should be made a part of the candidacy program.

## **INDUSTRIAL ARTS**

### **Major in Industrial Arts**

The Specialist in Education degree program with a major in Industrial Arts offers qualified persons an opportunity to prepare for such leadership positions as master teacher in public or private secondary school, supervisor of student teaching, college teacher, technical institute teacher, supervisor, or director of industrial arts. The student should have established an aim so that his sixth-year program can be designed to help attain his goal.

Required: 33:214; 33:226; 33:228; 33:292 and

15 hours in one of the following: drafting, electricity-electronics, graphic arts, metal, power mechanics, or wood. The number of hours in Industrial Arts courses, counting both graduate and undergraduate hours, must total at least 60.

Required: 25:180; 25:294; 20:214 or 26:234 and

8 hours of work in cognate fields, including 25:281 or 80:153; 92:116.



# Specialist Degree

The requirements concerning candidacy, graduation, scholarship, residence, examinations, and thesis are the same as for the Specialist in Education degree. (See pp. 58-59).

## Major in Science Education

For admission to candidacy, the student's program must be approved by the Science Education Coordinating Committee and the Coordinator of Science Education. In addition to examinations required for the specialist's degree, this major requires examinations administered by the Science Education Coordinating Committee.

Each candidate's program will include an emphasis in a particular science discipline that is at least equivalent to an acceptable major on the M.A. program with Professional Core A. In addition, the emphasis must include any courses needed to match the specific UNI requirements for an undergraduate teaching major in that discipline, plus mathematics through the equivalent of 80:060. (Not all courses taken to meet this requirement will necessarily be eligible for graduate credit.)

Research experience (not necessarily as credit in "Research") in both laboratory science and science education must be part of the total post-B.A. program. Not more than six (6) hours of research credit may be included in the 30 (or more) hours of post-master's credit.

(Worksheets giving complete details of the major and emphases are available in the office of the Dean of the College of Natural Sciences.)

*Required Science*—minimum of 30 hours, including 82:200, selected from biology, chemistry, earth science, and physics. Must include at least 12 hours in science outside the area of emphasis, preferably in two different disciplines.

*Required Research, Thesis and related courses*—12-19 hours

25:294

8x:299

Thesis (if optioned or required)

3 of the following: 25:180 or 80:172; 80:170; 82:288 (1-2 hours); 25:281

*Required Internship*—4-6 hours

28:250 (2-4 hours); 82:280

*Required Education*—6-8 hours

20:214 or 26:234

and 2 of the following: 25:280; 27:227; 21:142; 27:220

Additional hours required (0-8 hours) may be selected from:

- any course listed above but not required
- any 100g or 200-level mathematics course
- any course numbered 82:1xxg or 82:2xx
- 82:280 (taken as a Professional Core A requirement in a master's program)
- 27:226; 20:191; 24:137

# Cooperative Doctoral Program in Educational Administration



An agreement has been worked out between the University of Northern Iowa and the University of Iowa to provide for transfer of graduate credit earned at the University of Northern Iowa at the sixth-year level to apply on the Doctoral Program in Educational Administration at the University of Iowa (U of I). A student may transfer any time during the sixth year. If a student completes the Specialist in Education program at UNI, it would be possible for an eligible candidate to complete the requirements for the Doctor of Philosophy degree at the U of I in three semesters (two semesters must be consecutive) of full-time residence work. The Office of the Dean of the Graduate College will provide further details upon request.





# Courses of Instruction

In the following pages, courses are designated by two numbers, separated by a colon. The first number refers to the department or area of the course; the second number refers to the specific course. For example, in the designated 60:111 the "60" refers to the Department of Art and the "111" refers to the course. In registration always use the full number.

Courses 100-199 are primarily designed for junior, senior, and graduate students. *However, only those 100-level courses whose numbers are followed by a "g" provide graduate credit, e.g., 57:185(g).* In all courses of the 100(g) series greater academic achievement, both qualitative and quantitative, is expected of those receiving graduate credit than those receiving undergraduate credit.

Courses 200-299 are primarily designed for graduate students. Undergraduates seeking admission to graduate courses must secure the permission of the head of the department offering the course. Courses numbered 200 taken as an undergraduate cannot later be used for an advanced degree unless the student was eligible to earn graduate credit.

Graduate classification is earned by admission to graduate study.

## Course Numbers Common to Many Departments

These common numbers may be used under named conditions by prefixing the department number:

059, 159, 259—Reserved for temporary courses of a special or experimental nature.

133 or 233 WORKSHOP—1 to 6 hrs. Offered for special groups as announced in advance. Students may take work in one or more workshops but may not use more than 6 hours toward graduation.

086, 186, 286 STUDIES IN "\_\_\_\_\_"—Courses to be offered by departments for specialized work not covered by regular courses. Credit and topic for "study" to be given in Schedule of Classes.

199 STUDY TOUR—1 to 8 hrs. Offered as announced in the Summer Bulletin and Schedule of Classes. See Summer Bulletin for general description and consult appropriate department for specific information.

285 READINGS. Offered as needed in the various disciplines; not offered as a class. Independent readings from a selected list as approved in advance by department head. Credit to be determined at time of registration.

289 SEMINAR. Offered as needed in the various disciplines. Credit and topic to be given in Schedule of Classes.

297 PRACTICUM—2-3 hrs. Offered as needed in the various disciplines to provide practical experience in college teaching.

299 RESEARCH. For details of approval and registration, see page 27.

## Course Descriptions

In the pages immediately following are listed all the courses offered for graduate credit by the various departments of the university. Departments are listed alphabetically.

# Art

**60:111(g). Life Drawing—3 hrs.**  
Drawing from the model using a variety of media. 6 periods.

**\*60:118(g). Advanced Drawing—1-5 hrs.**  
Credit to be determined at time of registration. May be repeated for credit.

**60:125(g). Design IV: Advanced Problems in Design—3 hrs.**

Intensive application of design methods and skills. Major problems in pure design research, graphic design, product design, environmental design. 6 periods. Prerequisites: 60:026; 60:027.

**60:126(g). Design V: Individual Design Study—3 hrs.**

Advanced design problems and practicum. Practical application of design skills in cooperation with local business and industry. May be taken for two semesters for a total of 6 hours credit. 6 periods. Prerequisite: 60:125.

**\*60:131(g). Advanced Photography—1-5 hrs.**  
An extension of photography as creative image making; in-depth look at processes, criticism, and student's own ideas and directions in photography. May be repeated for credit.

**\*60:134(g). Advanced Printmaking—1-5 hrs.**  
Credit to be determined at time of registration. May be repeated for credit.

**\*60:137(g). Advanced Sculpture—1-5 hrs.**  
Credit to be determined at time of registration. May be repeated for credit.

**60:141(g). Art History—3 hrs.**  
May be repeated for credit but not in the same section. Students may select from the following sections: 1. Medieval; 2. Northern Renaissance; 3. Indian; 4. Japanese; 5. Ancient Orient; 6. Classical Ancient; 7. Chinese.

**60:142(g). Italian Renaissance Art—3 hrs.**  
History of 14th, 15th, and 16th century Italian art.

**60:144(g). Baroque and Rococo—3 hrs.**  
History of Baroque and Rococo art in 17th and 18th century Europe.

**60:146(g). 19th Century European Art—3 hrs.**  
Napoleonic art to Art Nouveau.

**60:147(g). Oriental Art—3 hrs.**  
Introduction to the arts of India, Southeast Asia, China and Japan.

**60:148(g). Contemporary Art History—3 hrs.**  
Studies in the nature and role of contemporary art.

**\*60:150(g). Advanced Ceramics—1-5 hrs.**  
Credit to be determined at time of registration. May be repeated for credit.

**\*60:156(g). Advanced Crafts—1-5 hrs.**  
Credit to be determined at the time of registration. May be repeated for credit. 1. Wood. 2. Fibers. 3. General Crafts.

**60:160(g). Advanced Puppetry—1-5 hrs.**  
Credit to be determined at time of registration (first registration must be for 3 hours). May be repeated with consent of instructor for a total of 6 hours. Prerequisite: 60:054.

**\*60:167(g). Advanced Art—Film—1-5 hrs.**  
Use of film as a visual art medium. Emphasis on the individual artist as a film maker. Prerequisite: 60:060 or equivalent.

**\*60:170(g). Advanced Metalwork—1-5 hrs.**  
Credit to be determined at time of registration. May be repeated for credit.

**\*60:180(g). Advanced Painting—1-5 hrs.**  
Credit to be determined at time of registration. May be repeated for credit.

**60:195(g). Artist-Teacher Seminar—2 hrs.**  
Evolution of contemporary art education philosophy and the dynamic role of the twentieth century artist-teacher. Place of the artist-teacher in society and in the community. Art demands of our present culture and implications for the art education program in terms of methods and materials. Prerequisite: 60:095.

**60:275. Art Projects—2-8 hrs.**  
Credit to be determined at time of registration. May be repeated for credit. Prerequisite: approval of graduate adviser. 1. Drawing. 2. Ceramics. 3. Painting. 4. Printmaking. 5. Sculpture. 6. Crafts. 7. Metalwork. 8. Design.

**60:289. Seminar.**

**60:292. Research and Bibliography—3 hrs.**

**60:293. Research in Art History—1-5 hrs.**  
May be repeated for credit. Prerequisite: 6 hours of Art History or proficiency and department approval.

**60:295. Seminar in Teaching Art—3 hrs.**  
Specific art education relating to public schools with emphasis upon continuity of art activity. Satisfies the special methods elective for the professional core.

**60:296. The Supervision of Art—3 hrs.**  
Teaching problems and practices relating to the curriculum and the supervision of art.

**60:297. Practicum.**

**60:299. Research.**

\*First registration for 3 hours only.

# Biology

## **84:103(g) Conservation of Iowa Resources** —3 hrs.

Natural resources of Iowa, including soil, forest, wildlife, minerals and water, their interrelationships with the economics and social development of the state and nation; techniques of natural resources management. Discussion, 2 periods; lab., 2 periods. Prerequisite: 84:021 plus two other Life courses.

## **84:104(g) Iowa Conservation Problems I** —3 hrs.

Forests, wildlife and ecology relationships. Field experience. Preparation of visual aids, demonstrations and projects. Offered only at Iowa Teachers Conservation Camp.

## **84:105(g) Iowa Conservation Problems II** —3 hrs.

Soil, water, and mineral resources. Field experience. Preparation of visual aids, demonstrations and projects. Offered only at Iowa Teachers Conservation Camp.

## **84:106(g) Comparative Anatomy of the Vertebrates** — 4 hrs.

Consideration of the origin of vertebrates and a comparison of the anatomy of the organ systems of the classes. Discussion, 2 periods; lab., 4 periods. Prerequisite: 84:024 plus two other Life courses.

## **84:108(g) Vertebrate Embryology**—4 hrs.

Development of vertebrate organism. Formation and development of germ cells; fertilization; growth and differentiation. Prerequisite: 84:024 plus two other Life courses. 84:106 recommended. Discussion, 2 periods; lab., 4 periods.

## **84:112(g) Invertebrate Zoology**—4 hrs.

Anatomy and physiology of type forms of the invertebrate phyla. Prerequisite: 84:024 plus two other Life courses. Discussion, 2 periods; lab., 4 periods.

## **84:114(g) Animal Physiology**—4 hrs.

Application of physical and chemical principles to selected organ systems, especially mammals. Discussion, 3 periods; lab., 3 periods. Prerequisite: 86:048; 86:050 or 86:120 (may be taken concurrently); 84:024; 84:025 plus one other Life course. (One semester of physics recommended.)

## **84:120(g) Plant Morphology**—4 hrs.

Structure and evolution of plant phyla with emphasis upon algae, fungi, mosses, and ferns. Prerequisite: 84:024 plus two other Life courses. Discussion, 1 period; lab., 4 periods.

## **84:122(g) Plant Physiology**—4 hrs.

Functional aspects of plant processes related to composition, metabolism, transport mechanisms, growth and development. Discussion, 2 periods; lab., 4 periods. Prerequisite: 86:048; 84:024; 84:025; plus one other Life course.

## **84:128(g) Cell Biology**—4 hrs.

Fundamental physiological processes of cellular function with emphasis on metabolism, respiration, photosynthesis, protein synthesis, and molecular controls. Discussion, 3 periods; lab., 3 periods. Prerequisite: 86:124 or 86:050, 84:024, 84:025; plus one other Life course.

## **84:130(g) Protozoology**—4 hrs.

Consideration of systematics, morphology, physiology, morphogenesis, genetics and ecology of free-living and parasitic protozoa; literature studies on contemporary research and historical perspective. Discussion, 2 periods; lab. and field work, 4 periods. Prerequisite: 84:024; 84:025; plus one other Life course.

## **84:131(g) Animal Behavior**—4 hrs.

Psychological, physiological, sociological, and ethological approaches to behavior; relationship between behavior and environment, and experimental variables. Discussion, 3 periods; lab., 3 periods. Prerequisites: 84:023 plus two other courses from Life series or consent of instructor.

## **84:132(g) Parasitology**—4 hrs.

Morphology, ecology, and life history of parasites important to man and other animals. Prerequisites: 84:022 plus two other Life courses: 84:112 or consent of instructor. Discussion, 2 periods; lab., 4 periods.

## **84:140(g) Genetics**—4 hrs.

Analytical approach to classical, developmental and population genetics. Discussion, 3 periods; lab. projects arranged. Prerequisites: 84:023 plus two other Life courses.

## **84:142(g) Organic Evolution**—2 hrs.

History, theory, and mechanics of evolution. The course of evolution as indicated by fossil records and other lines of evidence. Evolution and the modern synthesis of biology. Prerequisites: 84:023 plus two other Life courses.

## **84:146(g) Developmental Genetics**—4 hrs.

Patterns and principles of animal development. Emphasis on current concepts in developmental genetics. Discussion and lab., two 3-hour periods. Prerequisites: 84:023, 84:025; plus one other Life course.

## **84:151(g) General Microbiology**—4 hrs.

Physiology, morphology, taxonomy, and pathogenicity of microbes, with applications to agriculture, sanitation, and industry. Discussion, 2 periods; lab., 4 periods. Prerequisite: 86:048; 84:025 plus two other Life courses.

## **84:160(g) Field Zoology of Vertebrates**—4 hrs.

Identification and natural history of Iowa vertebrates. Field trips emphasized. Discussion, 2 periods; lab. and field work, 4 periods. Prerequisite: 84:021; 84:022; plus one other Life course.

**84:166(g). Plant Systematics—4 hrs.**  
Biology of angiosperms, including classification, evolution, population structures, and breeding systems. Discussion, 2 periods; lab. and field work, 4 periods. Prerequisite: 84:022 plus two other Life courses.

**84:168(g). Ecology—4 hrs.**  
Relationships of plants, animals and environments with emphasis on the principles of community structure and dynamics. Prerequisite: 84:021 plus two other Life courses. Discussion, 3 periods; lab., 2 periods.

**84:170(g). Entomology—4 hrs.**  
Introduction to the biology of insects. Discussion, 2 periods; lab., 4 periods. Prerequisite: 84:024; 84:022 plus one other Life course.

**84:172(g). Plant Anatomy—4 hrs.**  
Ontogeny, growth and differentiation of simple and complex tissues of root, stem, leaf, and reproductive organs of higher plant groups. Prerequisite: 84:024 plus two other Life courses. Discussion, 2 periods; lab., 4 periods.

**84:180(g). Management of Recreational Land—3 hrs.**  
Ecological principles applied to design, development and management of natural areas, parks, and wildlands. Prerequisites: Life series or equivalent, and 84:168. Discussion, 2 periods; lab., 2 periods.

**84:210. Biological Techniques—3 hrs.**  
Biological techniques of the teacher of biology. Lab., 6 periods.

**84:220. Advanced Plant Morphology—4 hrs.**  
Life histories of representatives of the plant phyla. Morphological and physiological advancements which have resulted in the gradual evolution of flowering plants. Discussion, 2 periods; lab. and field work, 4 periods.

**84:225. Aquatic Biology—4 hrs.**  
The biological, physical and chemical aspects of aquatic environments with special emphasis on collection and identification of aquatic organisms. Discussion, 2 periods; lab. and field work, 4 periods. Prerequisite: botanical and zoological background and a year of chemistry.

**84:230. Special Problems in Biology—1-6 hrs.**  
Credit determined at registration. (Problems in biology other than those for theses or in regular curricular offerings.) Prerequisite: departmental approval; 84:292 recommended.

**84:235. Topics in Cytology—2 hrs.**  
Recent research information on ultrastructure and function of eucaryotic plant and animal cells. Topics will vary with each offering. Prerequisites: 84:128; and 84:114 or 84:122. Discussion, 2 periods.

**84:240. Endocrinology—4 hrs.**  
Functions, synthesis and effects of hormones. Lab. experiments include small animal surgical techniques. Discussion, 3 periods; lab., 3 periods. Prerequisite: zoological background

and one semester of either cell biology or biochemistry, or instructor's permission. Previous course in physiology recommended.

**84:242. Advanced Physiology—4 hrs.**  
Organ systems studied with emphasis on mammalian or comparative physiology. Prerequisites: Zoological background, an animal physiology course, and 84:128 or 86:150. Physics recommended. Discussion, 3 periods; lab., 3 periods.

**84:251. Microbial Ecology—4 hrs.**  
Experimental design, instrumental methods of analysis used in investigating the ecology and physiology of bacteria and fungi. Student must complete one research project. Prerequisite: 84:151 or equivalent. Discussion, 2 periods; lab., 4 periods.

**84:255. Physiological Ecology—3 hrs.**  
Chemical responses of plant individuals to variables in their environment and the concomitant influences on their morphological and behavioral evolution. Prerequisites: 84:168; and any two of 84:122, 84:128, or 84:151. Discussion, 2 periods; lab., 2 periods.

**84:292. Research Methods in Biology—3 hrs.**  
An introduction to experimental design techniques and instruments used in descriptive, quantitative, experimental biology. Practical experience will be available in various areas of instrumentation. Individual exploration of a possible thesis project. Discussion, 3 periods.

**84:189(g); 84:289. Seminar—1 hr.**

**84:297. Practicum.**

**84:299. Research.**





*The following courses are regularly scheduled at Lakeside Laboratory by staff from the three Regents institutions. Enrollment is limited and permission of the instructor is required for all courses. Registration may be for undergraduate or graduate credit. Visiting staff may extend the course work offerings in particular summers. For current information, see the annual Iowa Lakeside Laboratory Bulletin usually available from the UNI Department of Biology by February 15 each year. Numbers within parentheses are the Lakeside Laboratory numbers.*

**89:101(g) (L:101). Field Biology—5 hrs.**

Natural history and principles of ecology of the aquatic and terrestrial ecosystems of the area, including basic taxonomy of the native fauna and flora. Includes field and laboratory techniques. Individual projects included.

**89:103(g) (L:103). Aquatic Ecology I—5 hrs.**

Survey of local aquatic plants and animals and of aquatic habitats including environmental and community analysis. Emphasis on field work and appropriate methods.

**89:104(g) (L:104). Aquatic Ecology II—5 hrs.**

Project work as continuation of 89:103.

**89:105(g) (L:105). Plant Taxonomy—5 hrs.**

Basic principles of classification and evolution of vascular plants. Taxonomic tools, techniques, and the native flora is explored; includes field collections and group projects. Not to be taken by those with credit in 84:166.

**89:108(g) (L:108). Protozoology—5 hrs.**

Biology of the protozoa; emphasis on morphology, physiology, systematics, and development of free living and parasitic forms. Collection, culture, and classification of local specimens; experimental work to be included. No credit for those with credit in 84:130.

**89:109(g) (L:109). Freshwater Algae—5 hrs.**

Laboratory examination of collections made daily by class in Iowa Lakes Region; correlation made by student of text description with observations of living materials.

**89:118(g) (L:118). Field Entomology—5 hrs.**

Introduction to entomology with emphasis on methods of collecting and classifying insects, and on their natural history. Reference collections will be made with classification to order and family. No credit for those with credit in 84:170.

**89:119(g) (L:119). Field Biology of Lower Green Plants—5 hrs.**

Field and laboratory investigation of mosses, liverworts, club mosses, quillworts, horsetails, and ferns. Many of these primary mesic plants have their western limits in the variety of habitats in Iowa.

**89:207 (L:107). Helminthology—5 hrs.**

Structure, life cycles and host parasite relationships of representative helminths; methods of collecting, preserving, mounting, and identification; experimental life cycles, methods of studying living materials, special techniques for research in helminthology.

**89:210 (L:110). Field Invertebrate Zoology—5 hrs.**

Biology of invertebrates with emphasis on local fresh-water and terrestrial forms, their structure, systematics, and behavior. Methods of collecting, culture, preserving, identifying, emphasis on study of living materials. For students with background in invertebrate zoology.

**89:215 (L:115). Field Mycology—5 hrs.**

Identification and classification of the common fungi. Techniques for identification, preservation, and culture.

**89:217 (L:117). Ecology and Systematics of Diatoms—5 hrs.**

Field experience in study of fresh-water diatoms from a variety of habitats; environmental factors affecting growth and distribution; techniques in collection and preparation of diatom samples.

**89:224 (L:124). Aquatic Plants—5 hrs.**

Field analysis of aquatic and paludal vegetation; morphology, breeding systems and identification based on vegetative characteristics.

**89:299 (L:111; L:112). Research.**

# Business, School of

## ACCOUNTING

**12:131(g). Cost Accounting—3 hrs.**  
Uses of accounting data, job order and process cost accounting; cost - volume - profit relationships, budgeting, standard cost systems. Prerequisite: 12:031.

**12:132(g). Income Tax—3 hrs.**  
Federal taxes as applied to individual and to business; emphasis on individual return, including pay-as-you go, social security, declaration, and payments.

**12:134(g). Auditing—3 hrs.**  
Principles, practices, and procedures used to determine accuracy and reliability of financial records. Prerequisite: 12:130.

**12:135(g). Advanced Accounting—4 hrs.**  
Accounting for partnerships, special sales procedures, consolidations, and governmental units. Prerequisite: 12:130.

**12:138(g). Auditing Practice—2 hrs.**  
Writing of formal audit reports, EDP audits; official auditing bulletins and case studies; discussion of current topics. Prerequisite or co-requisite: 12:134.

**12:140(g). Accounting Systems—3 hrs.**  
Analysis of modern accounting systems with emphasis on system building; application of data processing methods to system development with special attention to the use of electrical and electronic devices. Prerequisite: 12:130.

**12:141(g). Advanced Cost Accounting—3 hrs.**  
Continuation of 12:131. Emphasis on cost techniques necessary for management decision making. Prerequisite: 12:131.

**12:142(g). Advanced Income Tax—3 hrs.**  
Advanced phases of income taxation as related to partnerships and corporations and estate and gift taxes; problems which require investigation of concepts and theories of taxable income.

**12:148(g). C.P.A. Review—3 hrs.**  
Designed to aid candidates in developing approaches to solutions of problems and answers to questions in the CPA examinations. Prerequisite: Qualified to sit for CPA examinations.

**12:149(g). Problems in Computer Accounting—4 hrs.**

A project course in which the student analyzes business situations to determine accounting data needed, writes computer programs, and presents resulting data in the form of management reports. Prerequisites: 15:167; 12:131.

**12:230. Accounting Survey and Analysis—3 hrs.**

Basic accounting concepts and procedures; determination of periodic income; preparation and interpretation of financial statements. Open only to graduate students without previous credit in accounting. Prerequisite: consent of MBA adviser.

**12:240. Theory of Accounts—3 hrs.**  
History and development of accounting principles; theoretical problems related to determination of income; presentation of financial condition. Prerequisites: 12:130 or equivalent; and consent of MBA adviser.

**12:262. Managerial Accounting—3 hrs.**  
Use of accounting data in managerial decision making process and in the analysis and control of business operation. Prerequisites: 12:030 and 12:031; or 12:230; or equivalent; and consent of MBA adviser.

## MARKETING

**13:140(g). Consumer Behavior—3 hrs.**  
Study of recent findings of psychologists, sociologists, anthropologists, and marketers in relationship to consumer behavior. Prerequisite: 13:154.

**13:141(g). Retailing—3 hrs.**  
Behavioral trends of U.S.A. retailing. Survey of organization, buying, selling, and supporting activities of retail, service, and wholesale establishments. Prerequisite: 13:158.

**13:142(g). Advertising—3 hrs.**  
Functions of advertising display and visual merchandising, techniques and media of advertising, and sales promotion techniques.

**13:143(g). Retail Merchandising—3 hrs.**  
Prerequisite: 13:141.

**13:147(g). Advertising Management—3 hrs.**  
Decisions advertising executives make. Emphasis on selection of media, establishing, and operating advertising budgets, and evaluating advertising effectiveness. Prerequisite: 13:154.

**13:150(g). Marketing Management—3 hrs.**  
A comprehensive study of problems encountered by marketing executives in modern business. Prerequisite: 6 hours of credit in marketing. Prerequisite: 13:151.

**13:151(g). Marketing Research—3 hrs.**  
Procedures used in defining a marketing problem and carrying out the research necessary for its proper solution. Prerequisite: 15:070 and 6 hours of credit in marketing.

**13:153(g). Sales Management—3 hrs.**  
The management problems relating to recruiting, training, and control of sales personnel. Methods of assigning sales territories and determining quotas. Prerequisite: 13:152.

**13:154(g). Marketing Communications—3 hrs.**  
Integrated analysis of basic marketing communication techniques used to further marketing goals; elements of the marketing communications system; consumer decision process and influencing variables. Prerequisite: 13:152.

**13:155(g). Industrial Marketing—3 hrs.**  
Marketing problems of manufacturers of industrial goods. Prerequisite: 13:152.

**13:156(g). Agribusiness—3 hrs.**  
Marketing problems in national and international food and fiber industries; agricultural product industries at various stages: retailing, wholesaling, processing, farming and farm supply; effect of technological, economic, social and political environments on the production and marketing of agricultural products. Prerequisite: 13:152.

**13:157(g). International Marketing—3 hrs.**  
Marketing practices and trends in businesses serving foreign markets. Prerequisite: 13:152.

**13:158(g). Marketing Channels—3 hrs.**  
Integral role of marketing channels as components of marketing strategy. Prerequisite: 13:152.

**13:162(g). Advertising Communications—3 hrs.**  
A problem approach to the writing of advertising copy (printed, audio, and visual), storyboards, layouts, and campaigns. Prerequisite: 13:154.

**13:164(g). Physical Distribution Management—3 hrs.**  
Physical distribution of consumer and industrial goods; regulatory environment of the transportation industry (air, rail, motor carrier, water, and mass transportation) explored through case discussions. Prerequisite: 13:158.

**13:251. Marketing Theory—3 hrs.**  
Evolutions of marketing concepts and future marketing influences; contributions of economic and behavioral sciences to marketing thought; implication of marketing theory to management practice. Prerequisites: 13:263 and consent of MBA adviser.

**13:257. Multinational Business—3 hrs.**  
Cultural, economic, and political developments of major trading areas of the world; their roles as producers and consumers in world markets; problems of organizing, financing, and operating affiliates and subsidiaries doing business abroad; marketing problems of multinational business. Prerequisite: consent of MBA adviser.

**13:263. Marketing Management—3 hrs.**  
Integrated approach to marketing from managerial viewpoint using economic, quantitative, and behavioral concepts in analyzing and developing framework for decision making and implementing a marketing program. Prerequisites: 13:040 or equivalent; and consent of MBA adviser.

## MANAGEMENT

**15:101(g). Business Law I—2 hrs.**  
Contracts and sales.

**15:102(g). Business Law II—2 hrs.**  
Partnerships, corporations, and commercial paper.

**15:104(g). C.P.A. Law Review—3 hrs.**  
Intensive study of Business Law to prepare accounting students for the law part of the C.P.A. examination. Prerequisites: 15:101; 15:102; qualified to sit for C.P.A. examination.

**15:105(g). Labor Law—3 hrs.**  
Analysis of the interrelationships between the development of labor organizations and the techniques used to further their interests; the actions and decisions of the executive, legislative, and judicial branches of government, labor management, problems, and the economic and social consequences. Prerequisite: 15:040.

**15:107(g). Arbitration and Collective Bargaining—3 hrs.**  
Collective bargaining; strategies and tactics; issues in collective bargaining; arbitration provisions of the Taft-Hartley Act; the arbitration proceeding. Case problems. Prerequisite: 15:105.

**15:110(g). Linear Programming—3 hrs.**  
Basic principles; techniques of formulation; simplex algorithm; Kuhn-Tucker Conditions; duality and sensitivity analysis; relationship to game theory; applications. Prerequisites: 15:020; 15:070; or equivalent.

**15:151(g). Corporation Finance—3 hrs.**  
Study of role of finance function within the corporate enterprise. Prerequisites: 12:30; 12:31.

**15:152(g). Business Investments—3 hrs.**  
A study of investment policy. Measuring investment return; factors of choice in investments; types of industrial and non-industrial investments. Prerequisite: 15:151.

**15:155(g). Advanced Financial Management—3 hrs.**  
Teaches improved financial-decision-making skills through cases and readings across a broad series of financial topics. Prerequisite: 15:151.

**15:160(g). Organization Theory—3 hrs.**  
Emphasis on the formal organization as an open socio-technical system; relations of the organization to larger environmental systems; methods and patterns in organizational analysis. Prerequisite: 15:050.

**15:161(g). Production Management—3 hrs.**  
Basic principles of management in the production phase of business; mechanization, the division of labor, specialization. Work flow and plant layout, machines and automation, methods of control. Prerequisites: 15:020; 15:070.

**15:162(g). Risk Management and Insurance**

—3 hrs.

Fundamentals of risk and of insurance as they apply to financial management.

**15:163(g). Management Decision Making**

—3 hrs.

The nature of organizational decisions; problem identification and structuring; methods of decision making on the certainty-uncertainty continuum. Prerequisites: 15:020; 15:050; 15:070; 15:160; 15:165; 92:954.

**15:165(g). Individual and the Organization**

—3 hrs.

Concepts of the individual; the individual's relationships with his peer group; individual and group relationship with the total organization. Prerequisite: 15:153.

**15:169(g). Business Internship—2-8 hrs.**

A full-time business internship extending for a minimum of eight weeks. The internship may be in (1) Accounting, (2) Management, or (3) Marketing. Prerequisite: departmental approval.

**15:170(g). Problems—1-3 hrs.**

Credit determined at registration. Student will choose one of the following areas:

1. Accounting
2. Management
3. Marketing
4. Law
5. Finance

May be repeated with the concentration in different areas. Prerequisite: Consent of the head of the department.

**15:181(g). Management Information Systems**

—3 hrs.

Information systems analysis and design for communication techniques in the organization; analysis and design for management decision making and control. Prerequisites: 15:020; 15:070; 15:167.

**15:182(g). Capital Budgeting—3 hrs.**

Economic analysis and financing of business capital project alternatives; measuring return on investment, evaluating risk, cost of capital, planning capital structure, appraising alternative investment opportunities when capital is rationed, leasing vs. ownership, and tax consideration. Prerequisites: 15:151; 15:163.

**15:184(g). Technology, Environment, and**

**Organization—3 hrs.**

A systems analysis of the technology employed by an organization, the socio-economic environment faced by the organization, and how these two variables influence organizational structure, behavior, and performance. Prerequisites: 15:160; 15:165. May be taken simultaneously with 15:163.

**15:187(g). Organizational Behavior—3 hrs.**

An extension and enlargement of the concepts presented in 15:165. Prerequisites: 15:160; 15:165. May be taken simultaneously with 15:163.

**15:188(g). Planning and Policy Making—3 hrs.**

Techniques of long and short-range planning, policy making, and control. Prerequisites: 15:160; 15:165. May be taken simultaneously with 15:163.

**15:210. Legal and Social Environment of Business—3 hrs.**

Investigates the judicial process, organization of the legal system, and the conceptual development of this system with substantive emphasis in the area of antitrust, trade regulation, and labor-management. Prerequisite: consent of MBA adviser.

**15:220. Advanced Business Statistics—3 hrs.**

Multiple linear regression and correlation of business and economic data. Analysis of variance, residuals; use of dummy variables; stepwise regression and statistical model building. Applications. Prerequisites: 15:070; consent of MBA adviser.

**15:260. Administrative Theory and Practice**

—3 hrs.

Advanced topics in decision making, planning, cybernetics, and applied systems. Prerequisite: consent of MBA adviser.

**15:262. Managerial Concepts—3 hrs.**

Analysis of current administrative philosophy and practices, their historical foundations; integration of an organization from the administrator's viewpoint. Prerequisite: 15:050 or equivalent; and consent of MBA adviser.

**15:263. Financial Management—3 hrs.**

Concepts of financial management for the student having the basic background; emphasis on theoretical approach to complex problems (capital acquisition, analysis of capital projects, and financial analysis). Prerequisite: consent of MBA adviser.

**15:264. Advanced Financial Management**

—3 hrs.

Financial decision making for student with the basic background in business and introductory finance; expands practical ability to deal with complex financial decisions. Prerequisite: consent of MBA adviser.

**15:266. Quantitative Decision Making—3 hrs.**

Role of sampling and statistical control procedures in managerial decision making under conditions of risk and uncertainty. Fundamental probability distributions and their use in classical and Bayesian inference. Prerequisites: 15:020; 15:070; or equivalent; and consent of MBA adviser.

**15:267. Operations Management—3 hrs.**

Introduction to analysis, design, and management of systems. Prerequisites: 15:070; 15:167; or equivalent; and consent of MBA adviser.

**15:285. Individual Readings—1-3 hrs.**

Directed readings and reports. May be repeated for a maximum of 4 hours. Prerequisite: consent of MBA adviser.

**15:289. Seminar in Business Policy—3 hrs.**  
Should be taken in student's last semester of graduate study. Prerequisite: consent of MBA adviser.

**15:297. Practicum.**  
Prerequisite: consent of MBA adviser.

**15:299. Research.**  
Prerequisite: consent of MBA adviser.

## Business Education and Office Administration

### SECRETARIAL

**14:151(g). Business Machines—Duplicating —3 hrs.**  
Preparation of administrators and business teachers; includes selection of media and operation and supervision of duplicating equipment. Prerequisite: 14:050 or equivalent.

**14:152(g). Executive Secretarial Procedures —3 hrs.**  
Secretarial duties, responsibilities, and procedures. Finishing course for those planning careers in teaching or in secretarial work. Includes practical application of secretarial skills and knowledges. Prerequisite: 14:051 or equivalent.

**14:154(g). Touch Shorthand—3 hrs.**  
Introductory course in machine shorthand. Prerequisite: ability to type.

**14:158(g). Advanced Shorthand/Transcription —5 hrs.**  
Develops competency in taking dictation, but places a major emphasis on the development of transcription techniques and procedures. Prerequisite: either 14:053 or 14:055; and 14:050 or equivalent.

### BUSINESS EDUCATION

**17:111(g). Coordinated Occupation Experience —2 hrs.**  
Job analysis and job training techniques, principles of supervision and human relations principles applied to the student's own jobs. May be repeated, once in fall and once in spring, for a maximum of 4 hours. Corequisite: Employment in an approved occupation.

**17:112(g). Coordination Techniques—2 hrs.**  
Responsibilities of cooperative vocational education teacher-coordinator in coordination theory and practice; role of coordination, on-the-job learning experiences, selection of training stations, developing training plans, placement of students on the job, and public relations activities.

**17:113(g). Administration of Vocational Education Programs—3 hrs.**  
Objectives, operation, and coordination and vocational programs; emphasis on office and distributive occupations.

**17:114(g). Foundations of Vocational Education —2 hrs.**  
Development of vocational education within the framework of career education and the roles of teachers, administrators, and guidance personnel in these programs. Explores principles, practices, organizational patterns and contemporary issues.

**17:118(g). Continuing Business Education Programs—2 hrs.**  
Business teacher's role in continuing business occupations programs. Methods and materials appropriate for adult learners.

**17:119(g). Curriculum and Instruction in Business Occupation Programs—3 hrs.**  
Curriculum and instruction for distributive and office education programs.

**17:140(g). Post-Secondary Business Education Programs—2 hrs.**  
Planning, organization, and administration of post-secondary business education programs in community college or area vocational school settings. Teaching techniques and resources appropriate for such programs.

**17:170(g). Problems in Business Education —1-3 hrs.**  
Credit determined at registration. Offered in areas indicated in the Schedule of Classes. May be repeated for a total of 6 hours. Designed for 9 weeks or one semester individualized study program. Prerequisite: consent of instructor.

**17:193(g). Individual Instruction Laboratory —2 hrs.**  
Supervised practice in designing individualized learning experiences for students with varied occupational objectives. Prerequisite: 17:119 or consent of instructor.

**17:203. Foundations in Business Education**  
—2 hrs.  
Trends, objectives, curricula, principles, and philosophy of business education.

**17:207. Curriculum Development in Business Education**—2 hrs.  
History, present status, philosophy, trends, and factors of curriculum development in business education for junior high school, senior high school, and post-high school curriculums including vocational and non-vocational programs.

**17:245. Current Topics in Business Education**  
—2 hrs.  
May be offered in different areas as indicated in the Schedule of Classes. Prerequisite: Teaching experience in area selected or consent of instructor.

**17:280. Seminar in Business Education**—2 hrs.  
May be repeated for a maximum of 6 hours.

**17:284. Vocational Interdisciplinary Seminar**  
—2 hrs.  
Intended primarily for those who teach or administer vocational programs, particularly at the post-secondary level. Explores correlation and cooperation of efforts among the vocational disciplines. May be repeated for a maximum of four hours of credit.

**17:285. Individual Readings**—1-2 hrs.  
Directed readings and reports. May be repeated for a maximum of 4 hours. Prerequisite: consent of department head.

**17:290. Improvement of Basic Business Instruction**—2-3 hrs.

**17:291. Improvement of Bookkeeping Instruction**—2-3 hrs.

**17:292. Improvement of Typewriting Instruction**—2-3 hrs.

**17:293. Improvement of Shorthand Instruction**—2-3 hrs.

**17:294. Improvement of Office Education Programs**—2-3 hrs.  
Improvement of coordination techniques and new materials in office education programs.

**17:295. Improvement of Distributive Education Programs**—2-3 hrs.  
Program administration, curriculum development, and learning strategies.

**17:297 Practicum**—2 hrs.  
Prerequisite: consent of department head.

**17:299. Research**—1-3 hrs.  
Prerequisite: consent of department head.

#### OFFICE ADMINISTRATION

**18:113(g). Business Communications**—3 hrs.  
Communication theory as basis for understanding of the principles of oral and written communication. Emphasis on administration of the communications function.

**18:117(g). Office Administration**—3 hrs.  
Fundamentals of office organization and administration, office equipment, supplies, layout, cost control, personnel problems, job analysis, and job specifications.

**18:119(g). Administration of Human Resources**  
—3 hrs.  
Fundamentals of supervision and human relations techniques with emphasis on development of administrative techniques of human resources.

**18:169(g). Office Administration Internship**  
—2-8 hrs.  
Prerequisite: Departmental approval.

**18:289. Office Administration Seminar**—1-3 hrs.  
Prerequisite: Departmental approval.



# Chemistry

## **86:120(g). Organic Chemistry—3 hrs.**

Fundamentals of organic chemistry. For majors in the sciences and those preparing for medically related careers. Prerequisite: 86:046 or 86:048. Discussion, 3 periods.

## **86:121(g). Organic Chemistry Laboratory I—2 hrs.**

Purification and identification techniques as well as some representative organic reactions. Prerequisite or corequisite: 86:120. Lab., 6 periods.

## **86:123(g). Organic Chemistry II—3 hrs.**

Continuation of 86:120. Prerequisite: 86:120. Discussion, 3 periods.

## **86:125(g). Organic Chemistry Laboratory II—2 hrs.**

Continuation of 86:121. Preparation and functional group analysis. Prerequisites: 86:121 and 86:120. Prerequisite or corequisite: 86:123.

## **86:130(g). Advanced Organic Synthesis—1-2 hrs.**

Advanced techniques in the preparation of organic compounds. Prerequisite: 86:125, or permission of instructor. Lab., 3 or 6 periods.

## **86:132(g). Quantitative Analysis—4 hrs.**

Theory, techniques, and calculations of volumetric and gravimetric analysis. Statistical treatment of data. Classical analytical procedures supplemented by instrumental techniques. Prerequisite: 86:046 or 86:048. Discussion, 2 periods; lab., 6 periods.

## **86:134(g). Instrumental Analysis I—4 hrs.**

Instrumental methods of analysis. Theory of instrumentation and practical experience in such areas as potentiometric titration, polarography, electroanalysis, spectrophotometry, and gas chromatography. Prerequisite: 86:132. Discussion, 2 periods; lab., 6 periods.

## **86:135(g). Instrumental Analysis II—4 hrs.**

The application of physical chemical principles to theory and practice of instrumental methods of analysis such as spectrophotometric, electroanalytical, and chromatographic techniques. Prerequisites: 86:132 and 86:140. Prerequisite or corequisite: 86:141. Discussion, 2 periods; lab., 6 periods.

## **86:140(g). Physical Chemistry I—3 hrs.**

Application of the laws of physics to chemical phenomena. Prerequisite: 80:060, 88:056, or permission of the instructor. Discussion, 3 periods.

## **86:141(g). Physical Chemistry II—3 hrs.**

Continuation of Physical Chemistry I which is prerequisite. 80:061 is recommended as a prerequisite, but may be taken concurrently. Discussion, 3 periods.

## **86:142(g). Principles of Physical Chemistry—3 hrs.**

Physical aspects of chemistry for the needs of the high school chemistry teacher, and for students in the biological sciences. Prerequisite: 86:046 or 86:048; 80:046. Recommended; 88:054. Discussion, 3 periods.

## **86:143(g). Physical Chemistry Laboratory—1-3 hrs.**

Techniques of physical measurements related to chemistry. Prerequisites: 86:132 and 86:140; 86:141 may be taken concurrently. Meets 3 to 9 hours per week. Chemistry A and B majors should take at least two hours credit. Those with credit in 86:142 may take one hour credit.

## **86:144(g). Inorganic Chemistry I—3 hrs.**

The structure of elements and their consequent physical and chemical properties and their relations to the periodic chart. Prerequisite 80:046, 86:120. Discussion, 3 periods.

## **86:145(g). Inorganic Chemistry II—3 hrs.**

Application of physical chemical principles to the study of inorganic systems. Prerequisite: 86:124; 86:140. Prerequisite or corequisite: 86:141. Discussion, 3 periods.

## **86:147(g). Inorganic Chemistry Laboratory—1-3 hrs.**

Preparation, analysis, and study of the properties of inorganic compounds. Prerequisite: 86:134 or 86:135. Prerequisite or corequisite: 86:141; 86:144 or 86:145.

## **86:150(g). Biochemistry I—4 hrs.**

Chemistry of life processes with emphasis on metabolism. Prerequisite: 86:123. Discussion, 2 periods, lab., 6 periods.

## **86:151(g). Biochemistry II—4 hrs.**

Chemistry of life processes based on physical chemical principles. Prerequisites: 86:125; 86:140. Prerequisite or corequisite: 86:134 or 86:135; 86:141. Discussion, 2 periods; lab., 6 periods.

## **86:160(g). Radioisotope Techniques—4 hrs.**

Introduction to the use of radioisotopes. Sources, properties, and safe handling of radioactive material, with accompanying laboratory work in simple instrumentation and applications of radioactive tracers. Prerequisite: 86:132. Discussion, 2 periods; lab., 6 periods.

## **86:193(g). Current Curricula in Chemistry—2 hrs.**

Philosophy, methods, and materials of secondary school chemistry curricula, including CHEM Study, IPS (Introductory Physical Science), PACE Chemistry, and other innovations in the teaching of chemistry. Discussion, 2 periods; lab., 2 periods.

**86:220. Advanced Organic Chemistry—3 hrs.**  
Product analysis, kinetics, and mechanism of organic reactions. Prerequisites: 86:123; 86:141. Discussion, 3 periods.

**86:230. Coordination Chemistry—3 hrs.**  
Lecture course on various aspects of coordination compounds. Prerequisite: 86:141; 86:144 or 86:145.

**86:235. Molecular Structure—3 hrs.**  
Lecture course on wave mechanics as applied to atomic and molecular structure, with emphasis on experimental spectroscopy. Prerequisites: 80:061; 88:054; 88:056; 86:141.

**86:240. Special Problems in Chemistry—1-6 hrs.**  
Credit determined at registration. Problems selected according to needs of students. Prerequisite: departmental approval.

**86:242. Advanced Analytical Chemistry—3-4 hrs.**

A theoretical and practical consideration of the problems of separation and measurements in analytical chemistry. Discussion, 3 periods; lab., 3 periods; lecture may be taken without the laboratory. Prerequisites: 86:132; 86:140; and approval of department head.

**86:292. Research Methods and Chemical Literature—3 hrs.**

Concepts and procedures for developing a chemical research problem; use and importance of the chemical literature.

## Curriculum and Instruction

### GENERAL, ELEMENTARY, AND EARLY CHILDHOOD EDUCATION

**21:101(g). Elementary Methods and Materials—10 hrs.**

This fused course deals with the methods and materials used in the elementary school in relation to the development of the child. It embodies the content of such courses as the teaching of elementary social studies, science, art, and music. Prerequisite: 20:14, 20:16.

**21:105(g). Learning Experiences of Young Children—10 hrs.**

Experiences, methods, and materials for teaching young children. Prerequisite: 20:014, 20:016.

**21:142(g). Methods in Elementary Science—2 hrs.**

Investigation and implementation of commercial and teacher-constructed materials and appropriate instructional strategies for contemporary elementary school science programs.

**21:143(g). Social Studies in the Elementary School—2 hrs.**

Methods and materials for teaching the knowledge, attitudes, and skills in social studies.

**21:144(g). Literature for Elementary Children—3 hrs.**

An advanced course in children's literature. An elementary course in children's literature should precede this course.

**21:145(g). Storytelling—2 hrs.**

Art and techniques of storytelling to enrich the elementary classroom learning experiences. 21:044; 21:144 or 35:132 should accompany or precede this course.

**21:148(g). Parent Education—3 hrs.**

Methods, materials, and responsibilities for informing parents of the goals and programs of the school for an understanding that will lead to stronger cooperation and support.

**21:149(g). Parent and Community Relationships—2 hrs.**

Procedures for developing home-community-school relationships to promote the education of each child in reaching his maximum potential. Emphasis on preschool-kindergarten level.

**21:151(g). Early Childhood Curriculum—3 hrs.**

Current trends in curriculum for preschool children. No credit for student with credit in 21:105.

**21:152(g). Elementary Curriculum—3 hrs.**

Recent trends in the curriculum for children in grades K-6. No credit allowed for a student who has received credit in 21:101.

**21:154(g). Nursery School and Kindergarten—2 hrs.**

Background for establishing and administering a preschool facility; investigates equipment, supplies, staffing, financing, policy statements, and curriculum planning for day care, nursery school, and kindergarten.

**21:170(g). Methods and Materials for the Middle School/Junior High School—10 hrs.**

Teaching strategies, materials, and school organization for grades 4 through 9 in both the traditional junior high and middle school settings; methods of teaching both the preadolescent and the adolescent.



**21:178(g). The Junior High School—5 hrs.**  
Rationale and development of both the junior high and middle school; stresses organization, curriculum, and instructional strategies to meet the needs of the early adolescent.

**21:192(g). Experience—2-4 hrs.**  
Offered in various specialized fields as listed in the Schedule of Classes, but may be taken only twice for credit in the same area.

**21:289. Seminar in Education—2 hrs.**  
Special topics listed in Schedule of Classes.

**21:290. Practicum in Education and Psychology—2 hrs.**

**21:299. Research—3 hrs.**

## **SPECIAL EDUCATION**

**22:150(g). The Exceptional Child—3 hrs.**  
Introduction to education of the handicapped and gifted child; the exceptional child in the regular school setting; development of proper understanding and attitudes. Emphasis on needs, curriculum, and special education program.

**22:154(g). The Gifted Child—4 hrs.**  
The educational needs of the gifted and talented child. Emphasis on characteristics, identification, underachievement, counseling, and motivation. Attention to curriculum and organization adaptations.

**22:161(g). Braille I—3 hrs.**  
Braille reading and writing for the education of blind children. Use of Braille writing equipment. Reading problems; observation of blind children; Braille in mathematics and music.

**22:162(g). Braille II—3 hrs.**  
Advanced applications of Braille I, leading to Library of Congress certification for Braille transcribers; introduction to Nemeth code, Cranmex abacus, and teaching materials and equipment. Prerequisite: 22:161.

**22:170(g). Educational Management of the Handicapped I—3 hrs.**  
Prescription, implementation, and evaluation of educational solutions for students manifesting learning and behavioral disorders. Prerequisite: 22:150. Corequisite: 22:192 (Tutorial).

**22:171(g). Educational Management of the Handicapped II—3 hrs.**  
Educational management of the handicapped in group settings. Stress upon discipline and management techniques. Prerequisite: 22:170; corequisite: 22:192.

**22:174(g). Teaching the Handicapped—2 hrs.**  
Overview of instructional programs for the handicapped from preschool through secondary levels. Lab. experience in the selection and evaluation of curriculum methods and materials. Prerequisite: 22:150.

**22:180(g). Teaching the Handicapped: Primary—3 hrs.**  
Instructional methods and materials for handicapped functioning at primary level. Emphasis on social and beginning academic skills. Includes teaching of retarded, learning disordered, and/or behaviorally handicapped individuals. Prerequisite: 22:174.

**22:181(g). Teaching the Handicapped: Secondary—3 hrs.**  
Emphasis on individual instruction programmed materials, and other techniques to improve academic, social, and vocational skills. Includes teaching of mildly retarded, learning disordered, and/or behaviorally handicapped pupils. Prerequisite: 22:174.

**22:182(g). Teaching the Handicapped: Intermediate—3 hrs.**  
Instructional methods and materials for the handicapped functioning at intermediate level. Emphasis on acquisition of social and academic skills. Includes teaching the mildly retarded, learning disordered, and/or behaviorally handicapped individuals. Prerequisite: 22:174.

**22:183(g). Teaching the Handicapped: Preacademic—3 hrs.**  
Instructional methods and materials for the handicapped functioning at the preschool or preacademic level. This may include teaching the trainable mentally retarded, severely brain injured, psychotic, and other handicapped pupils. Prerequisite: 22:174.

**22:184(g). Home-School Relationships for Special Education—3 hrs.**  
Utilization and coordination of special education services with the home and school to maximize the potential of the handicapped. Communication techniques and patterns of cooperation with parents and school personnel; guidance and counseling of the handicapped child and his parents. For seniors and graduate seniors only.

**22:187(g). Teaching the Handicapped: Profound—3 hrs.**  
Instructional methods and materials for handicapped children functioning at developmental ages 0-3. Emphasis on definitions, characteristics, educational programs and adaptations. Includes teaching of children with severe or profound mental, physical and/or health problems. Prerequisite: 22:174.

**22:192(g). Experience in Special Education—2-4 hrs.**  
Supervised teaching and experience in specialized areas of special education as listed in the Schedule of Classes. May be repeated with consent of the instructor. Prerequisites vary with the specific experience.

**22:240. The Consultation Process in Special Education—3 hrs.**

Examination, analysis, and application of a methodological model for consulting with teachers of handicapped children. Emphasis on process considerations including interpersonal relations, interaction patterns, interpersonal influence and effect of responses, and communication skills.

**22:245. Resource Strategies for the Handicapped—3 hrs.**

Prompting techniques, concept teaching, a principle format for analyzing/designing instruction, systematic development of strategies, and in-service training considerations. Principles and techniques of educational diagnosis, instructional analysis, and instructional strategy design as these relate to the consultation process in special education.

**22:251. Vocational Programs for the Handicapped—3 hrs.**

Development and implementation of work study and other vocational programs for handicapped adolescents and adults. Prerequisite: 22:174.

**22:252. Community Resources for Special Education—3 hrs.**

Study of cooperation and coordination of the school and other agencies serving the handicapped, including various programs and services provided by governmental and private organizations.

**22:278. Administration of Special Education—3 hrs.**

Prepares administrators to plan programs for various areas of special education, to select personnel, provide instructional materials, interpret the program to the community, and be informed concerning legal provisions for special education.

**22:289. Seminar—2 hrs.**

**22:290. Practicum—2-4 hrs.**

**22:299. Research.**

## READING

**23:110(g). Reading and Language Arts—5 hrs.**  
Introductory course in the teaching of reading and other communication skills. Survey of recent literature and research in the field.

**23:111(g). Language Development in the Elementary School—3 hrs.**

Development of children's oral and written language as communication tools with implications for the school curriculum; emphasis on interactions among language, thinking, and social development. Includes direct experience with children. Prerequisite: 23:110.

**23:112(g). Issues and Trends in Elementary Reading—3 hrs.**

Recent methodological developments, new materials, and innovations in organization of the elementary reading curriculum.

**23:113(g). Teaching Expressive Language Arts—3 hrs.**

Creative aspects of oral and written language in the elementary school; explores methods of fostering creative oral and written expression. Includes survey of recent literature and research in the field. Experience with individual children and small groups.

**23:114(g). Materials and Techniques for Reading—2 hrs.**

Analysis and evaluation of reading materials, including technological innovation. Adaptation and creative utilization of materials to meet specific needs of children. Prerequisites: 23:110 or 23:130.

**23:130(g). Reading for Adolescents—3 hrs.**

Introduction to the reading process, materials and methods of instruction, evaluation of reading achievement, and study of reading demands in the secondary curriculum. Recognition of characteristics of current secondary reading programs.

**23:132(g). Reading in Content Areas—2 hrs.**

Evaluation of reading demands in school subjects. Suggestions for content area teachers and developmental reading teachers at secondary and upper elementary levels.

**23:140(g). Diagnostic Teaching of Reading—3 hrs.**

Instructional needs of individual children within the classroom. Includes group and individual evaluation; selecting materials, methods and activities for special problems; recognizing and referring students with specific learning disabilities. Prerequisite: 23:110 or 23:130.

**23:147(g). Remedial Reading—3 hrs.**

Introductory course in remedial reading in public schools; theory, methods, and materials currently used. Prerequisite: a methods course in reading. Corequisite: 23:192.

**23:148(g). Diagnosis of Reading Problems—2 hrs.**

Experience in administering and interpreting diagnostic reading tests. Survey of correlate and causal areas including introduction to tests frequently used by specialists. Prerequisite: 23:147.

**23:192(g). Experience in Reading: Tutoring—2-4 hrs.**

Supervised tutoring in the University Reading Center or in a public school Reading Center. Prerequisite: instructor's approval.

**23:193(g). Experience in Reading: Field—3-4 hrs.**

One half day teaching in a school reading program. Prerequisites: 23:147 and 23:148 or instructor's approval.

**23:210. Recent Research in Reading—3 hrs.**

Research in reading with its implications for the classroom teacher and supervisor. Prerequisite: one course in the teaching of reading.

**23:212. Psychology of Reading—3 hrs.**

An investigation of behaviors significantly related to the reading process, including visual and auditory perception, cognition, language, maturational, physiological and neurological factors and personality.

**23:240. Reading Disability—3 hrs.**

Exploration of factors in reading disability, causes of severe disability, development of remedial programs, and the roles of specialists and parents in remediation. Prerequisite: 23:147 and 23:148.

**23:242. Case Studies in Reading Disability—3 hrs.**

The case study method designed to assist the student to develop the skills and techniques in writing case studies and to provide experience in utilizing case studies in planning and evaluating individualized remedial programs.

**23:244. Research Design in Reading—2 hrs.**

The evaluation of research designs in reading and construction of a research design for a selected problem.

**23:289. Seminar—2 hrs.**

**23:290. Practicum—2-4 hrs.**

**23:299. Research.**

**EDUCATIONAL MEDIA**

**24:131(g). Resources for Communications—3 hrs.**

Selection, utilization, and implementation of multisensory materials in the preparation and design of messages.

**24:132(g). Materials of Instruction—1-3 hrs.**

Laboratory work in the Curriculum Laboratory with all types of materials in the student's field. Especially for students interested in supervision; others should have departmental approval.

**24:135(g). Media Administration—2 hrs.**

An advanced course to prepare a media graduate to administer any one or all of the specific areas of media.

**24:137(g). Preparation of Instructional Materials—2 hrs.**

Content and laboratory practice in construction of projected and non-projected instructional materials such as slides, films, transparencies, dry mounting, lettering, and displays. Designed to acquaint school personnel with the role of educational media in teaching and learning. Prerequisite: 24:031, 24:131 or equivalent.

**24:138(g). Graphics Production—2 hrs.**

Assessment of the generation, manipulation, integration, and final formats of type, artwork, and photography applied to printed and projected materials; creative applications of current technology in the development of visuals. Prerequisite: 24:031 or 24:131.

**24:140(g). Instructional Communications Systems—2 hrs.**

Motivation, perception, and learning theory in the communication and learning processes, and the contribution of audio-visual communications and materials in teaching situations.

**24:145(g). Film History—3 hrs.**

Historical growth of the motion picture medium, and the evolution of its role as a media of mass communication.

**24:147(g). Photography—2 hrs.**

Basic principles, skills, and techniques of still photography and their application to communication. Lab. included.

**24:148(g). Advanced Photographic Techniques—2 hrs.**

Monochromatic photography including view camera techniques, composition, sensitometry, selection of photographic chemistry and emulsions, filters, specialized printing and finishing techniques. Prerequisite: 24:147 or consent of instructor.

**24:150(g). Instructional Television Production—2 hrs.**

Techniques of instructional television production as applied in the classroom and the studio. Practical experience in planning and producing instructional television programs.

**24:151(g). Fundamentals of Motion Picture Production—2 hrs.**

Production and planning, visual continuity, shooting, animation, editing, sound recording, titling, and other technical problems of production as applied to individual student films.

**24:152(g). Advanced Motion Picture Production—2 hrs.**

Techniques of 16 mm. instructional sound motion pictures applied to group projects; technical problems of production. Prerequisite: 24:151.

**24:155(g). Audio Production—2 hrs.**

Fundamentals of audio production including production planning, budgeting, selecting equipment, recording, editing, mixing, dubbing, duplicating, and other technical problems of production.

**24:205. Programmed Instruction—3 hrs.**

Evaluation, selection and utilization of programmed materials and machines; research and construction of programmed materials. Useful for educational media directors and administrators.

**24:230. Communication Theory in Media—2 hrs.**

Contemporary theory of human and mass communication, learning, perception, and propaganda as they apply to message design utilizing communication media.

**24:232. Selection and Integration of Materials—1-3 hrs.**

Individual experiences providing an overview of curricular resource materials.

**24:240. Instructional Development—2 hrs.**  
Analysis and synthesis for structuring learning environments including learner, task, environmental, and instructional strategy analysis.

**24:260. Advanced Media Projects—1-4 hrs.**  
Credit to be determined at time of registration; project, credit, and evaluation of criteria require advance approval of instructor.

Sec. 1. Television. Prerequisite: 24:150.

Sec. 2. Graphics. Prerequisites: 24:031 or 24:131; 24:137.

Sec. 3. Film. Prerequisites: 24:151; 24:152.

Sec. 4. Photography. Prerequisite: 24:137.

Sec. 5. Multi-Media Communications.

Prerequisites: 24:031 or 24:131; 24:137.

May be repeated for credit to a maximum of 4 hrs. for any section.

**24:285. Readings in Media—1-3 hrs.**

**24:286. Studies in Media—1-4 hrs.**

**24:289. Seminar—2 hrs.**

**24:297. Practicum—2-3 hrs.**

**24:299. Research.**

## **SAFETY EDUCATION**

**30:130(g). Driver and Traffic Safety I—3 hrs.**

Classroom and practice driving units; safety education as a social problem; development of safety skills, habits, attitudes, and ideals; accident causes; study of research.

**30:131(g). Driver and Traffic Safety II—3 hrs.**

Deals with classroom and in-the-car techniques of imparting instruction to high school students taking driver education.

**30:132(g). Directing the Safety Program—2 hrs.**

Organization and administration of safety programs through the entire school system.

**30:135(g). Teaching Driver Education for the Handicapped—2 hrs.**

Methods and techniques in teaching the handicapped to drive. Prerequisites: 30:130; 30:131.

**30:137(g). Teaching Motorcycle and Recreational Vehicle Safety—3 hrs.**

Fundamental knowledge and skill development to assist participants in becoming safe vehicle operators, and equipping them to develop and teach such safety education programs in their respective schools.

**30:140(g). Traffic Law Enforcement—3 hrs.**

Designed to acquaint safety and driver education teachers with the purposes of traffic law enforcement and traffic engineering.

**30:192(g). Experience in Safety Education—2-4 hrs.**

Offered in various specialized fields; may be repeated once for credit in a different area. Maximum of 8 hours credit (only 2 hours may be applied to major requirement).



# Earth Science

## 87:109(g). Fundamentals of Astronomy —3-4 hrs.

Basic principles of astronomy developed with more of a mathematical treatment than that used in 87:010 or 87:012. Prerequisite: departmental approval. Discussion, 3 periods; or discussion, 3 periods, and laboratory, 2 periods.

## 87:118(g). Experience in Earth Science—3 hrs.

For elementary and junior high school teachers. Experimental inquiry based learning; investigation of the earth and its environs. Discussion, 1 period; lab., 4 periods.

## 87:125(g). Invertebrate Paleontology—4 hrs.

Invertebrate animals of the geologic past, including their morphology, evolutionary trends, classification, and distribution. Field trips for the study of fossil occurrences and for the collection of fossil materials. Prerequisites: 87:035 or 84:034. Discussions, 2 periods; lab., 4 periods.

## 87:128(g). Fundamentals of Geology—4 hrs.

Basic principles of physical and historical geology. Prerequisite: departmental approval.

## 87:129(g). Structural Geology—4 hrs.

The origins and mechanics of rock deformation. Description and analysis of structural features. Field work where appropriate. Prerequisites: 87:031 and working knowledge of trigonometry. Discussion, 2 periods; lab., two 2-hour periods.

## 87:132(g). Mineralogy—4 hrs.

Investigation of the more important minerals, including their origin, crystal forms and physical properties with emphasis on the relationship of physical properties to structure, composition and bonding. Field trips. Prerequisites: 87:044; 87:031 or permission of instructor. Discussion, 2 periods; lab., two 2-hour periods.

## 87:134(g). Geological Field Methods—3 hrs.

In-field study of geological field procedures and problems including mapping, measurements, aerial photography and aerial photo interpretation, field records, and geological reports. Short field trips. Discussion, 2 periods; lab., 3 periods. Prerequisite: 87:031 or 97:031 or equivalent.

## 87:135(g). Optical Mineralogy—4 hrs.

The optical properties of minerals and the use of the petrographic microscope. Emphasis is placed on the identification of minerals by oil immersion methods and in the identification of minerals in rock thin sections. Prerequisite: 87:132. Discussion, 2 periods; lab., 4 periods.

## 87:136(g). Principles of Stratigraphy—4 hrs.

Investigation of layered rocks, sedimentary processes, environments of deposition, correlation procedures, and classification and description of common sedimentary rocks. Field trips. Prerequisite: 87:035; or corequisite: 87:035 and permission of instructor. Discussion, 2 periods; lab., two 2-hour periods.

## 87:141(g). Geomorphology—3 hrs.

Mass wasting processes and sculptural evolution of varied terrains. Emphasis on Midwestern geomorphology. Short field trips. Discussion, 2 periods; lab., 3 periods. Prerequisite: 87:031 or 97:031 or equivalent.

## 87:142(g). Igneous and Metamorphic Petrology —4 hrs.

Description, classification, and genesis of igneous and metamorphic rocks. Discussion, 2 periods; lab., two 2-hour periods. Prerequisite: 87:132.

## 87:150(g). Planetarium Education—2 hrs.

Fundamentals of planetarium education; includes review of the night sky, history of and operation of small and medium size planetaria, practice with planetarium projectors. Students will prepare and present one program. Prerequisite: 87:010 or equivalent. Discussion, 2 periods.

## 87:151(g). Planetarium Education Intern—1 hr.

Intern experience with programs prepared and given by student to live audiences; involves preparation and giving of approximately three to five planetarium programs. Prerequisite: 87:150.

## 87:160(g). Geology of Iowa—2 hrs.

Iowa's geologic history: Precambrian to present. Includes: rock record, changes in environments of deposition, fossil record, occurrence and origin of important economic mineral resources. Pleistocene (Ice Age) history. Prerequisite: 87:035; or graduate status and permission of instructor. Discussion, 2 periods.

## 87:189(g). Readings in Earth Science—1-3 hrs.

Maximum of three hours may be applied to earth science or geology majors or minors. Prerequisite: departmental approval.

## 87:231. Mineral Deposits—3 hrs.

The origin of metallic ore deposits with emphasis on the character of the ore-bearing solutions, their mode of transfer and controls of ore deposition; a study of nonmetallic deposits with emphasis on the environmental factor controlling their development, examples of the important types of mineral deposits and an introduction to exploration and development methods. Prerequisite: 87:132. Discussion, 3 periods.

## 87:280. Problems in Earth Science—1-4 hrs.

Problems and area of study selected according to needs of students. Prerequisite: departmental approval.

## 87:292. Research Methods in Earth Science —3 hrs.

Methods and evaluation of research in the earth sciences. Individual exploration of a possible research or thesis project in the earth sciences. Discussion, 3 periods.

## 87:297. Practicum.

## 87:299. Research.

# Economics

**92:100(g). Introduction to Econometrics—3 hrs.**  
Econometric techniques and the development of statistical techniques unique to the economics; econometric relationships derived in single and multivariate linear and non-linear regression analysis; use of statistical inference in econometric investigation with applications to the classical works of economic topics.

**92:113(g). Money and Banking—3 hrs.**  
Money, commercial banking, the Federal Reserve System and monetary policy.

**92:116(g). Labor Economics—3 hrs.**  
Labor economics, union-management relationships, and public policy toward employer-employee relationships.

**92:117(g). Public Finance—3 hrs.**  
Taxation and government expenditures; fiscal policy.

**92:120(g). Mathematical Economics—3 hrs.**  
Introduction to quantitative methods and theory with an exposition of statistical techniques for understanding econometric research and quantitative policy recommendations.

**92:135(g). The Organization of American Industry—3 hrs.**  
Structure, conduct and performance of firms, industries and market. Policies to maintain competition.

**92:136(g). International Economics—3 hrs.**  
Comparative advantage, exchange rates, balance of payments, and trade policies.

**92:137(g). Comparative Economic Systems—3 hrs.**  
Examination of the capitalistic and socialistic economies through the works of their defenders and critics.

**92:139(g). Intermediate Micro-Economic Theory—3 hrs.**  
Intermediate level micro-economics. The theory of consumer choice of the business firm and of resource allocation.

**92:141(g). Intermediate Macro-Economic Theory—3 hrs.**  
Intermediate level macro-economics. The determinants of aggregate demand, national product and employment; macro-economic objectives and policies.

**92:143(g). Economic Development—3 hrs.**  
Theories of underdevelopment; approaches and proposals for development; factors influencing development.

**92:150(g). Monetary Economics—3 hrs.**  
Monetary theory, the supply of money, the demand for money, monetary policy, and current monetary issues. Prerequisites: 92:113 and 92:141.

**92:170(g). History of Economic Thought—3 hrs.**  
Development of economic theory from the early Greeks to the present time.

**92:180(g). Economic Principles—3 hrs.**  
Graduate-level introduction to principles of economics; includes both macro- and micro-principles. Prerequisite: consent of instructor.

**92:210. Managerial Economics—3 hrs.**  
An analytical approach to business management; explores business decision making within the structure of micro-economics.

**92:220. Economic Growth—3 hrs.**  
Comparison and explanation of growth rates of advanced economics. Policies to increase growth. Benefits and costs of growth.

**92:224. Economic Fluctuations—3 hrs.**  
Nature, sources and treatment of economic fluctuations. Theories of economic fluctuation and policies to reduce economic fluctuations.

**92:232. Soviet Economy—3 hrs.**  
Soviet economic institutions; operation and performance of the Soviet economic system.

**92:234. International Finance—3 hrs.**  
International financial theories, institutions and policies; analysis of the balance of payments, capital flows, disequilibrium and international monetary adjustments.

**92:280. Seminar in Economics—3 hrs.**

**92:285. Individual Readings—1-3 hrs.**

**92:299. Research.**



# Educational Psychology and Foundations

## EDUCATIONAL PSYCHOLOGY

### **20:100(g). Child Psychology—2 hrs.**

Factors influencing the child's behavior, attitudes, and understanding from standpoint of current psychological theory.

### **20:109(g). Development of Young Children**

—3 hrs.

The growth and development of the young child with emphasis on research having important implications for the education of young children.

### **20:116(g). Psychology of Adolescence—2 hrs.**

Growth attitudes, and concepts from age eleven to maturity.

### **20:118(g). Mental Hygiene—2 hrs.**

Introduction to the study, evaluation, and improvement of personal adjustment and mental health.

### **20:138(g). Psychology of Accident Prevention**

—2 hrs.

A foundation for psychological understanding in the field of accident prevention and behavioral problems.

### **20:139(g). Psychology of Personality, Education**

—3 hrs.

A thorough investigation of the dynamics of personality, with emphasis on the principles of normal personality structure. Designed for those who seek an understanding of the structure, development and function of personality.

### **20:140(g). Social Psychology, Education—3 hrs.**

An intensive study of the behavior of man as affected by, and when interacting in, groups. Areas of discussion include prejudice, propaganda, anti-intellectualism, leadership, social perception, group dynamics, game theory, and student protest.

### **20:142(g). Abnormal Psychology, Education**

—3 hrs.

This course deals with psychodynamics. The development of both normal and abnormal personalities is traced with an emphasis on application of sound developmental principles. 20:118 recommended to precede.

### **20:187(g). Educating Disadvantaged Children and Youth—3 hrs.**

Definition and extent of cultural deprivation in the United States. Sociological and psychological factors that interfere with the intellectual development of the disadvantaged child. Programs designed to provide experiences essential for intellectual growth.

### **20:189(g). Seminar in Educational Psychology**

—1 hr.

Provides the opportunity of correlating previous course work and knowledge in the field of educational psychology. For senior psychology majors and minors. Must be taken twice, one semester hour each during the senior year. May be taken by graduate students with permission

of the department. (May be repeated once for credit).

### **20:191(g). Supervision of Student Teaching**

—3 hrs.

Designed primarily for those presently or potentially involved in the supervision of student teachers. Covers the selection and preparation of student teachers; readiness for student teaching; principles of supervision, including the identification and analysis of good classroom procedures; desirable experiences for the student teacher in the total school program; professional responsibilities of the student teacher in the school and community; evaluation of student teachers, and the supervising teacher's role in the selection of teachers for the profession. It also covers the selection and preparation of student teaching centers, qualifications of supervising teachers and the role of the coordinator of student teaching.

### **20:193(g). Research Experience in Educational**

**Psychology—2 to 6 hrs.**

Research participation, and/or independent supervised research including experience in each of the following: Search of the literature; analysis of theoretical issues; design, instrumentation, and conduct of one or two major experiments; analysis of results; and preparation of research reports. Prerequisite: 15 hours in educational psychology or in some other field of psychology and permission of the department. A total of six semester hours of credit may be allowed.

### **20:194(g). Clinical Experience—1-4 hrs.**

Practice in educational testing, mental testing, interviewing, guidance and counseling, remedial educational procedures; and formulation of follow-up procedures. Prerequisite: department approval.

### **20:214. Advanced Educational Psychology**

—2 hrs.

Application of selected psychological models as alternative solutions to educational problems.

### **20:230. Theories of Personality—3 hrs.**

Critical examination of the nature of personality theory, and a detailed analysis of the major contemporary theories of personality.

### **20:240. Introduction to School Psychology**

—2 hrs.

Nature of the psychological services in the schools; observation of classrooms and activities of various special services personnel. Includes literature of roles and goals of the school psychologist.

### **20:270. Psychology of Learning Disabilities**

—3 hrs.

Exploration of learning models, integrated with critical review and use of diagnostic test instruments. Development of interpretative skills and

adaptations of teacher methods through case study data and clinic experience. Prerequisite: 25:181.

**20:273. Behavior Disorders in Children—3 hrs.** Problems of children who deviate from the norm in behavior and adjustment, including deviations which are organic as well as those which are functional in nature. Observations of clinical procedures.

**20:285. Readings.**

**20:289. Seminar in Education and Psychology—2 hrs.**

Prerequisite: instructor's consent.

**20:290. Practicum in Education and Psychology—2-4 hrs.**

Prerequisite: instructor's consent.

**20:291. Internship in School Psychology—2-6 hrs.**

Supervised off-campus field experience.

**20:299. Research.**

## TESTS, MEASUREMENT, AND RESEARCH

**25:180(g). Statistical Methods in Education and Psychology—3 hrs.**

Introduction to statistical methods. Includes graphing techniques, measures of central tendency and variability, correlation, t-tests, one way ANOVA, and chi-square. 2 hr. lab. arr.

**25:181(g). Group Evaluation Techniques—3 hrs.** Measurement and evaluation in the instructional programs of elementary and secondary schools. Utilization of standardized group instruments in measuring aptitude, intelligence, achievement, interest, and personality.

**25:185(g). Essentials of Measurement and Evaluation—2 hrs.**

Principles of measurement and evaluation applied to the preparation and analysis of classroom appraisal devices. Provides teachers a basis for assessing individual differences, planning instruction and communicating educational outcomes. Designed for students with a minimum background in the foundations of measurement or teaching experience. No credit for student with credit in 25:050.

**25:189(g). Seminar in Education—2-3 hrs.**

**25:280. Theory and Construction of Tests—2 hrs.**

An advanced course in the theory of test construction and practical application of the theory to actual construction and validation processes. Prerequisite: 25:180 and 25:181.

**25:281. Topics in Statistical Analysis—3 hrs.**

Application of statistical principles to research in education and psychology. Topics selected from: correlational analysis; analysis of variance; sampling in education research; chi square, t, and F distributions. Emphasis on statistical inference. Prerequisite: 25:180 or the equivalent.

**25:282. Psychodynamics I—3 hrs.**

Standardization, crossvalidation, administration, scoring, and elementary interpretation of: Stanford-Binet Scale, Wechsler Preschool and Primary Scale, Wechsler Intelligence Scale for Children, Wechsler Adult Intelligence Scale.

**25:282. Psychodynamics II—3 hrs.**

Assessment of quantitative and qualitative potentialities of basic IQ tests (Stanford-Binet and Wechsler instruments), and use of projective instruments (House-Tree-Person test, TAT, CAT, Rorschach) to complement findings from conventional cognitive measures.

**25:284. Psychodynamics III—3 hrs.**

Use of test studies to understand behavioral styles of individual students; includes interpreting tests and observational data in discussion with parents and school and community personnel.

**25:285. Readings.**

**25:289. Seminar in Evaluation and Research.**

**25:294. Educational Research—3 hrs.**

Methods and evaluation of educational research. Individual exploration of a possible thesis or research project in cooperation with student's adviser or director of the study.

**25:299. Research.**

## SOCIAL FOUNDATIONS

**26:120(g). Sociology of Education—3 hrs.**

Examination of the sociology of classroom learning; and the role of schooling in social stratification and social mobility.

**26:134(g). History of Education—3 hrs.**

Education as a formal institution; emphasis on the historical antecedents which have affected education in Western Culture and America.

**26:135(g). Critics of Education—3 hrs.**

Criticism of American schooling developed since the 1950's; social implications of various movements to reform the schools, establish alternatives to schools, and to deschool society.

**26:138(g). Comparative Education—3 hrs.**

A panoramic view of the educational systems of various nations of the world compared with the education of the United States of America.

**26:140(g). Alternatives in Public Education—3 hrs.**

Alternatives to conventional schooling currently in existence within the framework of public education; nature, purposes, goals, and accomplishments of various alternatives, and evaluation of the alternatives.

**26:189(g). Seminar in Social Foundations—2-3 hrs.**

**26:234. Philosophy of Education—2 hrs.**

Analytical study of major philosophical viewpoints of modern education, emphasis on professional problems of education and the development of educational principles.

**26:299. Research.**



# English Language and Literature

## ENGLISH

- 62:112(g). Drama: Aeschylus to Ibsen—3 hrs.
- 62:113(g). British Drama to 1642—3 hrs.  
Major dramatists not including Shakespeare.
- 62:114(g). British Drama 1660 through Wilde—3 hrs.
- 62:115(g). Modern Drama—3 hrs.  
American, British and Continental.
- 62:116(g). English Renaissance—3 hrs.  
1500-1642.
- 62:117(g). Dryden through Johnson—3 hrs.  
1660 to 1785. Emphasis on Dryden, Swift, Steele, Addison, Pope, and Johnson.
- 62:118(g). English Romantic Poets—3 hrs.  
Emphasis on Blake, Wordsworth, Coleridge, Byron, Keats, and Shelley.
- 62:119(g). Victorian Literature—3 hrs.  
Prose and Poetry.
- 62:120(g). 20th Century British Novel—3 hrs.
- 62:121(g). The American Renaissance—3 hrs.  
Major writers of the 1840's and 1850's: Hawthorne, Melville, Emerson, Thoreau, and early Whitman.
- 62:123(g). American Realism and Naturalism to WWI—3 hrs.  
Fiction from 1870 through WWI.
- 62:124(g). 20th Century American Novel—3 hrs.
- 62:125(g). Contemporary Southern Literature—3 hrs.  
1920 to the present.
- 62:126(g). The American Short Story—3 hrs.  
From Poe to the present.
- 62:134(g). Modern British and American Poetry—3 hrs.  
Since 1914.
- 62:135(g). Continental Short Story—3 hrs.
- 62:136(g). Faulkner—3 hrs.
- 62:144(g). Chaucer—3 hrs.
- 62:147(g). Milton—3 hrs.  
Milton's major English poetry and prose.
- 62:148(g). Shakespeare—3 hrs.
- 62:153(g). Major American Poets to 1900—3 hrs.
- 62:155(g). Continental Novel through Tolstoy—3 hrs.
- 62:156(g). British Novel through Hardy—3 hrs.
- 62:161(g). Literary Criticism—3 hrs.  
Twentieth-century literary criticism and its historical backgrounds.
- 62:165(g). Literature for Adolescents—2 hrs.  
Reading and evaluation of literature suitable for adolescents.
- 62:174(g). Poetry Workshop—1-6 hrs.  
May be repeated for credit. Prerequisite or co-requisite: 62:080 and consent of instructor.
- 62:175(g). Fiction Workshop—1-6 hrs.  
May be repeated for credit. Prerequisite or co-requisite: 62:081 and consent of instructor.
- 62:180(g). The Craft of Poetry—3 hrs.  
Forms, techniques, and problems in poetry writing; primarily for students interested in creative writing.
- 62:181(g). The Craft of Fiction—3 hrs.  
Forms, techniques, and problems in fiction writing; primarily for creative writing.
- 62:184(g). Old English—3 hrs.
- 62:188(g). Senior Seminar in Literature—3 hrs.  
For seniors only. Topic to be announced in semester schedule of classes.
- 62:190(g). The Teaching of English—3 hrs.  
Credit also as a course in education for a student whose major is English.
- 62:191(g). Seminar for the Student Teacher—1 hr.  
An intensive course to integrate 62:190 with the student teaching experience.
- 62:193(g). The Teaching of Writing—3 hrs.
- 62:195(g). Teaching of Creative Writing—3 hrs.  
For English majors and minors, and elementary education majors with a language arts emphasis.
- 62:201. Introduction to Graduate Study in English—3 hrs.  
Introduction to the problems, techniques, and tools of graduate-level study and research in English.
- 62:204. Advanced Literary Criticism—3 hrs.
- 62:207. The English Curriculum—3 hrs.  
Theories behind the teaching of English and trends in curriculum methods and materials, particularly in secondary English.
- 62:221. English Renaissance Literature—3 hrs.  
(1485-1612)
- 62:222. 17th Century English Literature—3 hrs.  
(1612-1660)
- 62:223. 18th Century English Literature—3 hrs.  
(1660-1798)
- 62:225. 19th Century English Literature—3 hrs.  
Romantic or Victorian (1798-1900).
- 62:226. Modern English Literature—3 hrs.  
(1900-1945)
- 62:231. American Romantic Literature—3 hrs.  
(1800-1870).

- 62:232. American Realistic and Naturalistic Literature—3 hrs.**  
(1870-1912)
- 62:234. Modern American Literature—3 hrs.**  
(1912-1945)
- 62:260. Contemporary Fiction—3 hrs.**  
(1945-present).
- 62:261. Contemporary Poetry—3 hrs.**  
(1945-present)
- 62:262. Contemporary Drama—3 hrs.**  
(1945-present)

- 62:264. Continental Literature—3 hrs.**
- 62:284. Seminar in Literature—3 hrs.**
- 62:291. Seminar in the Teaching of English—3 hrs.**
- 62:292. Teaching English in the Community College—3 hrs.**  
Curriculum and instructional strategies suitable for the community college in meeting the needs of the diverse population of the two-year college.
- 62:297. Practicum.**  
Graduate-level student teaching. See p. 67.
- 62:299. Research.**

## LINGUISTICS

- 63:105(g). English Language for Foreign Students—3 hrs.**  
The patterns and idioms of English for non-native speakers with guided practice in speaking, writing, and comprehension.
- 63:125(g). Introduction to Linguistics—3 hrs.**  
Examination of the major phonological, syntactic, and semantic aspects of a variety of human languages.
- 63:130(g). The Structure of English—3 hrs.**  
Linguistic analysis of the major phonological, syntactic, and semantic properties of modern American English.
- 63:132(g). History of the English Language—3 hrs.**  
Developmental survey of the English language from its beginnings to the present as a product of linguistic change and variation, political history, and social attitude. Prerequisite: 63:130 or 63:125.
- 63:134(g). Historical and Comparative Linguistics—3 hrs.**  
Theories of language change and diversification. Discussion of genetic and typological and classification, reconstruction, dialect emergence, and linguistic universals. Prerequisite: 63:125 or 63:130.
- 63:141(g). Transformational Grammar—3 hrs.**  
Theories of grammar from a generative-transformational point of view with special emphasis on English syntax. Prerequisite: 63:130 or 63:125.
- 63:142(g). Semantics—3 hrs.**  
Traditional and recent theories of meaning in language.

- 63:144(g). Introduction to Phonology—3 hrs.**  
The sound systems of human languages, including articulatory and acoustic phonetics, structural phonemics, distinctive features, and generative phonology. Prerequisite: 63:130 or 63:125.
- 63:147(g). Problems of English Grammar—3 hrs.**  
Prerequisite: 63:130 or 63:125.
- 63:194(g). Teaching English as a Foreign Language—3 hrs.**  
Methods and materials. Classroom practices, textbooks, language laboratory, testing. Prerequisite: 63:130 or 63:125.
- 63:231. Dialectology—3 hrs.**  
Techniques of collecting, analyzing, and presenting dialect data. Characteristics of regional and social dialects with major emphasis on American English. Prerequisite: 63:130 or 63:125.
- 63:235. Contrastive and Error Analysis—3 hrs.**  
Techniques of comparing the grammatical systems of a target and a native language, and the pedagogical applications of such analysis. Prerequisite: 63:130 or 63:125.
- 63:254. Phonology—3 hrs.**  
Intensive investigation of phonological systems and the theories which attempt to explain them. Prerequisite: 63:144.
- 63:256. Linguistic Theory—3 hrs.**  
Prerequisite: 63:141.
- 63:285. Seminar in Language—3 hrs.**
- 63:289. Seminar in Linguistics—3 hrs.**  
Prerequisite: 63:130 or 63:125.
- 63:297. Practicum.**  
Graduate-level student teaching of English as a foreign language.
- 63:299. Research.**

## SCHOOL JOURNALISM

**66:102(g). Magazine Article Writing—3 hrs.**  
Writing and marketing different types of articles for various publications.

**66:103(g). High School Newspaper and Yearbook—3 hrs.**

Advising school publications; staff organization; methods of printing; policies, style, content, textbooks, business management. Prerequisite: 66:040 or consent of instructor.

**66:104(g). Journalism Laboratory I—1 hr.**

Practical experience in gathering and writing news stories for local media, especially campus publications. May be repeated for a total of 3 hours. Prerequisite: 66:040 or consent of instructor.

**66:105(g). Journalism Laboratory II—1 hr.**

Writing feature, investigative, and interpretive articles for local media, especially campus publications. May be repeated for a total of 2 hrs. Prerequisite: 66:040 or consent of instructor.

**66:110(g). Field Experience in Journalism—1-6 hrs.**

Student works with local newspaper and/or local agency which produces newsletters, brochures, and press releases to gain on-the-job experience in the print media. Prerequisites: 66:040; 66:140; and at least junior standing, and consent of instructor.

**66:131(g). History of Mass Communications—3 hrs.**

Development of American newspapers and periodicals, from early beginnings in Europe to present day; rise of radio and television.

**66:132(g). Mass Communication Law—3 hrs.**

Origins and backgrounds of press law: Libel and its defenses, penalties, right of privacy; problems of fair trial. Law and self-regulation in advertising, in broadcast media.

**66:140(g). Advanced Reporting—3 hrs.**

Gathering information and writing of complex news stories; emphasis on the social, legal, and moral rights and responsibilities of the journalist. Prerequisite: 66:040 or consent of instructor.

**66:150(g). Editing and Design—3 hrs.**

Copyreading, proofreading, writing headlines; studying make-up, typography, and photography.



**H. Ray Hoops, Dean of the Graduate College**

# Geography

**97:105(g). Advanced Cartography—3 hrs.**  
Elements of map reproduction, map design, representation of landforms and the use of color in maps. Map projections. Mapping and charting quantitative relationships. Lecture, 2 hours; lab., 2 hours. Prerequisite: 97:101 or consent of instructor.

**97:107(g). Use and Interpretation of Aerial Photographs—3 hrs.**  
Introduction to the basic principles of photogrammetry and air photo interpretation. Emphasis on interpretation and mapping of surface features. Prerequisite: consent of instructor.

**97:109(g). Quantitative Methods in Geography—3 hrs.**  
Application of selected mathematical models and statistical techniques (descriptive and inferential) to the analysis of areal problems. Prerequisite: either 97:010 or 97:025 or 97:031 or consent of instructor. Lecture, 2 hours; lab., 2 hours.

**97:110(g). Climatology—3 hrs.**  
The elements and controls of climate and their world distribution; climatic classification and distribution of climatic types. Prerequisite: 97:031, or consent of instructor.

**97:125(g). Geography of Transportation: Planning and Evaluation—3 hrs.**  
Agents, routes, terminal complex, and basic commodity exchange services of transportation (land, water, air) within the framework of regional and interregional relationships. Prerequisite: 97:010 or 97:025 or 97:031 or consent of instructor.

**97:134(g). Location, Land Use, and Spatial Economics Behavior—3 hrs.**  
Spatial influences on economic behavior, including location, production, consumption, trade, and development. Prerequisite: 97:109 or 97:120 or 92:053 or consent of instructor.

**97:135(g). Urban Location and Land Use—3 hrs.**  
Theories and models for urban location, form, and structure; major focus on public policy. Prerequisite: 97:132 or consent of instructor.

**97:136(g). Rural Location and Land Use—3 hrs.**  
Physical, regional, economic, and institutional factors in a rural environment; returns from land; land value; property rights and tenure rights; rural and urban land development. Prerequisite: 97:120 or 92:053 or consent of instructor.

**97:142(g). Industrial and Regional Analysis—3 hrs.**  
Locational theory applied to the relationship between geographic facts in the industrial location process; case studies of selection and evaluation of industrial sites; factors affecting location of commercial activities. Prerequisite: 97:120 or 92:053 or consent of instructor.

**97:161(g). Field Studies in Geography—2-3 hrs.**  
Off-campus experience with preparatory and follow-up classroom study. See current Schedule of Classes for specific area to be studied, credit hours, and prerequisites. May be repeated in different geographical areas for a maximum of 6 hours.

**97:193(g). The Nature and Scope of Geography—3 hrs.**  
Analysis of the various currents of thought concerning the nature, scope, and methodology of geography. Strongly recommended for those declaring an emphasis or major in geography. Prerequisite: either 97:010 or 97:025 or 97:031 or consent of instructor.

**97:203. Field Methods—3 hrs.**  
A survey of geographical field procedures and problems, including measurement techniques, observations, and mapping based on field trips. Prerequisite: Departmental approval. Lab., 2 three-hour sessions.

**97:210. Theoretical Geography—3 hrs.**  
Philosophy and major theories of modern geographical science. Prerequisite: 97:109 or consent of instructor.

**97:280. Seminar—3 hrs.**  
Offered in specially designated areas as indicated in Schedule of Classes. If 6 hours of seminar are taken in the M.A. program, 3 hours must be in systematic geography.

**97:285. Readings in Geography—1-3 hrs.**  
Prerequisite: Approval of the head of the department.

**97:288. Research and Bibliography—2 hrs.**  
Introduction to methods of geographical analysis. Scholarly use of source materials and effective presentation of research findings.

**97:299. Research.**



# History

**96:101(g). History of Ancient Greece—3 hrs.**

Archaeology of the Aegean and the Minoan-Mycenaean civilization; the Homeric period, the classical civilization of Greece to Alexander the Great and the Hellenistic Age; the advent of the Romans.

**96:103(g). History of Ancient Rome—3 hrs.**

The Roman Republic, expansion of Roman rule, the Roman Empire, the decline and fall of the empire in the 5th century A.D. Compares the Romans as people with modern Americans.

**96:107(g). War and Society in the Modern World—3 hrs.**

An historical study of the causes and conduct of war and the impact of war on society since the 17th century with emphasis on the 19th and 20th centuries.

**96:116(g). Recent United States History—3 hrs.**

A history of the American people since 1929 with emphasis on domestic affairs.

**96:122(g). The Black in United States History—3 hrs.**

History of black Americans from the African background into the 1970's, with an emphasis on the period since the end of slavery.

**96:124(g). The City in United States History—3 hrs.**

Introduction to urban history; functions, shapes, and dynamics of the city in the American experience from the 17th century to the present; emphasis on the metropolis of the past half-century.

**96:130(g). History of Iowa—2 hrs.**

Social, political, and economic developments in Iowa from prehistoric times to the present.

**96:132(g). Internship in Historical Studies—3-8 hrs.**

Individualized study and experience in applied techniques, particular state and local resources; includes reading, in-museum service, and student-designed project. Recommended preceded by course in Iowa history.

**96:134(g). United States Economic History—3 hrs.**

Efforts of the people to raise the standard of living, their means of livelihood, and the development of the national economy. Explores theories of economic growth. Credit may be counted as economics.

**96:136(g). American Colonial History—3 hrs.**

Seventeenth and 18th Century America; development of colonial societies in the New World and the American Revolutionary era.

**96:137(g). Early National Period in U.S. History—3 hrs.**

Political, economic, and social development of the United States in the years between the American Revolution and the end of the Jacksonian Era.

**96:138(g). United States Foreign Relations—3 hrs.**

Assessment of achievements and failures of United States diplomacy since 1776 and relationship of these to present and recent past.

**96:139(g). Civil War and Reconstruction—3 hrs.**

Causes of the Civil War, the nature of the conflict, and the short-range and long-range consequences of the war.

**96:140(g). History of the West—3 hrs.**

Westward movement of the people, from the Atlantic to the Pacific: the impact of over two centuries of frontier experience on the course of the nation's history and in the shaping of the "American" character.

**96:142(g). United States Constitutional History—3 hrs.**

Relates individual rights, political-socio-economic issues, and the rivalry among the Presidency-Congress-Supreme Court to the development of the U.S. Constitution.

**96:143(g). Dissent in United States History—3 hrs.**

A systematic study of the dissent in general, and of specific protest movements, with emphasis on post-Civil War period, including both radical and reactionary movements—Women's rights and Women's Liberation, Old Left and New Left, Ku Klux Klan, Radical Right, Socialism and Communism.

**96:144(g). History of American Thought—3 hrs.**

Historical examination of principal idea-systems which shaped the intellectual profile of American civilization.

**96:146(g). History of Women in the United States—3 hrs.**

Survey of the social, cultural, and economic roles of women in the United States from founding to the present, with some comparative analysis of women's roles in other areas of the world.

**96:151(g). The Ancient Near East—3 hrs.**

The artistic, literary, political, religious, and social accomplishments of Near Eastern people of ancient times.

**96:152(g). Medieval Civilization—3 hrs.**

Social, economic, political, and cultural features seen as foundations of the modern period. From the Fall of Rome to the 15th century.

**96:153(g). The Renaissance and Reformation—3 hrs.**

The intellectual, artistic, economic, and political developments of the Italian and Northern Renaissance, culminating in an examination of the 16th century Reformation.

**96:157(g). European Diplomacy since 1870**

—3 hrs.

Modern European and global diplomacy with emphasis on the ideological factors underlying relations among the various states and the methods of the men who pursued these.

**96:158(g). Age of Absolutism—3 hrs.**

History of the emerging nations of Europe with emphasis upon the age of absolutism and Louis XIV.

**96:160(g). Twentieth Century Europe—3 hrs.**

Seeks the reasons for an age of conflict; political philosophies and personalities of the period.

**96:162(g). European Thought Since the Enlightenment—3 hrs.**

Selected ideas and men in the 19th and 20th centuries. Prerequisite: junior standing.

**96:164(g). English History to 1688—3 hrs.**

England and the British Isles: Celtic and Roman times, England in the Middle Ages, the Tudor-Stuart dynasties, the Glorious Revolution of 1688; England's beginnings as a great power and her relations with the rest of Europe.

**96:165(g). English History since 1688—3 hrs.**

English political, economic, social, and intellectual history with emphasis on the Victorians and the 20th century; the British Empire and Commonwealth.

**96:168(g). European Imperialism—3 hrs.**

Motivations, institutions, and policies of European expansion in Asia, Africa, and Latin America.

**96:169(g). History of Imperial Russia—3 hrs.**

Political, social, economic, and cultural aspects of Russia with emphasis on the 19th century.

**96:170(g). History of Soviet Russia—3 hrs.**

Political, social, economic, and cultural developments of Russia in the 20th century, emphasis on ideology.

**96:171(g). History of Germany to 1870—3 hrs.**

Social, political, and intellectual history of Germany, with emphasis on 16th, 17th, and 18th centuries; 19th century to 1871.

**96:172(g). History of Germany since 1871**

—3 hrs.

Political, social, economic, and cultural developments of Germany within the 19th and 20th centuries; emphasis on the Nazi period.

**96:174(g). History of France—3 hrs.**

Surveys the cultural, economic and political history of France with emphasis on the period 1760 to the present.

**96:177(g). History of Mexico and the Caribbean Area—3 hrs.**

Mexico and the major Caribbean countries, the United States in the Caribbean, with emphasis on the 20th Century.

**96:179(g). Colonial Latin American History**

—3 hrs.

Discovery, exploration, conquest and development of Colonial Latin America.

**96:180(g). Latin American History—3 hrs.**

Modern development of the Latin American States and their relations to the United States.

**96:181(g). Pre-Modern South Asia—3 hrs.**

The culture and institutions within the Indian subcontinent from antiquity through the Hindu and Islamic periods.

**96:182(g). Modern South Asia—3 hrs.**

The influence of the West upon the cultures and institutions within the Indian sub-continent; response to changing conditions in the Anglo-Indian Empire; rise of movements leading to the establishment of India and Pakistan.

**96:183(g). Pre-Modern Chinese History—3 hrs.**

Cultural and institutional developments in China from earliest times to ca. 1800 A.D.

**96:184(g). East Asia to 1850—3 hrs.**

Religion, philosophy, literature and the arts of East Asia.

**96:185(g). East Asia since 1850—3 hrs.**

History of China, Japan, and Korea in modern times.

**96:187(g). Modern Chinese History—3 hrs.**

Political, social, economic, and intellectual developments in China with special emphasis on the period from the Revolution of 1911 to the present.

**96:188(g). South Asian Intellectual History**

—3 hrs.

Intellectual developments in the Indian subcontinent.

**96:193(g). Historians and Philosophy of History**

—2 hrs.

A study of the methodology and philosophy of history, illustrated by the history of historical writing. Prerequisite: junior standing.

**96:238. United States Diplomacy—3 hrs.**

Combines the lecture and readings-seminar approach in studying concepts and policies involved in the nation's diplomacy since the late nineteenth century.

**96:280. Seminar in History—1-3 hrs.**

Offered in specially designed areas as indicated in Schedule of Classes.

**96:285. Individual Readings—1-3 hrs.**

May be repeated. Prerequisite: approval of department head.

**96:289. Seminar in United States Historiography—3 hrs.**

Seminar on major schools of interpretation of the American past, and a specific examination of the historiographical development of selected topics in American history.

**96:289. Seminar in European Historiography**  
—3 hrs.

Readings and research seminar on the development of the Western tradition of critical historical scholarship and on the literature of selected topics, controversies, and problems of modern European history.

**96:290. Historical Methods—2 hrs.**

Investigation into the problems confronting the historian and an analysis of the methods and techniques employed by the historian.

**96:292. Historical Analysis—2 hrs.**

Logical, methodological, philosophic, and theoretic problems of historical inquiry, emphasis on developing criteria for the critical evaluation of historical scholarship.

**96:299. Research.**



## Home Economics

### GENERAL HOME ECONOMICS

**31:120(g). Demonstration Techniques—2 hrs.**

Techniques of demonstration and their application in learning and teaching. Demonstrations planned and presented to audiences of varied size, background, and interest.

**31:284. Current Issues and Trends in Home Economics—3 hrs.**

Examination of issues faced by home economists and current trends in the field.

**31:289. Seminar in Home Economics—1-3 hrs.**

May be repeated for up to 9 hours of credit. Credit and topic to be given in Schedule of Classes.

**31:290. Practicum—2-3 hrs.**

(Non-teaching.) Experience in various areas according to student needs. May be repeated for up to 8 hours of credit.

### TEXTILES AND CLOTHING

**31:110(g). Textiles—3 hrs.**

Effect of fiber content, construction, and finish on the serviceability and cost of fabrics. Identification tests. Recommended 86:063 be taken prior to 31:110.

**31:111(g). Costume Design—3 hrs.**

Flat pattern making. Prerequisite: 31:010 and 31:015.

**31:112(g). Tailoring—3 hrs.**

Tailoring of suits and coats. Prerequisite: 31:010 and 31:015, 31:111 recommended.

**31:113(g). Decorative Textiles—3 hrs.**

Textile printing, weaving, dyeing, and other decorative processes. Prerequisite: 31:060.

**31:114(g). Socio-Psychological Aspects of Textiles and Clothing—3 hrs.**

Origins and functions of clothing and textiles for the individual and society. Hypotheses concerning clothing among cultures and implications for clothing consumption patterns for individuals and families from personal value systems.

**31:115(g). Patterns in Clothing Consumption—3 hrs.**

Current theories of clothing consumption factors affecting family clothing expenditures; production and distribution of textile and clothing products for the consumer market. Principles of merchandising as applied to clothing and household textiles.

**31:118(g). Problems—1-4 hrs.**

(1) Textiles, (2) Clothing

### FOODS AND NUTRITION

**31:130(g). Nutrition During the Life Cycle—3 hrs.**

Human nutritional needs; nutrient requirements of women during the reproductive period; problems in feeding infants and children; indices of growth and development, and geriatric nutritional problems. Prerequisite: 31:037.

**31:137(g). Advanced Nutrition—3 hrs.**

Nutritive value of food—its relation to chemistry and the physiological aspects of digestion and metabolism. Dietary planning and analysis for normal and abnormal nutrition. Discussion, 2 hrs., lab., 2 hrs. Prerequisites: 31:035, 31:037, 31:038, 86:061, 86:063; recommended, 2 hours of 86:150.

**31:142(g). Experimental Foods—3 hrs.**  
Functions of ingredients, factors affecting quality of food products, experimental projects under controlled conditions, and technical writing. Prerequisite: 86:063.

**31:143(g). Special Food Problems—3 hrs.**  
Influence of food on cultural and social relationships of family, community, and world. Racial and national food patterns.

**31:144(g). Comparative Study of Foods—3 hrs.**  
Food preservation, factors affecting palatability and nutritive value of food, taste panels and preference surveys as related to the food industry. Prerequisite or corequisite: 84:033; prerequisite: 31:038.

**31:145(g). Quantity Food Production and Purchasing—4 hrs.**  
Study of various aspects of and laboratory experience in quantity food production and purchasing. Prerequisite: 31:037, 31:038.

**31:148(g). Problems—1-4 hrs.**  
(1) Foods; (2) Nutrition.

#### **FAMILY RELATIONSHIPS AND HUMAN DEVELOPMENT**

**31:150(g). Child and the Home—4 hrs.**  
The infant through pre-school age; experience with children through a playschool situation. Prerequisite: 20:014 or 20:030 or 31:055.

**31:152(g). Family Relationships—2 hrs.**  
Understanding self as an individual and family member; using group process to explore relationships and communications within family groups throughout the life cycle.

**31:155(g). Parenting—3 hrs.**  
Roles and relationships involved in parenting; practical aspects of child rearing based on developmental stages, emphasizing the development of self with love, trust, identity, autonomy, and responsibility.

**31:158(g). Problems—1-4 hrs.**  
Sec. 1. Personal and Family Relationships.  
Sec. 2. Human Development.  
Sec. 3. Human Sexuality.

**31:250. Family Life and Human Sexuality—3 hrs.**  
Explores human sexuality over the life cycle and its relation to family life; includes current literature, films, and research findings. Relevant for family life and sex education in home and school. Prerequisite: 31:152 or equivalent; highly recommended to be preceded by 31:051, 31:055, 98:105.

**31:251. Human Ecology Through the Family Life Cycle—3 hrs.**  
Broad view of human development from infancy to old age; emphasis on interrelationships between individual, family, and society. Prerequisite: 31:152 or equivalent. Strongly recommended: 31:051, 31:055 or equivalent.

#### **HOUSING, HOME FURNISHINGS AND EQUIPMENT**

**31:162(g). Non-Residential Interior Design—3 hrs.**  
Designing solutions for various non-residential problems; specification writing; new trends in commercial design. Prerequisite or corequisite: 31:165.

**31:163(g). Contemporary Housing Problems—3 hrs.**  
Analysis of current U.S.A. housing needs, urban and rural housing problems, roles of private citizens, business and government, and remedial measures. Exploration of housing solutions and trends in other countries. Field trips and individual studies. Prerequisite: 31:065 (may be waived for non-majors).

**31:164(g). Professional Practice of Interior Design—2 hrs.**  
Survey of field opportunities; future professional role, business ethics and responsibilities of the designer, client-designer and trade relationships. Prerequisite: 31:165.

**31:165(g). Interior Design—3 hrs.**  
Individual and group analysis of interior design problems to find various creative solutions to spatial treatment and meeting needs of people; further study of effects of lighting, window treatments, furniture, and accessories; experiences in abstract design and display. Prerequisite or corequisite: 31:166.

**31:166(g). Presentation Techniques—2 hrs.**  
Methods of perspective drawing and rendering of interiors in various media. Prerequisite: 31:065. May be taken with 31:165.

**31:167(g). Heritage of Interior Design—4 hrs.**  
Study of period styles of housing and furnishings, ancient through modern, and their use in contemporary homes; current trends and designers. Prerequisite: 31:060; prerequisite or corequisite: 31:065 (may be waived for non-majors).

**31:168(g). Problems—1-4 hrs.**  
Sec. 1 Housing  
Sec. 2. Interior design.  
Sec. 3. Household Equipment.

#### **HOME MANAGEMENT, FAMILY ECONOMICS, AND CONSUMER EDUCATION**

**31:176(g). Family Economics—2 hrs.**  
**31:177(g). The American Consumer—2 hrs.**  
Analytical approach to the consumption of goods and services. Understanding the consumer movement: developing competencies for consumer decisions and actions.



**31:178(g). Problems—1-4 hrs.**  
Experience in applying the principles of management to family resources. (1) Family economics; (2) consumer; (3) home management; (4) home management laboratory experience. Section 4 open only to married students currently responsible for the management of their own homes—2 hrs. credit; supervised experience in applying the principles of management to family resources to attain family goals. Prerequisites: 31:038; 31:070; and consent of the department head. No credit if have had 31:172.

## HOME ECONOMICS EDUCATION

**31:181(g). Organization and Administration of Vocational Home Economics Programs—2 hrs.**

History, philosophy, and current status of vocational home economics. Includes program development and coordination of home economics-related occupations and career education in home economics.

**31:182(g). Adult Education—2 hrs.**

Survey of scope and need for adult education. Materials and techniques suited to group work with adults. Observation and participation in organizing and teaching an adult class. 31:190 should precede this course.

**31:188(g). Problems—1-4 hrs.**

(a) Home Economics Education; (2) Curriculum Planning.

**31:280. Methods and Curriculum in Home Economics—3 hrs.**

Clarification and use of a rationale in curriculum development in home economics. Special problems in application.

**31:281. Research in Home Economics—3 hrs.**

Evaluation of current research in home economics and development of research proposals.

**31:282. Supervision in Home Economics—2 hrs.**

Objectives, techniques, and organization of supervised teaching in teacher-training and in city and area schools.

**31:283. Techniques of Evaluation—2 hrs.**

Construction and use of different types of instruments for evaluating educational outcomes. Guided study of the available measuring instruments in home economics.

**31:285. Readings in Home Economics—1-6 hrs.**

Readings in various areas according to student needs.

**31:288. Problems in Home Economics Education—1-4 hrs.**

Various areas according to students' needs.

**31:299. Research.**

## Humanities

There is no humanities department as such. The courses below are interdisciplinary and are taught jointly by staff from several departments.

**68:165(g). Tragedy—3 hrs.**

The interpretation of classical, Christian, and modern works portraying the human encounter with suffering and death.

**68:168(g). Mythology—3 hrs.**

Emphasis on Greek and Roman literature.

**68:189(g). Seminar in Environmental Problems—3 hrs.**

Experience in environmental problem solving of both a theoretical and practical nature. Prerequisite: Consent of instructor.

**68:194(g). Seminar on Death and Dying—3 hrs.**

Ideas and research concerning the anticipation of dying, toward the goal of sensitive communication with those most affected by death—the suicidal, the terminally ill, and the grieving.

# Industrial Technology

## **33:101(g). History and Philosophy of Vocational-Technical Education—2 hrs.**

Philosophy and historical development, principles, practices, and organization of public vocational-technical and adult education in the nation.

## **33:105(g). Guides to Automotive Fundamentals—2 hrs.**

Automotive principles and first echelon maintenance of the automobile. No credit for a student having credit in 33:036.

## **33:111(g). Industrial Graphics—4 hrs.**

Detail and assembly drawings, electrical diagram, auxiliary projections, sections, basic tolerancing, gears and cam. Prerequisite: 33:022 or consent of instructor.

## **33:112(g). Product Research and Development—3 hrs.**

Application of principles and processes of design and drafting to the research and development of manufactured products. Prerequisite: 33:111 or consent of instructor.

## **33:113(g). Manufacturing Design Graphics—4 hrs.**

Application of contemporary drafting practices used in manufacturing industries; includes specification of quality controls, product analysis and revision procedures, basic computer graphics, and tool design. Prerequisite: 33:111 or consent of instructor.

## **33:115(g). Architectural Drafting I—3 hrs.**

Design and plan development of residential structures. Prerequisites: 33:022 or consent of instructor.

## **33:116(g). Architectural Drafting II—4 hrs.**

Structural systems, materials, and processes for commercial buildings; emphasis on planning, drafting, and interpretation of architectural plans. Team approach used in developing plans for commercial structures. Prerequisite: 33:115 or departmental approval.

## **33:118(g). Technical Illustration—3 hrs.**

Pictorial drafting and shading as used in manufacturing for design proposals, manuals, and publications. Prerequisite: 33:022 or consent of instructor. Other majors should consult the instructor before enrolling.

## **33:121(g). Advanced Wood—5 hrs.**

Prerequisite: 33:011 or consent of instructor.

## **33:123(g). Wood Technology I—3 hrs.**

Mass production in the woodworking industries; product selection and development; production machines; design of tools, jigs, and fixtures. Prerequisite: 33:121 or departmental approval.

## **33:124(g). Wood Technology II—3 hrs.**

Wood structure and properties, identification, lumber grading, and modified wood products. Prerequisite: 33:121 or departmental approval.

## **33:128(g). Building Trades Mechanical—4 hrs.**

Practical application and principles of plumbing, heating, electrical and air conditioning, including sheet metal. Instruction provided by journeymen tradesmen in respective areas; lab. and on-the-job experiences. Prerequisite: departmental approval.

## **30:136(g). Metal—2 hrs.**

Advanced instruction in one of the following: oxy-acetylene welding, electric arc welding, foundry, sheet-metal, metal spinning, ornamental iron, forging and heat treating, and art metal and enameling. Prerequisite: 33:011 or consent of instructor. May be repeated in different areas but credit toward degree may not exceed 8 hours.

## **33:141(g). Machine Tools—4 hrs.**

Prerequisite: 33:011 or consent of instructor.

## **33:143(g). Planning Manufacturing Systems—4 hrs.**

Designing and engineering the production system for an identified product; product analysis and testing, process engineering, tool designs, quality control, plant layout, and material handling systems. Prerequisite: 33:016 or consent of instructor.

## **33:144(g). Tooling Up for Manufacturing—4 hrs.**

Fabricating and setting up tooling, production processes, quality control, and material handling systems for a production run; includes methods engineering, work measurement, and marketing goods. Prerequisite: 33:016 or consent of instructor.

## **33:151(g). Electricity—3 hrs.**

Single and three-phase motors, transformers, controls and power distribution systems. Prerequisite: 33:036 or consent of instructor.

## **33:152(g). Electronic Circuits—3 hrs.**

Introduction to semi-conductor theory, electric circuits, amplifiers, power supplies, oscillators, detectors. Prerequisites: 33:036 or consent of instructor.

## **33:153(g). AM-FM Radio—3 hrs.**

AM and FM transmission and reception and principles of television. Prerequisite: 33:152 or consent of instructor.

## **33:154(g). Electronic Communications—3 hrs.**

Pulse communication methods, television methods, transmission lines, wave guides, antennas and microwave systems. Prerequisite: 33:153 or departmental approval.

## **33:155(g). Graphic Art—4 hrs.**

Includes bookbinding, paper making, relief printing, and silk screen.

## **33:158(g). Advanced Graphic Arts—2 hrs.**

Prerequisite: 33:155 or departmental approval.

**33:160(g). Automotive and Diesel Engines**

—4 hrs.

Principles of spark and compression-ignition engines; comparative study of variation in design and operational characteristics of engine types. Prerequisite: 33:036 or consent of instructor.

**33:161(g). Power Trains and Suspension—3 hrs.**

Principles and problems of power train units, front suspension and brake systems.

**33:162(g). Applied Hydraulics and Pneumatics**

—3 hrs.

Basic fluid mechanics including pneumatics with emphasis on principles and applications to the fields of power, transportation, automation (production), and control. Practical mathematical problems and experiments provide greater insight. Prerequisite: 80:045 or consent of instructor.

**33:163(g). Automotive Electrical and Fuel Systems—3 hrs.**

Operation, testing, and analysis of electrical and fuel units used on automotive and industrial power equipment. Broad application of testing equipment. Prerequisite: 33:036 or consent of instructor.

**33:164(g). Fuel Injection Systems—3 hrs.**

Operation, testing, and adjustment procedure for fuel injection systems, governors, fuel cleaners, and metering devices. Prerequisite: 33:160 or departmental approval.

**33:165(g). Problems of Internal Combustion Engines—4 hrs.**

Design, performance variation, engine diagnosis and correctional procedures for both spark and compression ignition engines. Prerequisite: 33:163 and 33:164, or departmental approval.

**33:166(g). Building Construction I—3 hrs.**

Site selection, building materials, and procedures for residential structures. Prerequisite: 33:018 or consent of instructor.

**33:167(g). Building Construction II—4 hrs.**

Layout, materials, processes, and cost estimating for commercial structures. Prerequisite: 33:166 or departmental approval.

**33:168(g). Problems in Power Trains and Suspensions—3 hrs.**

Design, performance, diagnosis and correctional procedures on automotive transmissions, suspensions, and hydro-mechanical system. Prerequisite: 33:161 or departmental approval.

**33:169(g). Applied Photography—4 hrs.**

Photographic fundamentals; emphasis on photographic systems; electrical, optical, mechanical, chemical and light-sensitive component areas.

**33:170(g). Statics and Strength of Materials**

—4 hrs.

Testing, evaluating, and reporting material characteristics and strength, and probable usefulness in the construction of products. Prerequisite: 88:54 or departmental approval.

**33:171(g). Applied Heat—3 hrs.**

Generating and controlling heat energy and transforming it into other useful forms of energy. Prerequisite: 88:54 or departmental approval.

**33:172(g). Materials Testing—2 hrs.**

Laboratory analysis, investigation, and testing of basic industrial materials with implications for industrial applications and environmental quality. Prerequisite: 86:030 or consent of instructor.

**33:173(g). Building Construction III—3 hrs.**

Construction procedures for residential and commercial buildings; advanced study of heating, plumbing, and electrical equipment. Prerequisite: 33:166 or departmental approval.

**33:177(g). Industrial Plastics I—3 hrs.**

Introduction to plastics; industrial molding, thermoforming, casting and coating, reinforcing, foaming, joining, fastening. Prerequisite: 33:011 or consent of instructor.

**33:178(g). Industrial Plastics II—2 hrs.**

Advanced instruction in one of the following: molding processes A (compression, transfer, blow); molding processes B (injection, rotational); thermoforming; reinforcing process; foaming processes. Prerequisite: 33:177 or departmental approval. May be repeated in different areas but not more than 8 hours may be counted toward a degree.

**33:181(g). Trade and Technical Course Construction—2 hrs.**

Basic methods of identifying, analyzing, selecting, and organizing instructional content for vocational trade and technical programs.

**33:182(g). Coordination of Part-time Industrial Education—2 hrs.**

Planning, organizing, developing, and teaching part-time cooperative industrial education programs.

**33:183(g). Industrial Arts for the Elementary School—2 hrs.**

Also includes industrial arts for the junior high school.

**33:184(g). Technical Program Development**

—2 hrs.

Advanced methods of identifying, analyzing, selecting, and organizing instructional content for technical programs. Prerequisite: 33:181 or departmental approval.

**33:185(g). Industrial Technology—3 hrs.**

Offered in separate areas as shown in Schedule of Classes. Credit may be earned in more than one area but not repeated in a single area.

**33:187(g). Applied Industrial Supervision and Management—3 hrs.**

Investigation of industrial supervision and management; includes directed field study in industry. Prerequisite: 15:153 or consent of instructor.

**33:188(g). Advisory Committees and Conference Leading—2 hrs.**

Principles and practices for organizing, developing, and using the advisory committee in vocational-technical education, utilizing conference procedures and techniques.

**33:190(g). Teaching Industrial Arts—3 hrs.**

Credit also as a course in education for a student whose major is industrial arts-teaching. Prerequisite: 11 hours in industrial arts.

**33:191(g). Methods of Teaching Trade and Technical Courses—2 hrs.**

Basic teaching principles, organizing instruction, methods of presentation, lesson planning, testing and evaluation of trade and technical students.

**33:192(g). Special Problems in Career Education—2 hrs.**

Problems in instruction, program development, and local program evaluation. Prerequisite: departmental approval. May be repeated once for credit.

**33:193(g). Personnel Evaluation in Vocational-Technical Education—2 hrs.**

Basic concepts and techniques for vocational-technical student evaluation and evaluation of other personnel. Prerequisite: 33:191 or departmental approval.

**33:194(g). Management of Technical Instruction—2 hrs.**

Advanced teaching methods, organization of course content, lesson planning, experiment and problem development, testing, evaluation, and management for technical teacher preparation. Prerequisite: 33:191 or departmental approval.

**33:195(g). Designing Industrial Education Facilities—2 hrs.**

Concepts of layout and design, types of programs, architectural and engineering considerations; planning procedures; equipment selection, and facility evaluation. Prerequisites: 33:022 and 33:190; or consent of instructor.

**33:196(g). Industrial Safety—2 hrs.**

Introduction to field of industrial safety with emphasis on compliance with Occupational Safety and Health Act (OSHA) in industrial and educational environments.

**33:214. Problems in Teaching Industrial Education—4 hrs.**

Educational problems selected according to interests and needs of students. Prerequisite: consent of instructor.

**33:226. Foundations of Industrial Education—4 hrs.**

Leaders, movements, principles and curriculum-techniques and trends.

**33:228. Contemporary Theories—2 hrs.**

Practices and procedures in industry and education. Developments in technology.

**33:270. Research Projects in Industrial Technology—3 hrs.**

Problems will involve investigation, application, demonstration, and reporting of research findings in specialized areas of industrial technology. May be repeated for a total of 9 semester hours. Prerequisite or corequisite: 33:292 or consent of instructor.

**33:282. Industrial Arts Seminar—1 hr.**

Selected problems dealing with the school shop and its operation. May be repeated once for credit.

**33:292. Research Methods in Industrial Technology—2 hrs.**

Principles of methods and evaluation of research in industrial technology. Individual exploration of possible projects or thesis topics.

**33:299. Research.**



# Library Science

**35:110(g). Introduction to Librarianship—2 hrs.**  
Survey of history and development of libraries, administration and services of all types of libraries, library professional organizations and literature of librarianship.

**35:113(g). Media Selection—3 hrs.**  
Selection of many types of media, based on fundamental principles and objectives. Development of skill in using reliable selection aids and evaluating materials.

**35:115(g). Cataloging and Classification—3 hrs.**

**35:118(g). Reference—3 hrs.**  
Study of basic reference sources, including introduction to question-negotiation and searching strategies and to reference services.

**35:121(g). Introduction to the Instructional Materials Center—4 hrs.**  
An examination of what constitutes the services and program of the instructional materials center.

**35:123(g). The Media Program and the Teacher—3 hrs.**  
Introduces to elementary and secondary teachers the school media specialist and the media center, its program and materials. (Not open to library science majors or minors.)

**35:132(g). Library Materials for Children—4 hrs.**  
Survey of school media with attention to selection principles, evaluation criteria, and utilization of book and non-book media for the elementary school curriculum.

**35:134(g). High School Library Materials—4 hrs.**  
Selection and evaluation of curricular-related materials for secondary school student's reading, viewing and listening interests, habits, and needs.

**35:223. School Media Services—3 hrs.**  
Survey of services available in an instructional materials center, and techniques used in interpreting services to students and teachers.

**35:225. Administration of the Instructional Materials Center—3 hrs.**  
Special problems in organization and administration of instructional materials centers. Prerequisite: 35:113; 35:121; and at least one other library science course.

**35:234. History of Books—2 hrs.**  
Development of the book in various forms. History of the alphabet and writing; early writing materials; development of printing; and book publishing.

**35:235. Imaginative Materials—3 hrs.**  
Survey of novels, short stories, poetry and drama in a variety of formats to support the secondary school curriculum.

**35:236. History of Children's Literature—3 hrs.**  
Traces development of literature for children. Emphasis on significant authors, illustrators, and titles. Prerequisite: 35:132 or consent of instructor.

**35:285. Individualized Readings—1-3 hrs.**  
Directed study of specific issue or problem based on student's need or aspirations. Prerequisite: consent of department head.

**35:289. Seminar in Librarianship—2-3 hrs.**  
Critical assessment of the elements of school library service at the building and system levels. Prerequisite: 35:225 or consent of instructor.

**35:290. Practicum in School Librarianship—1-4 hrs.**  
Experience in the function and services of the instructional materials center. Prerequisite: consent of the department head.

**35:295. Research in Library and Information Science—3 hrs.**  
Basic techniques of research methodology; historical, descriptive, and experimental; includes critical evaluation of library/media center studies and their influence on, or application to, services, organization, and administration.

**35:299. Research.**

# Mathematics

## **80:109(g). Readings in Mathematical Literature—2 hrs.**

May be repeated for credit. Prerequisite: departmental approval.

## **\*80:111(g). Introduction to Analysis—4 hrs.**

A study of the properties of the real numbers, linear equations, functions, inequalities; linear systems including systems of inequalities and linear programming; complex numbers; quadratic relations; and circular and exponential functions. Prerequisite: departmental approval or 80:030. No credit for a student who has credit in 80:045.

## **\*80:112(g). Introduction to Geometry—4 hrs.**

Topics in three divisions of geometry, namely (1) Greek geometry; (2) contemporary developments in Euclidean geometry; (3) Foundation and other geometries. Prerequisite: departmental approval or 80:030.

## **\*80:113(g). Topics in Mathematics—3 hrs.**

Topics in number theory, geometry, and algebra not included in the prerequisite courses. Topics will be selected from the following: divisibility; congruence; continued fractions; theory of proportion; applications of mechanics in geometry; maximum and minimum problems in geometry; linear programming; Fibonacci numbers; transfinite arithmetic; mathematical induction. Prerequisite: 80:111 and 80:112.

*\*Note:* 80:111, 112, and 113 are designed especially for elementary majors with mathematics subject field and for advanced graduate students with meager backgrounds who want to do serious work not involving calculus.

## **80:120(g). Elementary Game Theory—3 hrs.**

Zero and non-zero sum games. Games with and without saddle points. Strategies, linear programming, games with complete and incomplete information. Particular interest to students in business and social science. Prerequisite: 80:045 or consent of instructor.

## **80:131(g). Geometry for the Elementary Teacher—3 hrs.**

The language of geometry. Properties of selected geometric curves. Rigid motion. Selected activities from topology, measurement. Prerequisite: 80:030. Students with credit in 80:112 or 80:165 should not enroll without permission of the head of the department.

## **80:134(g). Teaching of Mathematics in the Elementary School—2 hrs.**

Explores relationship between the psychology of learning and child development in the teaching of mathematics at the elementary school level; includes teaching strategies and management models. Prerequisites: 80:030; 80:131.

## **80:144(g). Elementary Number Theory—3 hrs.**

Topics from prime numbers, elementary theory of congruence, continued fractions, Diophantine equations; Fibonacci numbers, Pell's equation, the golden rectangle. Pythagorean triangles and transfinite numbers. Prerequisite: 80:046 or 80:111.

## **80:147(g). Advanced Calculus I—3 hrs.**

The real numbers, Euclidean  $n$ -space, continuous and differentiable functions of several variables. Infinite sequences and series of functions. Prerequisite: 80:062.

## **80:148(g). Advanced Calculus II—3 hrs.**

A continuation of 80:147. Riemann and Lebesgue integrals. Curves and surfaces and the integrals on them. Prerequisite: 80:147.

## **80:149(g). Differential Equations—3 hrs.**

Elementary theory and applications of first order differential equations. Introduction to numerical techniques of solving differential equations. Solutions of  $n$ th order linear differential equations with constant coefficients. Prerequisite: 80:062.

## **80:154(g). Introduction to Stochastic Processes—3 hrs.**

Elements of stochastic processes. Markov chains, random walk, applications. Prerequisites: 80:153 and 80:061.

## **80:155(g). Elementary Differential Geometry—3 hrs.**

The analytic study of curves and surfaces in three-dimensional Euclidean space. Prerequisites: 80:062 and 80:165.

## **80:156(g). Introduction to Complex Analysis—3 hrs.**

Differentiation and integration of functions of a single complex variable. Taylor and Laurent expansions. Conformal mapping. Prerequisite: 80:062.

## **80:158(g). Foundations of Elementary Mathematics—4 hrs.**

Critical study of the elements of arithmetic, geometry and algebra. Topics from number theory, algebraic and geometric structures. Students with credit in either 80:030 or 80:160 should not enroll for this course without permission of the head of the department. Prerequisite: 80:046 or equivalent.

## **80:160(g). Modern Algebra I—4 hrs.**

An introduction to the study of algebraic systems. Includes: groups, rings, fields, homomorphisms and isomorphisms. Prerequisite: 80:061 or equivalent.

## **80:161(g). Linear Algebra—4 hrs.**

Vector spaces, linear transformations, dimension, inner products, matrices, determinants, minimal polynomial, Jordan canonical form, eigenvalues and eigenvectors. Applications. Prerequisite: 80:160.

**80:162(g). Modern Algebra II—3 hrs.**

A continuation of 80:160. Includes groups with operators, modules over rings, Sylow theorems, composition series, semisimple and simple rings, field theory and introduction to Galois theory. Prerequisite: 80:160.

**80:163(g). Lattices and Boolean Algebra—3 hrs.**  
Elementary lattice theory and applications to logic, electrical networks, and geometry. Boolean functions and Boolean Algebras. Boolean rings and their representations. Prerequisite: 80:160.

**80:164(g). COBOL—3 hrs.**

Basic features of COBOL and report generating languages examined; emphasis on data processing techniques and file concepts. Includes file structures, access methods, file maintenance, sorting, information retrieval, report generation. Concepts illustrated by business-type examples. Prerequisite: 80:070 or 15:080 or equivalent.

**80:165(g). Introduction to Modern Geometries—4 hrs.**

Foundations of geometry; basic concepts of Euclidean and non-Euclidean geometries. Prerequisite: 80:046.

**80:166(g). Introduction to Linear Geometry—3 hrs.**

Basic concepts and properties of convex sets in two, three, and higher dimensions. Convex polyhedra. Applications to maxima-minima problems in geometry, graph theory and linear programming. Prerequisite: 80:165 or consent of instructor.

**80:167(g). Topology I—4 hrs.**

An introductory study of metric spaces, completeness, topological spaces, continuous functions, compactness, connectedness, separability, product and quotient spaces. Prerequisite: 80:061.

**80:168(g). Topology II—3 hrs.**

A continuation of 80:167. Two and n-dimension manifolds, orientable manifolds, the fundamental group of a space, free groups, covering spaces, application to geometry and knot theory. Prerequisite: 80:160 and 80:167.

**80:169(g). Mathematical Logic I—4 hrs.**

An introduction to the semantics and syntax of the propositional calculus and the predicate calculus. Elements of the theory of algorithms. Prerequisite: 80:060 or consent of instructor.

**80:170(g). Fundamentals of Computer Programming—2 hrs.**

An introduction to the historical development of digital computers, to Fortran IV programming, and to flow charting. The writing and execution of computer programs. Students may not earn credit for both 80:070 and 80:170.

**80:171(g). Introduction to Computer Science—4 hrs.**

Concepts and construction of algorithms used in various areas of computer science with an introduction to the design of digital computers. Prerequisite: 80:070.

**80:172(g). Fundamentals of Statistical Methods—3 hrs.**

Intuitive approach to probability and inferential statistics. Students with credit in 80:174 may not enroll in 80:172.

**80:173(g). Data and File Structures—3 hrs.**

Basic methods of representation and organization of information by logical structures such as vectors, trees, strings, and graphs, and their realization as data structures in memory or file structures on discs, tapes, and other devices. Examination of algorithms and programs for manipulating these structures with emphasis on applications. Prerequisite: 80:171 or equivalent.

**80:174(g). Mathematical Statistics I—3 hrs.**

Continuous random variables, moment generating functions, central limit theorem, sampling distributions; testing hypotheses and estimation. Prerequisite: 80:062; and either 80:153 or consent of instructor.

**80:175(g). Mathematical Statistics II—3 hrs.**

Continuation of 80:174. Small sample theory, sample models in analysis of variance. Prerequisite: 80:174.

**80:176(g). Introduction to Numerical Analysis—3 hrs.**

An introduction to mathematical methods applicable to the digital computer including finite differences, numerical integration and differentiation, solution of linear and non-linear equations, and solutions of ordinary differential equations with initial conditions. The writing and execution of programs involving these methods. Prerequisite: 80:061 and 80:070.

**80:177(g). Introduction to Optimization—3 hrs.**

Mathematical techniques used to solve optimization problems; topics from classical optimization techniques, search techniques, linear programming using the simplex method, non-linear programming, integer programming. Prerequisites: 80:070; 80:050.

**80:178(g). Topics in Computer Science—3 hrs.**

Topics of immediate interest from general area of Computer Science; may include systems, data management, artificial intelligence, computer assisted instruction, programming languages. May be repeated once for credit. Prerequisite: consent of instructor.

**80:179(g). Mathematical Logic II—4 hrs.**

Semantics of the predicate calculus. Gödel's completeness theorem for first order theories. Completeness, categoricity and decidability. Some decidable mathematical theories and the method of elimination of quantifiers. Prerequisite: 80:169.

**80:180(g). History of Mathematics—3 hrs.**

Survey of mathematical activities of mankind, the motives and influences affecting the development of mathematics. Prerequisite: 80:046.

**80:181(g). Philosophy of Mathematics—3 hrs.**  
Consideration of views on foundations of mathematics and such topics as the role and possible limitations of mathematics in scientific investigation; the significance of logical constructs in mathematics. Prerequisites: A Humanities course, plus one semester of calculus and at least one additional mathematics course.

**80:182(g). Introduction to Set Theory—3 hrs.**  
The axioms of set theory. Relations and functions. Equivalence and ordering relations, ordinal numbers and transfinite induction. Ordinal arithmetic. Zorn's lemma, well-ordering and the axiom of choice. Cardinal numbers and the Cantor-Bernstein theorem. Prerequisite: 80:160 or 80:165 or 80:169.

**80:183(g). History of Arithmetic—2 hrs.**

**80:184(g). Introduction to Automata Theory—4 hrs.**

Finite automata. Neural networks and memories in finite state machines. Infinite automata. Algorithms, computability and infinite-state machines. Turing machines. Decision problems for finite and infinite machines. Introduction to formal languages. Prerequisite: either 80:070 or 80:169; and 80:061 or consent of instructor.

**80:185(g). Mathematics for the Exceptional Child—3 hrs.**

Work with clinical cases under guidance. Prerequisite: 80:134.

**80:187(g). Formal Languages—3 hrs.**  
Natural languages and formal languages. Grammars and their generated languages. Finite and infinite machines and their relations to formal languages. Operations on languages. Some unsolvable and solvable problems. Prerequisite: 80:184.

**80:188(g). Modal Logic—3 hrs.**  
The syntax and semantics of several modal propositional and predicate logics. Consistency, completeness, and decidability questions. Prerequisite: 80:169.

**80:189(g). Geometric Transformations—4 hrs.**  
Rigid and similarity transformations in the Euclidean plane and Euclidean space. Groups, subgroups and normal subgroups of transformations. Symmetry groups, the Polya-Burnside theorem and applications to crystallography and design. Groups and the foundations of geometry. Prerequisite or corequisite: 80:165 and 80:160.

**80:191(g). Contemporary Secondary (7-12) Mathematics Curricula—2 hrs.**  
Study and evaluation of current secondary projects, manipulative materials, textbooks, individualized programs, learning packages, and commercial tests. Prerequisite: 80:134 or 80:190.

**80:201. Mathematical Analysis I—3 hrs.**  
The real numbers. Topology of Cartesian spaces. Continuous functions. Differentiation in Cartesian spaces. Prerequisite: 80:147.

**80:202. Mathematical Analysis II—3 hrs.**  
Riemann-Stieltjes and Lebesgue Integral. Integration in Cartesian spaces. Improper and infinite integrals. Infinite series. Prerequisite: 80:201.

**80:210. Theory of Numbers—3 hrs.**  
Basic interrelations of the system of integers.

**80:220. Functions of a Real Variable—3 hrs.**  
Metric spaces, topological spaces, limits, continuity, Weierstrass, Approximation Theorem. Stone-Weierstrass Theorem, functions of bounded variation. Tietze's Extension Theorem. Prerequisite: 80:148.

**80:221. Measure and Integration—3 hrs.**  
Lebesgue measure and integral; measure spaces, measurable functions, monotone convergence theorem,  $L_p$ -spaces, produce measures, Fubini theorem, Haar measure. Prerequisite: 80:220.

**80:235. Problems in Teaching Arithmetic—2 hrs.**

Course content usually generated by participants. Typical topics: problems dealing with: individualizing instruction, assessing growth, major concepts and skills in the elementary mathematics program. Prerequisite: departmental approval.

**80:245. Topics in Abstract Algebra—3 hrs.**  
Topics from groups, rings and ideals, fields. Galois theory, introduction to homological algebra, infinite Abelian groups and linear algebras. Prerequisite: 80:160.

**80:265. Systems of Geometry—3 hrs.**  
Projective geometry. Transformations in projective geometry, and the development of affine, Euclidean and non-Euclidean geometries as subgeometries within projective geometry. Prerequisite: 80:165.

**80:267. Topics in Topology—3 hrs.**  
Selections from general topology; uniform spaces, topological groups and algebras, rings of continuous functions, topological vector spaces. Prerequisite: 80:167.

**80:273. Topics in Probability and Statistics—3 hrs.**  
Topics chosen from correlation and regression analysis, analysis of variance and co-variance, non-parametric methods, order statistics. Prerequisite: 80:175 or equivalent. May be repeated for credit.

**80:278. Topics in Mathematical Logic—3 hrs.**  
Topics from: algebraic logic, topological logic, intuitionistic logic, the theory of definability, many-valued logic, the logic of infinitely long formulas, theories of computability and decidability, and decision procedures in formal mathematical theories. Prerequisite: 80:169. May be repeated for credit.



**80:280. Elementary School Mathematics—  
Curriculum—3 hrs.**

Experimental and current curricula; purpose, organization and design considered with methods of implementing curricular change.

**80:281. Elementary School Mathematics—  
Concepts—3 hrs.**

Exploration of findings of selected learning theorists as these apply to both content and pedagogy in the elementary mathematic program.

**80:289. Topics in Geometry—3 hrs.**

Topics from: general theory of magnitudes; content and measure in geometry; the Banach-Tarski paradox; geometric dissection theory; packing and tiling; combinational geometry; geometric inequalities; descriptive geometry. Prerequisite: 80:165.

**80:290. Problems in Teaching Junior High  
School Mathematics—2 hrs.**

Course content decided by participants and instructor. Both mathematics content and methodology of the junior high school considered. Prerequisite: departmental approval. May be repeated once for credit.

**80:291. Problems in Teaching High School  
Mathematics—2 hrs.**

Course content decided by participants and instructor. Both mathematics content and methodology of senior high school considered. Prerequisite: departmental approval. May be repeated once for credit.

**80:299. Research.**

## Modern Languages

### GENERAL FOREIGN LANGUAGE COURSES

**70:105(g). Comparative Stylistics—3 hrs.**

Techniques of comparatively literary analysis, emphasizes aesthetic aspects of literature. Taught in English. Prerequisite: reading knowledge of one foreign language.

**70:110(g). Comparative Study of Western  
Literature and Civilization—3 hrs.**

A comparative study of major literary movements and philosophical concepts and their impact on Western culture. A team-teaching approach will be used in order to present literary and cultural areas from different points of view and to show how the different countries, their literatures, languages and cultures are interlinked and how they have influenced one another. 1 hour of credit earned may be counted toward a major in a foreign language. Taught in English.

**70:120(g). Western Literatures—3 hrs.**

Study of a limited aspect or genre of European or Latin American literature in English translation. No credit on major or minor in a foreign language.

**70:150(g). Perspectives in Bilingualism—3 hrs.**

Elements involved in bilingualism for defining and understanding the various facets of bilingualism in today's world, such as: International Bilingualism, Bilingualism in the United States, Bilingual Education and Opportunities in Bilingualism.

**70:180(g). Translation of Literary Texts—4 hrs.**

Theories and techniques of literary translation. Prerequisite: reading knowledge of one foreign language.

**70:190(g). The Teaching of Foreign Languages  
—2-4 hrs.**

Credit also as a course in education for a student whose major is foreign languages. This course ordinarily should precede student teaching. Prerequisite or corequisite: 72:180 or 74:180 or 78:180.

### FRENCH

**72:101(g). Advanced Composition—3 hrs.**

Analysis of the major morphological and syntactical structures of the French language, with a look at contrasting grammatical and linguistic approaches to problems of correct usage. Stress will be placed on the successful application of the principles learned. May be repeated once for credit with approval of instructor. Prerequisite or corequisite: 72:072 or equivalent.

**72:103(g). Advanced Conversation—3 hrs.**

Develops and improves oral fluency through free and guided conversation. May be repeated once for credit with approval of instructor. Prerequisites: 72:051 and 72:061 or permission of instructor.

**72:105(g). Stylistics—3 hrs.**

An introduction to stylistic analysis. Development of style in composition through study of excerpts from contemporary French works and literary translation into French. Prerequisites or corequisite: 72:101 or equivalent.

**72:107(g). Listening and Comprehension—3 hrs.**

Develops and improves ease with which one understands all types of standard speech including taped material, readings, radio and television broadcasts, and movies. Offered only on summer study tour.

**72:108(g). Oral Translation—3 hrs.**

May be repeated once for credit. Prerequisite: 72:101 or equivalent.

**72:114(g). Short Stories—3 hrs.**

Short stories from Vigny, Merimée, Daudet, Maupassant, Aymé and others. Prerequisite or corequisite: 72:101 or equivalent.

**72:118(g). Popular Prose Fiction—3 hrs.**

Novels from V. Hugo, A. Dumas, P. Benoit, Maurois, Daninos, Druon and/or others: Prerequisite or corequisite: 72:101 or equivalent.

**72:124(g). Contemporary France—3 hrs.**

A survey of recent developments and a description of the country, its people, customs and way of life, institutions, economy, and art. Prerequisite or corequisite: 72:101 or equivalent.

**72:125(g). French Culture and Civilization—3 hrs.**

Includes historical, cultural and sociological background for the understanding of contemporary France. May be repeated in summer institute abroad for 2 hrs. credit. Prerequisite: 72:101 or equivalent.

**72:128(g). Literature of Ideas—3 hrs.**

Montaigne, Pascal, La Rochefoucauld, Saint Simon, La Bruyère, Montesquieu, Voltaire, Chateaubriand, Rousseau, de Tocqueville and their modern successors. Prerequisite or corequisite: 72:101 or equivalent.

**72:131(g). The Comedy from Molière to 1890—3 hrs.**

Plays from Molière, Marivaux, Beaumarchais, Musset, Labiche, Auier. Prerequisite or corequisite: 72:101 or equivalent.

**72:135(g). Poetry and Verse Drama—3 hrs.**

Representative poems selected for their enduring appeal with classical and romantic dramas from Corneille, Racine, Victor Hugo, Rostand. Prerequisite or corequisite: 72:101 or equivalent.

**72:144(g). Novels of the 19th and 20th Centuries—3 hrs.**

Novels from Balzac, Stendhal, Flaubert, Proust, Robbe-Grillet and others. Prerequisite or corequisite: 72:101 or equivalent.

**72:146(g). The Drama since 1890—3 hrs.**

Plays from Romains, Pagnol, Claudel, Giraudoux, Anouilh, Sartre, Beckett, and others. Prerequisite or corequisite: 72:101 or equivalent.

**72:160(g). Advanced Oral Practice—2-4 hrs.**

Development of oral fluency and greater accuracy through structured oral exercises; free conversation dealing with civilization and topics of current interest. Structural, morphological and phonetic exercises designed to meet the needs of the individual participants. Prerequisites or corequisite: 72:101 or equivalent.

**72:180(g). Applied Linguistics: French—3 hrs.**

Basic linguistic concepts applied to learning the French Language. Prerequisite 72:101 or equivalent.

**72:185(g). Written Translation—3 hrs.**

Fundamentals of written translation using varied text materials (public media, scholarly, professional and literary texts), from English to French and French to English. May be repeated once for credit. Prerequisite: 72:101 or equivalent.

**72:201. Advanced Composition and Stylistics—3 hrs.**

Study of stylistic devices; examination of principal morphological, syntactical and semantic problems.

**72:203. Structure of French—3 hrs.**

Phonology, morphology, and syntax of current French. Stress is placed on areas of French structure which cause problems for native speakers of English.

**72:205. Explication of Text—3 hrs.**

Analysis of the content and style of literary selections, studied in depth and used as models for guided composition.

**72:207. Contemporary French Speech—2 hrs.**

Understanding and identifying major levels of spoken French, including elegant, standard and familiar speech styles; structural, lexical, and phonological study of current French speech, stressing areas of socio-linguistic importance.

**72:231. Medieval Literature—2 hrs.**

History and civilization of the Middle Ages from 842 to 1515. Selections from medieval French in modern French translation.

**72:281. Seminar—2 hrs.**

Various topics will be offered such as Medieval Literature, 16th Century Literature, 19th Century Prose, Contemporary Novel. Specific area to be announced on the Schedule of Classes for current semester. May be taken more than once provided it is on a different topic.

**GERMAN**

**74:101(g). Advanced Composition—3 hrs.**

Analysis of the major morphological and syntactical structures of the German language, with a look at contrasting grammatical and linguistic approaches to problems of correct usage. Stress will be placed on the successful application of the principles learned. Prerequisite or corequisite: 74:071 or equivalent. May be repeated once for credit with approval of instructor.

**74:103(g). Advanced Conversation—4 hrs.**

Development of oral fluency through systematically guided conversations on civilization topics and free conversation on topics of current interest. Structural, morphological and phonetic exercises designed to meet the needs of the individual participant. Prerequisite or corequisite: 74:101 or equivalent.

**74:105(g). Stylistics—3 hrs.**

An introduction to stylistics analysis. Development of style in composition through study of excerpts from contemporary German works and literary translations into German. Prerequisite: 74:052 or equivalent.

**74:107(g). Oral Translation—3 hrs.**  
May be repeated once for credit.

**74:114(g). German Lyric Poetry—3 hrs.**  
Selections from major periods up to the present. Prerequisite or corequisite: 74:101 or equivalent.

**74:116(g). Twentieth Century Prose Fiction—3 hrs.**  
Prerequisite or corequisite: 74:101 or equivalent.

**74:117(g). German Media—3 hrs.**  
Provides opportunity to reinforce and expand basic knowledge of the language through reading, writing, and discussing contemporary and realistic issues using German mass media (e.g., newspapers, magazines, radio, television, and film). May be repeated once for credit. Prerequisite: 74:101 or equivalent.

**74:123(g). German Civilization—3 hrs.**  
An introduction to the culture, history and geography of Germany. Prerequisite or corequisite: 74:101 or equivalent.

**74:127(g). German Classicism—3 hrs.**  
Prerequisite or corequisite: 74:101 or equivalent.

**74:128(g). Literature to Enlightenment—3 hrs.**  
German Literature from the Beginnings to Enlightenment. Prerequisite or corequisite: 74:101 or equivalent.

**74:143(g). Nineteenth Century Literature—3 hrs.**  
Representative works from the Romantic Period to Naturalism. Prerequisite or corequisite: 74:101 or equivalent.

**74:147(g). Masterpieces of the Modern German Stage—3 hrs.**  
Prerequisite or corequisite: 74:101 or equivalent.

**74:149(g). Applied Theater (German)—1-3 hrs.**  
Participation in German Theater.

**74:150(g). Contemporary Germany and Austria—3 hrs.**  
Introduction to the geography and contemporary cultural, political, and social institutions in German speaking countries. Prerequisite or corequisite: 74:101 or equivalent.

**74:160(g). History of the German Language—3 hrs.**  
An introduction to the historical development of German. Prerequisite or corequisite: 74:101 or equivalent.

**74:180(g). Applied Linguistics: German—3 hrs.**  
Basic linguistic concepts applied to learning the German language. Prerequisite or corequisite: 74:101 or equivalent.

**74:185(g). Written Translation—3 hrs.**  
Fundamentals of written translation using varied text materials (public media, scholarly, professional and literary texts), from English to German and German to English. May be repeated once for credit. Prerequisite: 74:101 or equivalent.

**74:201. Advanced Composition and Stylistics—3 hrs.**  
Study of stylistic devices: examination of principal morphological, syntactical, and semantic problems. May be offered for 4 hours on the summer study abroad program.

**74:203. Structure of German—3 hrs.**  
Description of Modern High German phonology, morphology, and syntax.

**74:210. Middle High German Language and Literature—3 hrs.**  
Introduction to the structure of Middle High German.

**74:250. German Literature in Review—3 hrs.**  
Major periods of German literature, literary genres, and techniques; primarily for students who plan to take the M.A. comprehensives in German. Prerequisite: consent of instructor.

**74:280. Seminar—3 hrs.**  
Various topics will be offered such as Baroque Poetry, Classical Drama, Contemporary Prose Fiction, East German Literature. Specific area to be announced in Schedule of Classes for current semester. May be repeated for credit except when topic is identical.

## LATIN

**76:185(g). Individual Reading—1-3 hrs.**  
May be repeated to a maximum of 9 credits. More intensive work on individual authors, genres and periods. Prerequisite: 76:062 or equivalent.

## RUSSIAN

**77:101(g). Advanced Grammar and Composition—3 hrs.**  
Analysis of the major morphological and syntactical structures of the Russian Language, with a look at contrasting grammatical and linguistic approaches to problems of correct usage. Stress will be placed on the successful application of the principles learned. Prerequisites: 77:052 and 77:062 or equivalent.

**77:102(g). Introduction to Russian Literature—3 hrs.**  
Selected major works of representative Russian authors from the beginning to the present, with the political and literary history of their time. Application of language skills to basic literary analysis will be a primary goal. Prerequisites or corequisites: 77:052 and 77:062 or equivalent.

**77:131(g). Russian Poetry—3 hrs.**  
The leading Russian poets from Pushkin to the present time, with a preliminary study of Russian versification and early lyric poetry. The Golden Age of Poetry and leading nineteenth and twentieth century poets. Special attention will be given to works of Tyutchev, Fet, Nekrasov, Grigoriev, Balmont, Bryusov, Blok, Mayakovsky, Esenin, Pasternak.

**77:132(g). The Nineteenth Century Russian Novel—3 hrs.**

The development and evolution of the novel in nineteenth century Russian Literature. Concentration will be on the short novels of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy and Chekhov. Selections from some of the significant longer novels of Tolstoy and Dostoevsky will also be included.

**77:134(g). Contemporary Soviet Literature—3 hrs.**

Soviet literature from the year 1956 generally known as the year of the protest, to the present time. The significance of writing during this time, the changes from previous periods and factors affecting the output of Soviet writers, with emphasis on the "protest literature" and the appearance of the younger generation of poets.

**77:141(g). Soviet Civilization—3 hrs.**

The culture of the Soviet Union as shaped by its geography, history and pre-history, and as revealed in its arts, sports, customs, traditions and economic, social and political institutions.

## SPANISH

**78:101(g). Advanced Composition—3 hrs.**

Analysis of the major morphological and syntactical structures of the Spanish language with a look at contrasting grammatical and linguistic approaches to problems of correct usage. Stress will be placed on the successful application of the principles learned. Recommended to be taken with 78:071. Prerequisite: 78:051 and 78:061 or equivalent.

**78:103(g). Advanced Conversation—4 hrs.**

Development of oral fluency through systematically guided conversations on civilization topics and free conversation on topics of current interest. Structural, morphological and phonetic exercises designed to meet the needs of the individual participant. Prerequisite or corequisite: 78:101 or equivalent.

**78:105(g). Stylistics—3 hrs.**

An introduction to stylistic analysis. Development of style in composition through study of excerpts from the contemporary Spanish works and literary translation into Spanish. Prerequisite or corequisite: 78:071 or equivalent.

**78:107(g). Introduction to Oral Translation—3 hrs.**

May be repeated once for credit.

**78:112(g). Introduction to Latin American Literature—3 hrs.**

Trends in Latin American Literature and representative authors. Prerequisite: 78:071 and 78:072.

**78:118(g). Contemporary Spanish Literature—3 hrs.**

Peninsular novel, essay and drama since the Generation of '98. Prerequisite or corequisite: 78:101 or equivalent.

**78:121(g). Spanish Media—3 hrs.**

Provides opportunity to reinforce and expand basic knowledge of the language through reading, writing, and discussing contemporary and realistic issues using Spanish mass media (e.g., newspapers, magazines, radio, television, and film). May be repeated once for credit. Prerequisite: 78:101 or equivalent.

**78:123(g). Spanish Civilization—3 hrs.**

The Spanish cultural heritage as shaped by its geography and history, and as revealed in its arts, sports, customs, traditions and economic, educational, social and political institutions. Prerequisite or corequisite: 78:101 or equivalent.

**78:130(g). Golden Age Literature—3 hrs.**

Outstanding literary works of this period, including prose, drama, and poetry. Prerequisite or corequisite: 78:101 or equivalent.

**78:132(g). Golden Age Drama and Lyric—3 hrs.**

Study of the theater and poetry of the Spanish Renaissance and Baroque eras. Intensive reading of selected comedies of Lope de Vega, Tirso de Molina, and Calderon, and the poetry of Garcilaso de la Vega, Gongora, Quevedo, Fray Luis de Leon, and San Juan de la Cruz. Prerequisite or corequisite: 78:101 or equivalent.

**78:134(g). Nineteenth Century Spanish Literature—3 hrs.**

Study of Romanticism, Realism, and Naturalism. Prerequisite or corequisite: 78:101 or equivalent.

**78:139(g). Contemporary Theater—3 hrs.**

Peninsular and Latin American theater from the Generation of '98 to the present. Prerequisite or corequisite: 78:101 or equivalent.

**78:140(g). Latin American Civilization—3 hrs.**

The culture of Latin America as shaped by its geography, history, and pre-history, and as revealed in its arts, sports, customs, traditions and economic, social and political institutions. Prerequisite or corequisite: 78:101 or equivalent.

**78:142(g). The Latin American Novel—3 hrs.**

The twentieth century will be stressed. Prerequisites or corequisite: 78:101 or equivalent.

**78:144(g). Hispanic Poetry—3 hrs.**

Modernism and Post-Modernism will be stressed. Prerequisite or corequisite: 78:101 or equivalent.

**78:149(g). Applied Theater: Spanish—1-3 hrs.**

Participation in Spanish theater. Prerequisite: 78:101 or equivalent; and consent of instructor.

**78:150(g). Written Communication—3 hrs.**

Topics taken from daily life; compositions written and corrected in the classroom, grammar review, and Spanish letter writing. Offered only in conjunction with the Spanish Institutes Abroad.

**78:151(g). Advanced Oral Communication**  
—3 hrs.

Topics of Spanish daily life, especially those related to Soria as an example of old Castile; emphasis on idioms typical of that linguistic community. Student to make periodic public surveys to put knowledge to more formal use. Offered only in conjunction with the Spanish Institutes Abroad.

**78:152(g). Contemporary Spanish Culture**  
—3 hrs.

Contemporary Spanish culture as it reflects and relates to its history and pre-history as well as to current environment; emphasis on literature, architecture, painting, sculpture, and folk music. Offered only in conjunction with the Spanish Institutes Abroad.

**78:180(g). Applied Linguistics: Spanish—3 hrs.**  
Basic linguistic concepts applied to learning the Spanish language. Prerequisite: 78:071 or 78:072, or equivalent.

**78:185(g). Written Translation—3 hrs.**  
Fundamentals of written translation using varied text materials (public media, scholarly, professional, and literary texts), from English to Spanish and Spanish to English. May be repeated once for credit. Prerequisite: 78:101 or equivalent.

**78:191(g). Bilingual Practicum—3 hrs.**  
Participation in lower-level class activities to acquire first-hand knowledge of methodology involved. Participants will also meet on regular basis with instructor to discuss, in Spanish, their experiences; reinforces and expands conversational command of the language. Prerequisite: 78:091; 78:101 or equivalent; and consent of instructor.

**78:201. Hispanic Literature: A Stylistic Review**  
—3 hrs.

Study of stylistic devices characteristic of major periods in Spanish and Latin American literature.

**78:203. Structure of Spanish—3 hrs.**  
A study of the phonology, morphology and syntax of current Spanish. The sound system and grammatical constructions of Spanish discussed in the light of modern linguistic procedures.

**78:205. Advanced Grammar—3 hrs.**  
Analysis and application of syntax theory in the teaching and learning of Spanish grammar.

**78:220. Oral Translation—3 hrs.**  
Techniques of oral translation including simultaneous translation.

**78:231. Cervantes—3 hrs.**  
Intensive study of *Don Quijote*.

**78:232. Old Spanish—2 hrs.**  
A literary and linguistic study of the *Poema de Mio Cid* and other selected early works.

**78:250. Culture of Castile—3 hrs.**  
Old Castile—exploration of the essence of Castilian culture which forms the basis for the contemporary civilization of all Spanish-speaking countries. Offered only in conjunction with the Spanish Institutes Abroad.

**78:282. Seminar—2 hrs.**  
Various topics will be offered such as Medieval Prose Fiction, Mexican Novel, Antillean Poetry, Renaissance Drama, Poetry of Federico Garcia Lorca. Specific area to be announced on the Schedule of Classes for current semester. May be repeated except when topic is identical.



# Music

## GENERAL COURSES IN MUSIC

**52:102(g). Foundations of Music—3 hrs.**  
Specifically designed to provide the classroom teacher with techniques for teaching music in his or her own classroom. Basic skills of guitar, piano, singing, and music theory explored. Study of appropriate music literature, records, tape, and film.

## **52:221. Music Research and Bibliography—2 hrs.**

To acquaint student with source materials in music and to help locate thesis topic. Should be taken during first semester in residence by all graduate music students.

## **52:299. Research.**

## APPLIED MUSIC

**Note:** Before registration in Applied Music can be accomplished the student must (1) successfully complete an audition in a main performance area and (2) meet the proficiency standards of the department. (No audition is required for registration in *secondary* Applied Music.)

Applied Music is classified in three categories according to the semester hours of credit received:

*major* (for Performance majors only)—4 semester hours credit each semester (200 level only)

*concentration*—2 semester hours credit each semester (100g or 200 level)

*secondary*—1 semester hour credit each semester (100g level only)

A maximum of 2-4 semester hours of credit in Applied Music (10 hours of credit for Performance majors) can be counted toward minimal requirements for the master's degree. Two half-hour lessons each week, per semester, are required for both *major* and *concentration* applied students. Practice and performance demands for the *major* are more rigorous than for the *concentration* student. *Secondary* applied students receive one half-hour lesson each week. Students approved for the Performance major program under the Master of Music degree will register for four (4) semester hours of credit in Applied Music during the fall or spring semesters in residence. Adjustments in credit hour registration for Applied Music will be made during the summer session.

The appropriate applied area faculty will determine the level of the student's qualifications (54:1xxg or 54:2xx) by audition and/or previous work on an instrument or in voice. A 200 number can be assigned only to a graduate student who has satisfactorily completed an audition and is preparing for a graduate major in an instrument or in voice.

54:130(g), 54:230. Flute  
54:131(g), 54:231. Oboe  
54:132(g), 54:232. Clarinet  
54:133(g), 54:233. Bassoon  
54:134(g), 54:234. Saxophone  
54:135(g), 54:235. French Horn  
54:136(g), 54:236. Cornet-Trumpet  
54:137(g), 54:237. Trombone  
54:138(g), 54:138. Baritone  
54:139(g), 54:239. Tuba  
54:140(g), 54:240. Percussion  
54:141(g), 54:241. Violin

54:142(g), 54:242. Viola  
54:143(g), 54:243. Cello  
54:144(g), 54:244. String Bass  
54:145(g), 54:245. Harp  
54:146(g), 54:246. Piano  
54:147(g), 54:247. Group Piano  
54:148(g), 54:248. Organ  
54:149(g), 54:249. Voice  
54:150(g), 54:250. Harpsichord  
54:151(g), 54:251. Group Voice  
54:154(g), 54:254. Composition  
(Prerequisite: 58:022 and consent of instructor)

## MUSIC METHODS

**57:110(g). Guitar in the Classroom—2 hrs.**  
For potential teachers of elementary and junior high school music; fundamentals of guitar and basic materials necessary to the effective use of the guitar in the classroom. No previous guitar experience required; basic music background desirable.

**57:130(g). Vocal Pedagogy—2 hrs.**  
Techniques of diagnosing and discussing vocal problems as related to the singing voice, and a survey of pedagogic materials. Actual teaching experience under supervision. Prerequisite: junior standing music major or above.

**57:131(g). Opera Production—2 hrs.**  
May be taken twice for credit. One semester student directs a scene, and the other the student participates in a performance.

**57:135(g). Accompanying—1 hr.**  
The art of accompanying, both vocal and instrumental literature. Practical experience as accompanist for student soloists in public performance. May be taken twice for credit.

**57:145(g). Advanced Music Methods—2 hrs.**  
Contemporary methods of teaching general music, grades 1-12; intensive study of selected areas important to the teacher.

**57:148(g). Piano Methods—2 hrs.**  
Procedures and techniques of piano instruction, especially for the beginning and intermediate student. These include the study and techniques of piano playing, the literature of the instrument, and the styles of the various periods.

**57:150(g). Band-Orchestra Methods—2 hrs.**  
Comprehensive study of role of band and orchestra conductor in public schools, covers areas of organization, personnel, budgets, scheduling, rehearsal procedures, program planning, and marching band arrangement.

**57:151(g). Band and Orchestra Materials—2 hrs.**  
Study of instruction and program materials for private and class instruction, and small and large instrumental groups.

**57:152(g). Instrumental Jazz Improvisation—1 hr.**  
Elements of improvisation which are currently practiced in the various styles of jazz. Intended as an aid to experienced instrumentalists who desire greater proficiency in this area, and as a tool for the potential instructor of school jazz ensembles. Prerequisite: consent of instructor.

**57:157(g). School Stage Band—2 hrs.**  
Materials, procedures, and techniques of developing a stage band program in the schools.

**57:160(g). Vocal Ensemble Materials—2 hrs.**  
Offered for vocal majors. To accompany student teaching.

**57:190(g). Music for the Exceptional Child—3 hrs.**  
Designed for special education and music majors relating to the areas of mental retardation, culturally deprived and emotionally disturbed children. Field experience supplements classroom instruction.

**57:197(g). Instrumental Upkeep and Repair—2 hrs.**  
A laboratory course where practical projects are undertaken. Offered for instrumental majors. To accompany student teaching.

**57:220. Psychology of Music—2 hrs.**  
The psychological basis of teaching music. May be used to satisfy the special methods elective in the professional core for the master's degree.

**57:240. Planning and Supervision—2 hrs.**  
For the prospective supervisor of music.

**57:250. Projects in Music—1-3 hrs.**

**57:289. Seminar in General Music—2 hrs.**  
The study of practical situations in the general music program with special emphasis on grades one through nine.

**57:289. Seminar in Chorus—2 hrs.**  
Problems in the vocal program of junior and senior high schools.

**57:289. Seminar in Band—2 hrs.**  
For the student with teaching experience. Practical situations studied and analyzed.

**57:289. Seminar in Orchestra—2 hrs.**  
To implement the orchestral program in the elementary and secondary schools.

## MUSIC THEORY

**58:110(g). Analysis of Music Literature—3 hrs.**  
Study of forms and procedures prevalent in the works of major composers from the 16th century to the present. Prerequisite: 58:013.

**58:120(g). Sixteenth Century Counterpoint—3 hrs.**  
The vocal polyphonic style of the 16th century. Analysis. Creative work in vocal forms: motet, madrigal, mass. Prerequisite: 58:013.

**58:121(g). Eighteenth Century Counterpoint—3 hrs.**  
Contrapuntal technique and instrumental forms of the 18th century. Analysis and creative work in representative forms. Prerequisite: 58:013.

**58:122(g). Advanced Composition Class—3 hrs.**  
Creative work in the larger forms. Student must complete at least one original project in any of these forms. Prerequisite: 58:022 or consent of instructor.

**58:125(g). Instrumentation and Arranging—2 hrs.**  
Ranges, transpositions, and functions of all instruments of the band and orchestra and arranging for choir, band, and orchestra. Prerequisite: 58:013.

**58:130(g). 20th Century Non-Tonal Music**  
—2 hrs.

Style and structure analyses of representative compositions of the 20th Century with emphasis on the more recently composed works.

**58:180. Theory Survey for Graduates—2 hrs.**  
Review of theoretical principles and methods of analysis. Required of all graduate students who do not demonstrate adequate proficiency as result of the Graduate Theory Diagnostic Examination.

**58:210. Advanced Form and Style Analysis I**  
—2 hrs.

Application of analytic techniques to music from plainsong through Baroque. Emphasis on era and composer style delineation. Prerequisite: 58:180 or passing score on Graduate Theory Diagnostic Examination.

**58:211. Advanced Form and Style Analysis II**  
—2 hrs.

Continuation of 58:210. Classical period to the present. Prerequisite: 58:180 or passing score on Graduate Theory Diagnostic Examination.

**58:225. Advanced Arranging—2 hrs.**

Scoring for orchestra, band, or chorus. Student must complete at least one transcription for a large instrumental or vocal group. Prerequisite: 58:125 or consent of instructor.

## MUSIC LITERATURE

**59:110(g). Music Literature—Middle Ages and Renaissance—3 hrs.**

Prerequisites: 59:010, 59:011.

**59:111(g). Music Literature—Baroque—3 hrs.**

Prerequisites: 59:010; 59:011.

**59:112(g). Music Literature—Classic-Romantic**  
—3 hrs.

Prerequisites: 59:010; 59:011.

**59:113(g). Music Literature—20th Century**  
—3 hrs.

Prerequisites: 59:010; 59:011.

**59:120(g). Performance Literature for**  
—2 hrs.

Study of music literature available for specific instrument or voice. Combination ensemble-literature course for the performer. Areas available: Brass, Woodwinds, Strings, Organ, Percussion, Piano (I-II), Voice (I-II).

**59:130(g). History of Opera—3 hrs.**

Historical development of the opera from its inception (*c.* 1600) to the present.

**59:131(g). History and Literature of Large Choral Forms—3 hrs.**

Development of large choral forms from the Renaissance to the present. Emphasis on the Mass, cantata, oratorio, passion, anthem, and contemporary uses of the chorus.

**59:135(g). History of Church Music—3 hrs.**

Church music from the Early Christian Church through the present day.

**59:140(g). History and Literature of the Orchestra—3 hrs.**

Orchestral literature from mid-18th Century to present; emphasis on structure of the symphony as a form and the growth of the orchestra as an ensemble.

**59:141(g). History and Literature of Chamber Music—3 hrs.**

Music for small ensembles, from Renaissance to present. Emphasis on music by major composers for the traditional combinations: string quartet, trios, sonatas, wind ensembles and miscellaneous ensembles with keyboard.

**59:142(g). History and Literature of the Wind Band—3 hrs.**

Growth and development of wind music from Gabrieli to present.

**59:150(g). American Music—3 hrs.**

History and literature of our nation's music from 1620 to the present. Prerequisite: 59:011.

**59:151(g). Music of World Cultures—3 hrs.**

Study of non-Western music: Africa, Islam, India, Indo-China, Indonesia, China, and Japan, and the role of music in these cultures.

**59:260. History of Musical Instruments—3 hrs.**

Development of musical instruments from antiquity to the present; includes both western and non-western cultures.

**59:285. Readings in Music History—1-3 hrs.**

Prerequisite: consent of Graduate Coordinator in Music.

**59:289. Seminar in Music History—3 hrs.**

Musicological research into the various areas of music. May satisfy departmental requirement of 52:231.



# Philosophy and Religion

## PHILOSOPHY

### 65:100(g). History of Philosophy—Ancient—3 hrs.

The history of philosophy from Pre-Socratics to late antiquity, with emphasis on Plato and Aristotle. 65:021 strongly recommended to precede.

### 65:101(g). History of Philosophy: Medieval—3 hrs.

The history of philosophy from late Roman times through the Middle Ages, with emphasis on Augustine and Thomas Aquinas. 65:021 strongly recommended to precede.

### 65:103(g). History of Philosophy: Renaissance through Enlightenment—3 hrs.

The history of philosophy from The Renaissance through Hume, with emphasis on continental rationalism and British empiricism. 65:021 strongly recommended to precede.

### 65:104(g). History of Philosophy—Modern—3 hrs.

History of philosophy from Kant to the present; emphasis on idealism, romanticism, materialism, positivism, phenomenology, existentialism. 65:021 recommended to precede.

### 65:113(g). Philosophy of Religion—3 hrs.

Introduction to the philosophical examination of religious ideas. Strongly recommended that some work in philosophy or religion precede this course.

### 65:117(g.) Philosophers on Education—3 hrs.

Study of the major philosophical approaches to education, as exemplified in idealism, realism, pragmatism, and analytic philosophy.

### 65:119(g). Philosophy of Science—3 hrs.

Philosophical problems of the sciences; nature of laws and theories, causation, explanation and scientific method, and the relation between the natural and social sciences.

### 65:142(g). Ethics—3 hrs.

A study of the major problems of moral conduct, with emphasis on contemporary ethical theories.

### 65:143(g). Aesthetics—3 hrs.

Problems of experiencing and interpreting the arts presented through readings and discussion of the various arts.

### 65:145(g). Logic—3 hrs.

Methods, principles, and rules of reasoning with emphasis upon their practical uses in effective thinking, scientific inquiry, and verbal communication.

### 65:150(g). Recent and Contemporary Philosophy—3 hrs.

A study of selected individuals and issues reflecting a variety of approaches to current philosophical questions. 65:021 strongly recommended to precede.

### 65:152(g). Existentialism—3 hrs.

A study of interpretations of human existence in contemporary thought. Presupposes no previous knowledge of philosophy.

### 65:154(g). American Philosophy—3 hrs.

Major developments in American philosophy from their colonial origins to their contemporary expressions.

### 65:160(g). John Dewey—3 hrs.

Study of Dewey's pragmatism as expressed in the fields of ethics, religion, education, society, and theory of knowledge.

### 65:170(g). The Present Predicament of Mankind—3 hrs.

Exploration of certain societal trends which are posing a serious challenge to man's future; examination of human values and resulting institutional arrangements through which the values are expressed; consideration of alternatives.

### 65:186(g). Studies in Philosophy—3 hrs.

Study of philosophical thinker or problem to be announced in advance of registration.

### 65:189(g). Individual Readings in Philosophy—1-3 hrs.

Individually arranged readings and reports drawn from (1) history of philosophy, or (2) contemporary philosophical problems. Repeatable for a maximum of 6 hours. Prerequisite: department head approval.

## RELIGION

### 64:111(g). Christian Beliefs—3 hrs.

The meaning of major Christian doctrines, with some attention to their origins but primarily from an interpretive rather than historical point of view.

### 64:112(g). History of Christianity—3 hrs.

An historical survey, with special attention to the development of major religious ideas and institutions in Western Christianity.

### 64:117(g). Religion in America—3 hrs.

Investigation of religious movements and beliefs from colonial times to the present. Recommended to precede this course one of the following: 64:020; 64:124; 65:021.

### 64:124(g). Religions of the World—3 hrs.

Living religions of man with emphasis on their relevance to interpretations of existence, the problem of meaning and values, and human destiny.

### 64:130(g). Religions of India—3 hrs.

Hinduism, Jainism, Buddhism, Islam.

### 64:132(g). Religions of China and Japan—3 hrs.

Taoism, Confucianism, Buddhism, Shintoism.

### 64:134(g). Religions of the Near East—3 hrs.

A study of the origin and early history of Judaism, Christianity, and Islam, including the

examination of ancient Egyptian, Mesopotamian, and Graeco-Roman religions. 64:124 strongly recommended to precede.

**64:139(g). Atheism—3 hrs.**

A critical introduction to various types of modern atheism.

**64:141(g). Old Testament—3 hrs.**

Introduction to the history and ideas of the Old Testament. Prerequisite: 64:020.

**64:142(g). New Testament—3 hrs.**

An introduction to the history and ideas of the New Testament. Prerequisite: 64:020.

**64:150(g). Contemporary Religious Thought—3 hrs.**

A study of selected individuals and ideas in 20th century religious thought.

**64:152(g). Religion and Public Education—2 hrs.**

Issues, problems, and curricula development in studying about religion in the public school.

**64:186(g). Studies in Religion—3 hrs.**

Study of special topic to be announced in advance of registration.

**64:189(g). Individual Readings in Religion—1-3 hrs.**

Individually arranged readings and reports from (1) Biblical studies, (2) history of religions, or (3) contemporary religious thought. Repeatable up to 6 hours. Prerequisite: department head approval.

## Physical Education

**37:113(g). Community Health—2 hrs.**

Historical background of community health problems; concepts of structure for effective community health program, and structure and function of local, state, and federal health departments.

**37:114(g). Introduction to Public Health—3 hrs.**

Public health activities concerned with protection and care of the individual; focuses on factors that may be inimical to human beings. Prerequisite: 37:015.

**37:117(g). Administration of School Health—3 hrs.**

An overview of the school health program to acquaint the student with concepts, policies, and practices of administration necessary for organization and maintenance of healthful school living, health instruction, and health services in the school and for the school and community to work together.

**37:134(g). Therapeutic Recreation—3 hrs.**

Methods and techniques used in therapeutic recreational services to meet the leisure needs of members of special populations. Prerequisite: 37:132.

**37:151(g). Kinesiology—3 hrs.**

Application of principles of mechanics to body movement. No credit for a student with credit in 38:150. Prerequisite: 37:050.

**37:152(g). Adapted Physical Education—3 hrs.**

Recognition of postural deviations; individual and group screening techniques; exercises for specific body parts; understanding specific disabilities; and the modification of physical education activities to meet limitations found in school population. 4 periods. Prerequisites: 37:050, 37:151; 84:138.

**37:153(g). Physiology of Exercise—2 hrs.**

Effects of exercise upon the organic functions of the body. Prerequisite: 37:050, 37:151, or equivalent, and 84:138.

**37:156(g). Physical Education and Recreation for the Handicapped—3 hrs.**

Role of physical education and recreation in the education of handicapped people. Problems in motor development related to these people, and techniques for working with them. Programs of activity and their organization. Laboratory experiences provided.

**37:157(g). Instructors Course in Swimming for the Handicapped—1 hr.**

Learning to teach swimming to handicapped children. May lead to Red Cross certification. Prerequisite: current Water Safety Instructor's certificate or approval of instructor.

**37:162(g). Recognition and Evaluation of Athletic Injuries—2 hrs.**

Prerequisites: 38:150 or 37:050 and 37:151; 38:115 or 39:145; 84:138.

**37:164(g). Rehabilitation of Athletic Injuries—2 hrs.**

Physiological effects, indications and contraindications, and the physics of modalities used in injury rehabilitation. Prerequisites: 38:150 or 37:050 and 37:151, 38:115 or 39:145; 84:138.

**37:178(g). Administrative Practices in Community Recreation—3 hrs.**

Techniques involved in directing and administering community recreation programs. Prerequisites: 37:132, 37:175.

**37:182(g). Developmental Aspects of Movement Performance—2 hrs.**

How motor skills change with time; nature of factors effecting change; relationship of motor development to total human development; principles of motor development related to teaching motor skills.

**37:189(g). Readings in Physical Education—1-4 hrs.**

Individual study in an area of physical education. Credit to be determined at time of registration and to be based on student's proposal. Requires approval of department head.

**37:251. Advanced Kinesiology—3 hrs.**

Analysis of motion with special emphasis upon application of mechanical and anatomical principles in the performance of physical activities. Relates laws of physics and develops principles from these laws that explain fundamental movements that are successful to various techniques. Prerequisite: 37:050 and 37:151, or 38:150.

**37:253. Advanced Exercise Physiology—3 hrs.**

Process of scientific inquiry into exercise physiology and the identification of basic principles to be applied for maximum performance without injury. Discussion, 2 periods; lab., 2 periods.

**37:273. Physical Education in the Public Schools—3 hrs.**

Principles, movements, leaders, trends, purposes, methods, and techniques of structuring the school program in physical education.

**37:274. Measurement and Evaluation in Physical Education—3 hrs.**

Historical background of measurement in physical education; evaluation as a part of teaching; statistical techniques; construction and use of motor and knowledge tests; criteria for test selection; administering a testing program; interpretation and use of test results. Prerequisite: 25:180 or 80:172.

**37:276. Supervision of Physical Education—2 hrs.**

Analysis of current supervisory practices and problems of teaching in physical education. Prerequisite: 27:141.

**37:280. Motor Learning—3 hrs.**

Study and application of research findings to motor learning and the variables which influence it.

**37:289. Physical Education Seminar—1-3 hrs.**

Special topics as indicated in the Schedule of Classes.

**37:299. Research.**

## Physical Education for Men

**38:115(g). Prevention and Care of Athletic Injuries—2 hrs.**

Prevention, evaluation, first aid, supportive measures, and care of athletic injuries. Nutrition; facilities; and equipment. Prerequisite: 38:150 or equivalent.

**38:140(g). Experience in Cardiac Rehabilitation—2 hrs.**

Laboratory aide training and experience under supervision of an exercise physiologist, physician, and a registered cardiac nurse. Lecture, 1 hr.; lab., 3 hrs.

**38:150(g). Anatomy and Kinesiology—3 hrs.**

Attention to the skeleton, the muscular system, and the joint construction. Application to analysis of skills and techniques used in teaching physical education. No credit for a student with credit in both 37:050 and 37:151.

**38:155(g). Conditioning Theory and Practice—2 hrs.**

Theory and practice in training and conditioning of athletes. 2 periods.

**38:160(g). Advanced Sports Theory—2 hrs.**

Advanced methods courses on coaching concepts in specific sports: (1) baseball, (2) basketball, (3) football, (4) gymnastics, (5) swimming, (6) track, (7) wrestling. May be repeated for a maximum of six (6) hours of credit. Prerequisite: department head approval for undergraduates.

**38:171(g). Curriculum of Physical Education—2 hrs.**

Reform movement in physical education; cycles, scope, design and construction, and evaluation of curriculum and curriculum development; current trends affecting physical education programs in the schools.

**38:175(g). Organization of Administration of Competitive Sports—3 hrs.**

A study of the organization, administration, and management of interscholastic, intercollegiate, and intramural sports programs.

**38:177(g). Psychological Aspects of Coaching—2 hrs.**

Positive approach to the psychology of coaching. Recommend coaching experience.

# Physical Education for Women

**39:125(g). Educational Dance—2 hrs.**  
Place of dance in the school curriculum; relationships, progressions, and curriculum building. Prerequisite: 39:193 or 39:083.

**39:143(g). Theoretical Concepts of Coaching—2 hrs.**

Introductory philosophical aspects of sport, psychological and sociological dimensions of competitive sport experiences with a focus on women in sport.

**39:145(g). Prevention and Rehabilitation of Women's Athletic Injuries—3 hrs.**

Problems of preparing a participant for women's competition; protection from potential injury, etiology, examination and first aid care of injuries, and rehabilitation principles and practices. Prerequisite: 37:050 or approved equivalent.

## Physics

**\*88:120(g). Elementary Atomic and Nuclear Physics—4 hrs.**

Atomic and nuclear structure, elementary particles, radioactivity, wave-particle duality, interactions and detection of radiation. Lower mathematical level than 88:169. Prerequisite: 88:056. Discussion, 3 periods; lab., 2 periods. Not for physics majors.

**\*88:130(g). Physics I—4 hrs.**

A calculus-based course in mechanics, heat, and wave motion. Discussion, 5 periods. Prerequisite: 80:060 or permission of the instructor.

**\*88:131(g). Physics II—4 hrs.**

A calculus-based course in electricity, magnetism, and optics. Discussion, 5 periods. Prerequisite: 88:130 and 86:061 or permission of instructor.

**88:134(g). Environmental Applications of Physics—3 hrs.**

Applications of physical laws and concepts to the understanding and possible solution of certain problems of the environment. Topics related to energy demands, production, use, and distribution; and topics related to noise, thermal, air, water, and radiation pollution. Discussion, 3 periods. Prerequisite: 12 hours of physics or approval of instructor.

**88:136(g). Thermodynamics—3-4 hrs.**

First and second laws of thermodynamics: PVT surfaces; reversibility, entropy; phase transitions; statistical viewpoint. Prerequisite: 80:061, 88:056 or 88:131. Discussion, 3 periods; lab., optional, 2 periods.

**88:152(g). Electronics I—4 hrs.**

Electronics principles, basic d.c. and a.c. circuits, electrical measurements, power supplies, amplification by vacuum tubes and transistors, amplifier circuits. Discussion, 2 periods; lab., 4 periods. Prerequisite: 88:056 or equivalent.

*\*Graduate credit for non-physics majors only.*

**88:154(g). Electronics II—4 hrs.**

Oscillators, comparison measurements, and selected topics from: servo systems, operational amplifiers for measurements and control, electronic switching, and timing and digital counting systems. Discussion, 2 periods; lab., 4 periods. Prerequisite: 88:152 or permission.

**\*88:157(g). Fundamentals of Physics I—4 hrs.**

Basic principles of mechanics, heat, and sound. Enrollment limited to graduate students other than physics major or minors. Department approval required. Prerequisite: Working knowledge of algebra and trigonometry. Discussion, 3 periods; lab., 2 periods.

**\*88:158(g). Fundamentals of Physics II—4 hrs.**

Basic principles of electricity, magnetism, light, and modern physics. Department approval required. Prerequisite: 88:157 or equivalent. Discussion, 3 periods; lab., 2 periods.

**88:161(g). Acoustics and Optics—4 hrs.**

Harmonic oscillators, wave, theory, acoustics, and physical optics. Prerequisite: 80:061 and 88:131. Discussion, 3 periods; lab., 2 periods.

**88:164(g). Holography Laboratory and Lasers—1-2 hrs.**

Basic physics and principles of the laser; use of the laser for holographic studies and applied physics. Lab course with lectures. Stresses readily applied information and techniques including equipment characteristics and safety. Prerequisite: knowledge of wave motion at an elementary physics level, or permission of instructor. Lab.-discussion, 2-4 periods.

**88:166(g). Mechanics and Electromagnetic Fields I—4 hrs.**

Dynamics of a system of particles. Motion of particles in a central force field. Collision problems. Fields (gravitational, electric, and magnetic) and associated energies. Lagrange's

equations, Maxwell's equations, and their applications. Mathematical methods (vector analysis, differential equations, special functions, and complex variables) developed as needed. Prerequisites: 80:062 or 80:063; 88:131.

**88:167(g). Mechanics and Electromagnetic Fields II—4 hrs.**

Continuation of 88:166. Prerequisite: 88:166.

**88:169(g). Modern Physics—5 hrs.**

Atomic and nuclear structure; special relativity; alpha, beta, gamma, and X-radiation; wave-particle duality; introductory quantum mechanics; elementary particles. Discussion, 4 periods; lab., 2 periods. Prerequisite: 80:061; 88:056. Recommended; 88:130 and 88:131.

**88:170(g). Solid State Physics—3-4 hrs.**

Molecular binding; band theory of solids; electrical, thermal, and magnetic properties; imperfections; semiconductors, p-n junctions, and transistors. Prerequisite: 88:169 or equivalent. Discussion, 3 periods; lab., optional, 2 periods.

**88:172(g). Introductory Quantum Mechanics—3 hrs.**

Solutions of Schrödinger equation for several systems. Super-position of states. Matrix formulation. Physical interpretations. Discussion, 3 periods. Prerequisite: 80:061; 88:131; 88:169.

**88:175(g). Nuclear Physics—3-4 hrs.**

Interaction of radiation with matter; alpha, beta, and gamma decay; neutron physics and nuclear reactions; nuclear models; elementary particles; applications of nuclear physics. Prerequisite: 88:169. Discussion, 3 periods; lab., optional, 2 periods.

**88:185(g). Laboratory Projects—1-3 hrs.**

Experimental activities to meet individual needs and interests not normally included in other

courses. Maximum of 3 hours credit may be applied to a physics major or minor. Prerequisite: departmental approval.

**88:189(g). Readings in Physics—1-3 hrs.**

Readings/problems in areas of physics (or related interdisciplinary areas) not normally covered in other courses. Maximum of 3 hours may be applied to a physics major or minor. Prerequisite: departmental approval.

**88:193(g). Current Curricula in Physics—2 hrs.**

Philosophy, methods, and materials of high school physics curricula, including PSSC Physics, Project Physics, PSPE, TMMW, and others. Prerequisite: 8 hours of physics. Discussion, 1 period; lab., 2 periods.

**88:250. Special Problems in Physics—1-6 hrs.**

Credit determined at registration. Problems selected according to needs of students. Prerequisite: departmental approval.

**88:280. Current Topics in Physics—3 hrs.**

Selected topics from areas of current interest in fundamental and applied physics; includes means of communication with high school students on these topics. Prerequisite: 88:169.

**88:291. Evaluation of Programs in Secondary School Physics—3 hrs.**

Critical examination of the philosophy, materials and instructional techniques in secondary school physics programs such as PSSC Physics, Project Physics, IPS Physical Science and others. Study of educational research done on these programs will be included. Discussion, 3 periods. Prerequisite: 15 hours of physics and two years of physics teaching experience; 88:193 recommended.

**88:292. Research Methods in Physics—3 hrs.**

**88:299. Research.**



# Political Science

**94:112(g). Political Parties—3 hrs.**  
Origin, organization, and operation of political parties in the United States.

**94:124(g). International Relations—4 hrs.**

**94:127(g). United States Foreign Policy—3 hrs.**  
Factors influencing the formation and execution of United States foreign policies and specific instruments of foreign policy.

**94:128(g). Foreign Policies of Communist Countries—3 hrs.**

The formulation and implementation of communist foreign policy.

**94:131(g). American State Politics—3 hrs.**

An analysis of the organization, functions and operation of state and local governments.

**94:132(g). Community Political Systems—3 hrs.**

Structure and functions of city government. Relation of the city to the state.

**94:134(g). Congressional and Administrative Policy Making—3 hrs.**

Congressional-Administrative-Presidential politics in the formulation and execution of public policy.

**94:135(g). Modern European Democracies—3 hrs.**

Political institutions, processes, and policies of Western European Democracies; emphasis on Great Britain, France, and West Germany.

**94:141(g). Constitutional Law—3 hrs.**

The Constitution of the United States as fundamental law.

**94:143(g). International Law—3 hrs.**

Legalistic rules studies in the context of a case-by-case analysis and synthesis.

**94:144(g). International Political Issues—3 hrs.**

Selected contemporary international issues and the effectiveness of existing international organizations in dealing with these issues.

**94:146(g). Law and the Courts I—2 hrs.**

Study of the courts in America today with particular emphasis on trial courts and their impact on the community.

**94:147(g). Law and the Courts II—2 hrs.**

Study of judicial law making, private influences on court-expanded rights, and law school methods.

**94:148(g). Public Administration—3 hrs.**

The place of public servants in the functioning of government and recent trends in the expansion of administration.

**94:149(g). Comparative Administration—3 hrs.**

Analysis of models and theories of comparative administration by adopting "idiographic" approach and explanation of differences in administrative behavior of different administrative systems.

**94:150(g). Political Opinion and Public Policy—3 hrs.**

The formation and development of political opinion by interest groups and mass media in the shaping of public policy.

**94:151(g). Literature on the Modern Presidency—3 hrs.**

Analysis of the character of the office, the men who have occupied it, and the role of the institution in American politics.

**94:152(g). Government and Business—3 hrs.**

The dynamics and legalities of regulatory administration.

**94:153(g). Politics of Bureaucracy—3 hrs.**

Role of the administrative system in public policy process, interaction among agencies, interest groups, overhead control units, Congress, Courts, the political parties, mass media, and public opinion.

**94:154(g). Legislative Process—3 hrs.**

An analysis of the functions, powers, organization, processes, and problems of legislative systems in a comparative framework.

**94:155(g). Environmental Policy Making—3-4 hrs.**

Formulation and implementation of domestic environmental policies. Graduate student may enroll for only 3 hrs. credit. With advance permission of instructor, undergraduate student may enroll for total of 4 hrs. credit which requires contracting for completion of original research project.

**94:160(g). Western Political Thought—3 hrs.**

The development of political thought from Plato to the present, with primary emphasis on the relationship between man and the state.

**94:161(g). Political Thought—Marx to Easton—3 hrs.**

**94:162(g). Latin American Governments—3 hrs.**

The evolution of political institutions in Central and South America. Through an examination of personality, political parties and issues, insight into the nature of contemporary society in the western hemisphere is given.

**94:163(g). Political Thought of South Asia—3 hrs.**

Ancient and modern political theories of South Asian thinkers: landmarks of the Hindu, Buddhist, and Jain political traditions, their impact on social, political, and economic policies of the region; emergence of "Sarvodaya," and the Gandhian philosophy and the Indian communism.

**94:164(g). Government of the Soviet Union—3 hrs.**

The Soviet political system with emphasis upon the institutions and groups involved in the determination and implementation of public policy.

**94:165(g). East Asian Politics—3 hrs.**  
Political structures and institutions of China and Japan with emphasis on the modernization process since the middle of the 19th century.

**94:166(g). Chinese Political Thought: From Taoism to Maoism—3 hrs.**

Political philosophy from Lao Tzu to Mao Tse-tung with emphasis on latter as representing a unique synthesis of cultural traditionalism, Marxism-Leninism and ideological innovation.

**94:168(g). Politics of South Asia—3 hrs.**

Parliamentary institutions and politics; political movements and independence; the parties; the politics of language, caste, and tribe; democracy and economic change; goals and styles of political leadership; religion and politics; problems of nation building; and current trends in the countries of this area.

**94:170(g). Politics of Modernization in Developing Areas—3 hrs.**

Theories of political development and modernization in relation to political systems of developing countries of Africa, Asia, and Latin America.

**94:175(g). Comparative Revolutions and Political Change—3 hrs.**

A comparative study of revolutionary change in Europe and in the developing areas of Asia, Africa, and Latin America in historical and analytical contexts.

**94:183(g). Introduction to Comparative Politics—3 hrs.**

Basic theoretical concepts in comparative politics for studying and understanding political systems.

**94:189(g). Readings in Political Science—1-3 hrs.**

Prerequisite: 12 hours in Political Science and departmental permission. May be repeated only with permission of the department.

**94:224. International Politics—3 hrs.**

Prerequisite: 94:124 or consent of instructor.

**94:275. Political Science Methodology—3 hrs.**

Basic methods for gathering and presenting knowledge of the discipline. Application to teaching will be stressed.

**94:280. Seminar in Political Science—3 hrs.**

**94:285. Individual Readings—1-3 hrs.**  
May be repeated.

**94:289. Seminar in Comparative Politics—3 hrs.**

**94:289. Seminar in American Politics—3 hrs.**

**94:289. Seminar in Political Thought and Theory—3 hrs.**

**94:292. Research and Bibliography—3 hrs.**

**94:299. Research.**



# Psychology

## **40:106(g). Psychology of Human Differences** —3 hrs.

The nature and extent of human differences as they apply to an understanding of general psychology of the individual and group differences in a social setting. Prerequisite: 40:008 and 40:049.

## **40:118(g). History and Systems of Psychology** —3 hrs.

Prerequisite: One course in psychology or departmental approval.

## **40:125(g). Child Psychopathology—3 hrs.**

Overview of childhood problems ranging from minor problems in adjustment to severely disabling disorders; primary focus on research findings relevant to assessment, etiology, prognosis, and management. Prerequisites: 40:008; plus any one from 40:120, 31:055, 20:100, or equivalent of one of these, or consent of instructor.

## **40:142(g). Abnormal Psychology—3 hrs.**

Causes of abnormal behavior. Characteristics of major abnormalities. Classification of organic and functional disturbances. Prerequisite: Previous work in psychology or instructor's permission.

## **40:150(g). Conditioning and Learning—3 hrs.**

Basic concepts and processes in learning. Five periods per week. Prerequisite: 40:049 and 40:030 or graduate standing.

## **40:151(g). Psychological Measurement—3 hrs.**

Provides a basic knowledge of measurement methods as they apply to the areas of psychology; a variety of quantitative methods to aid in the understanding of research literature and psychological theories; ways of gathering or evaluating quantitative measurement data. Introduces the student to fundamental concepts and problems relating empirical phenomena to an organized body of theory and knowledge in psychology. Prerequisite: 40:008; 40:049; or permission of the instructor.

## **40:153(g). Thought and Language—3 hrs.**

A study of complex human behavior with emphasis on cognitive variables intervening between the observable stimulus and response. Includes the topics of language, thinking, concept formation and problem solving with related motivational constructs. Prerequisite: permission of instructor.

## **40:154(g). Principles of Perceptual Learning and Developmental—3 hrs.**

Study of progressive changes in perception in human and animal sub-adults resulting from maturational processes and learning experiences. Prerequisite: 40:030 or permission of instructor.

## **40:155(g). Physiological Psychology—3 hrs.**

Neurobiological basis of behavior; how human brain receives sensory input, integrates information, and directs responses; neural control of arousal, sleep, dreaming, eating, and sexual behavior; physiological mechanisms of learning, memory, and emotion. Prerequisite: 40:008 or equivalent, or consent of instructor.

## **40:157(g). Industrial Psychology I:**

### **Personnel Psychology—3 hrs.**

Processes involved in recruiting, selecting, training, and evaluating employees in all types of organizations; underlying assumptions and current techniques in use. Prerequisite: 40:008 or equivalent.

## **40:158(g). Industrial Psychology II:**

### **Organizational Psychology—3 hrs.**

Work motivation, job satisfaction, work group influences, and the structure of work; explores the most influential theories in the field and the most widely used applications of theories. Prerequisite: 40:008 or equivalent. Recommended be preceded by 40:157.

## **40:161(g). Psychology of Personality—3 hrs.**

Prerequisite: Previous work in psychology or instructor's permission.

## **40:162(g). Social Psychology—3 hrs.**

Prerequisite: 40:049 or permission of the instructor.

## **40:163(g). Developmental Psychology—3 hrs.**

Research and theories on the processes of development. Prerequisites: 40:030; 40:049; 40:120; or permission of instructor.

## **40:165(g). Physiological Psychology Laboratory** —2 hrs.

Basic laboratory procedures used by physiological psychologists; student will use procedures to design and implement a short research project. Prerequisite or corequisite: 40:155; or consent of instructor.

## **40:166(g). Clinical Psychology—3 hrs.**

Contemporary practice of clinical psychology with emphasis on the theories and techniques of behavioral assessment. Prerequisite: 40:008 or equivalent.

## **40:170(g). Drugs and Individual Behavior** —3 hrs.

Effects of psychoactive drugs on behavior; legal and ethical aspects of studying drug effects and regulating drug use discussed with drug abuse as a psychological phenomenon. Prerequisite: junior standing or permission of instructor.

## **40:180(g). Senior Thesis—1-6 hrs.**

Written report based on the analysis of a psychological problem, supervised by faculty committee. Prerequisite: senior standing and approval of department.

## **40:188(g). Readings in Psychology—1-3 hrs.**

May be repeated for up to 3 hours of credit.



**40:189(g). Seminar in Psychology—1-3 hrs.**  
Provides opportunity to correlate previous course work and knowledge in field of psychology. Prerequisite: 15 hours in psychology. May be repeated for up to 6 hours of credit.

**40:192(g). Practicum in Teaching Psychology—2-3 hrs.**

Organization and teaching of psychology; student serves as participant-observer in 40:008, 40:009, or 40:030. Prerequisite: Declared major or minor with at least junior standing and instructor's permission.

**40:193(g). Research Experience in Psychology—1-3 hrs.**

Research participation and/or independent supervised research including experience in each of the following: Search of the literature; analysis of theoretical issues; design, instrumentation, and conduct of one or two major experiments; analysis of results; and preparation of research reports. Prerequisite: 15 hours in psychology and permission of the department. A total of six semester hours of credit may be allowed.

## School Administration and Personnel Services

### SCHOOL ADMINISTRATION AND HIGHER EDUCATION.

**27:102(g). Introduction to Educational Administration—2 hrs.**

Introduction to the administration of schools in the United States.

**27:141(g). Instructional Leadership—3 hrs.**  
Techniques for teacher improvement in the elementary and secondary schools. Before enrolling in this course the student should have had teaching experience.

**27:151(g). Education and Law—2 hrs.**  
Introduction to school law; its effect upon education, with recognition of educator's responsibilities to total community. Primarily for non-administrators.

**27:203. Leadership in Educational Organizations—2 hrs.**  
Analysis of roles, and form and manner in which these roles are effectively performed. Prerequisite: 27:102.

**27:204. School and Community Relations—3 hrs.**

**27:210. School Personnel Administration—3 hrs.**  
Teacher selection and placement, promotion, tenure, and retirement; administration of pupil personnel facilitating services. Prerequisite: 27:102.

**27:212. Supervision of the Elementary School—2 hrs.**

**27:220. Curriculum Development in the Elementary School—3 hrs.**

**27:221. Administration of the Elementary School—3 hrs.**

Prerequisite: one year of teaching experience and departmental approval. Should have had 27:102 and course work in elementary education.

**27:226. Supervision of the Secondary School—2 hrs.**

**27:227. Curriculum Development in the Secondary School—3 hrs.**

**27:228. Administration of the Secondary School—3 hrs.**

Prerequisite: one year of teaching experience and departmental approval. Should have had 27:102.

**27:230. School Laws—2 hrs.**  
Legal structure for education; powers and duties of boards of education; rights and responsibilities of school personnel; rights of parents and students; and related topics. Emphasis on judicial decisions and common law with practical application for school personnel.

**27:240. School Finance—3 hrs.**  
Financial support for education, business administration, and budgeting. Prerequisite: 27:102.

**27:241. School Buildings and Sites—2 hrs.**  
Problems of school building planning, operation, and maintenance. Prerequisite: 27:102.

**27:242. Decision Making—2 hrs.**  
Environmental and personnel factors influencing decision making; specific emphasis on the process, competencies and consequences. Prerequisite: 27:102.

**27:243. School Business Management—2 hrs.**  
Prerequisite: 27:240.

**27:250. Teaching in College—3 hrs.**  
Methods and materials of college teaching to help the college instructor become a better teacher. Useful to junior and senior college personnel.

**27:252. Current Issues in Higher Education**  
—3 hrs.

A seminar-type course organized around the major issues confronting vocational-technical schools, community colleges, senior colleges, and universities in contemporary society.

**27:260. History and Philosophy of Higher Education**—3 hrs.

Overview of the historical development, issues, philosophies, and cultural backgrounds of higher education in America.

**27:285. Readings in School Administration.**

**27:289. Seminar in Education**—2 hrs.

Seminars are offered on special topics as indicated in the schedule of classes.

**27:290. Practicum in Education**—2-4 hrs.

**27:299. Research.**

**STUDENT PERSONNEL SERVICES**

**29:102(g). Introduction to Secondary School Guidance**—3 hrs.

**29:104(g). Introduction to Elementary School Guidance**—3 hrs.

**29:110(g). Information Services in Guidance**  
—3 hrs.

Orientation of guidance workers to the needs of junior and senior high school students in investigating educational and occupational possibilities; the organization of occupational ideas and materials.

**29:121(g). Human Relations Training**—3 hrs.

Introduction to concept of human interaction through "interpersonal recall process." Emphasis on student experiencing desired human interaction skills.

**29:124(g). Applied Group Dynamics**—3 hrs.

Principles of group dynamics applied in the instructional setting.

**29:126(g). Humanistic Consultation**—2 hrs.

Stresses principles, procedures, and process of consultation roles. Consultation content provided through integration of affective education programs and skills into learning process.

**29:203. Analysis of the Individual**—3 hrs.

Prerequisite: 25:180; and 29:102 or 25:181.

**29:205. Techniques of Counseling**—3 hrs.

Prerequisite: 29:102 or instructor's permission.

**29:207. Counseling Techniques with Children**  
—3 hrs.

This course will emphasize the specialized counseling and guidance approaches applicable to the elementary school child. The course will place prime emphasis on individual counseling of the elementary school child through the use of play media and verbal techniques. The course involves classroom lectures, assigned readings, classroom discussion and actual counseling experience under supervision. Prerequisite: 29:102 or 29:104 or permission of the instructor.

**29:210. Management Systems in Guidance**  
—2 hrs.

Individual behavior and systems change in the organizational and administrative components in guidance. Prerequisite: one year of teaching experience and departmental approval.

**29:220. Group Process**—3 hrs.

Emphasis on direct participation in groups to develop skills in guidance and counseling. Prerequisite: 29:205 or 29:207.

**29:225. Facilitating Career Development**—2 hrs.

Exploration of foundation of career development theory. Emphasis on significance of occupational preference and choice. Sociological, psychological, and economic determinants of choice examined; and awareness of theoretical concepts of career choice stressed. Prerequisite: 29:102 or 29:104, and 29:110 or permission of instructor.

**29:227. Counseling Theory and Methodology**  
—3 hrs.

Theoretical approaches to counseling. Function and present status of counseling theory. A study of each of the predominant theories. Prerequisite: 29:207 or 29:205.

**29:230. Student Personnel Programs in Higher Education**—3 hrs.

An introduction to the field of college student personnel services with applications of theory to practice.

**29:235. Supervision of Counseling Services**  
—2 hrs.

Didactic instruction in the methods and techniques of counselor supervision. Approximately one-fourth of the course will be devoted to supervisory experience in the laboratory and in a regular school situation.

**29:252. Relationship and Marriage Counseling**  
—3 hrs.

Stresses establishing and maintaining effective relations within marriage, with attention to communication and additudinal barriers. Recognition of alternative styles. Prerequisite: 29:205 or 29:207 or 29:227 or equivalent.

**29:285. Readings in Guidance and Counseling.**

**29:289. Seminar Student Personnel Services**  
—2 hrs.

Special topics as indicated in the schedule of classes.

**29:290. Practicum in Student Personnel Services**  
—3 hrs.

Prerequisite: 29:205 or 29:207.

**29:299. Research.**

## Science

There is no science department as such. The science majors and the general courses in science are offered under the jurisdiction and the general supervision of the Dean of the College of Natural Sciences.

### GENERAL COURSES IN SCIENCE

#### **82:120(g). Experiences in Physical Sciences** —3 hrs.

For majors in elementary or junior high education. Selected fundamental physical science concepts. Student inquiry and investigation of scientific phenomena stressed. Discussion, 2 periods; lab., 2 periods.

#### **82:122(g). Experiences in Biological Sciences** —3 hrs.

For majors in elementary or junior high education. Outdoor and laboratory observations of nature correlated with simple experimental design. Fundamental biological concepts applicable to classroom use. Discussion, 1 period; lab., 4 periods.

#### **82:194(g). Current Curricula in Junior High Science**—2 hrs.

Discussion and laboratory experience in modern curricula; the Intermediate Science Curriculum Study (ISCS), Introductory Physical Science (IPS), Time, Space and Matter (TSM), The Earth Science Curriculum Project (ESCP), and others. Discussion, 1 period; lab., 2 periods.

#### **82:200. History and Philosophy of Science** —2 hrs.

#### **82:270. Special Problems in Science Education** —1-6 hrs.

Problems selected according to needs of students. Prerequisite: approval of Science Education Coordinating Committee.

#### **82:280. Seminar in Science Teaching**—2 hrs.

#### **82:299. Research.**

## Social Science

There is no social science department as such. The programs and the general courses in social science are offered under the jurisdiction of the Social Science Education Committee and the general supervision of the Dean of the College of Business and Behavioral Sciences. Students will be advised by committee members from the departments of Economics, Geography, History, Political Science, and Sociology and Anthropology.

### GENERAL COURSES IN SOCIAL SCIENCE

#### **90:199(g). Study Tour, Europe**—6 hrs.

Residence study at leading European universities, followed by study tour of the Continent, including visits to historical and cultural centers.

#### **90:199(g). Study Tour, Latin America**—6 hrs.

Six weeks' study in Latin America with emphasis on the social aspects of countries visited.

#### **90:280. Social Science Seminar**—3 hrs.

May be repeated for a maximum of 6 hours. Prerequisite: departmental approval.

#### **90:291. Problems in Teaching the Social Studies** —2 hrs.

#### **90:297. Practicum**

#### **90:299. Research.**

# Sociology, Anthropology, and Social Work

## SOCIOLOGY

### 98:100(g). Individual Behavior—3 hrs.

The development of individual conforming behavior; a systematic analysis of the individual socialization process through human interaction among persons, within primary groups, institutions, and the human community as a communication process. Prerequisite: 98:058.

### 98:101(g). Collective Behavior—3 hrs.

The development of collective, non-conforming behavior; a systematic analysis of collective deviant, non-normative behavior in panic situations, crowds, masses, publics. The organization and behavior of sects, cults, interest groups. Social movements. The analysis of fads, fashions, crazes. The development of public opinion and propaganda. Prerequisite: 98:058.

### 98:114(g). Industrial Sociology—3 hrs.

The study of individual and organizational behavior in work and production. The structure and function of work groups and formal work organizations in changing industrial society. Prerequisite: 98:058.

### 98:120(g). Crime and Delinquency—3 hrs.

Types and causes of crime and delinquency; criminal behavior systems in American culture; correctional treatment and crime prevention. Prerequisite: 98:058.

### 98:121(g). Mental Deviance and Mental Health Institutions—3 hrs.

Study of the social factors associated with mental illness; its onset, the organizational context of its care and treatment, and its effects on various societal institutions. Prerequisites: 98:058; 98:060 or consent of instructor. (*same as 45:121*)

### 98:123(g). Social Deviance and Control—3 hrs.

Causes and consequences of socially disapproved behavior; role of social control agencies in recruitment of deviant identities, management of and reaction to deviance; dynamics of labelling processes and examination of the social meaning of non-normative behavior. Prerequisite: 98:060.

### 98:125(g). Social Gerontology—3 hrs.

Personal, interpersonal, and societal factors in the human aging process; emphasis on family, community and governmental responsibility in defining and resolving problems of the aged in a modern industrial society. Prerequisites: 98:058; 98:060.

### 98:130(g). Minority Group Relations—3 hrs.

A study of the interpersonal and social relations of minority groups within the larger American society, with special reference to Black-White relations. Prerequisite: 98:058. (*same as 45:163*)

### 98:135(g). Social Stratification—3 hrs.

Origin, development, and characteristics of social class and caste systems. Indices of class position, interaction between classes, social mobility, and theories of stratification. Prerequisite: 98:058.

### 98:136(g). Community Structure and Change—3 hrs.

Critical analysis of approaches to studying community; examination of current and emerging community problems and patterns of change; analysis of relationships between community structure and the effectiveness of change strategies at the community level. Social stratification and social power and relationships among theory, research and action will be emphasized. Prerequisite: 98:058.

### 98:137(g). Social Policy and Policy Change—3 hrs.

Definition of social policy; impact of social policy on social welfare institutions, social services, and people; frameworks for assessing policy in social work practice settings, their value and power basis, and vested interests served. Utilizes systems centered and problem centered models for assessing and changing policy derived from social work community organizations and social action practice to examine current policies relevant to social welfare and social work. Junior standing required. (*same as 45:144*)

### 98:144(g). Population—3 hrs.

Comparative study of population composition, growth, and major trends throughout the world; includes fertility, migration, and mortality. Introduction to techniques of population analysis; theories of population change, and problems of population policies. Prerequisite: 98:058.

### 98:150(g). Sociology of Conflict—3 hrs.

Past and current theories of human aggression, competition; rational and nonrational conflict, as well as mass and individual violence. Special attention given to social determinants of conflict. Prerequisite: 98:058.

### 98:156(g). Social Movements—3 hrs.

Sociological and socio-psychological conceptualizations of the genesis, dynamics, and demise of modern social movements. Stress is given to reformist, utopian, nativistic, and totalitarian organizations. Prerequisite: 98:058.

### 98:170(g). The Development of Modern Social Theories—3 hrs.

Summary and critical appraisal of the growth of sociological thought; historical consideration of social philosophy; introduction of leading sociological thinkers and their theories of society. Prerequisite: 98:058.

**98:172(g). Sociology of Religion—3 hrs.**

Examination of the social bases of religious institutions; factors in religious evolution and change; comparative analysis of religious organizations and religious behavior; functions of religion in the social structure. Prerequisite: 98:058.

**98:173(g). Alienation—3 hrs.**

An exegesis of the concept of alienation as conceived by Hegel, Marx, and current sociologists; emphasis on industrialism, the division of labor and its relationship to social reification, mystification, and objectification. Prerequisite: 98:058.

**98:176(g). Social Change—3 hrs.**

Nature of social change and its implications for personality and society. Prerequisite: 98:058.

**98:189(g). Readings in Sociology—1-3 hrs.**

Prerequisite: 9 hours in sociology and departmental permission. May be repeated only with approval of department.

**98:200. Contemporary Sociological Theory—3 hrs.**

Description and analysis of the main currents in contemporary sociological thought; principal sociological theorists; major themes, schools, trends, issues, and debates in theory. Prerequisite: 98:170. Open to seniors with consent of department head.

**98:201. Advanced Research Methodology—3 hrs.**

Relationship between theory and research, grant methodology; logic and philosophy of sociology, science and sociology; theory construction, formal models, explanation, prediction and cause; value freedom, objectivity, and ideology. Prerequisite: 98:085. Open to senior students with consent of department head.

**98:280. Seminar in Sociology—3 hrs.**

Seminars are offered in special topics; such as Sociological Theory, Deviant Behavior Social Psychology, Social Stratification, Population, Sociological Research, Sociology of Religion, and others. The topic to be used for a specific semester will be listed in the Schedule of Classes. An advanced course in the specific area scheduled will be considered a prerequisite to that seminar. Enrollment in different topics is not limited, but a student should not enroll in two seminars on the same topic.

**98:285. Individual Readings—1-3 hrs.**

**98:297. Practicum.**

**98:299. Research.**

**ANTHROPOLOGY**

**99:134(g). Culture Change Among Woodland Indians—3 hrs.**

Selected Indian cultures in the Great Lakes area from the late 1700's to the present; emphasizes dynamics of culture change and selected topics related to contemporary reservation and urban life. Prerequisite: 99:011 or consent of instructor.

**99:136(g). Anthropology of South Asia—3 hrs.**

The social and cultural organization of India and Pakistan with particular reference to contemporary village life. Prerequisite: 99:011 or consent of instructor.

**99:160(g). Psychological Anthropology—3 hrs.**

Psychological dimensions of sociocultural systems considered in a comparative perspective. Includes historical development and logical status of the field, personality in sociocultural contexts, cognitive anthropology, and other issues in ethnopsychology and ethnopyschiatry. Prerequisite: 99:011 or consent of instructor.

**99:161(g). Religion, Magic, and Witchcraft—3 hrs.**

Anthropological understanding of behavior dealing with the supernatural; supernatural beliefs, practices, and movements throughout the world. Prerequisite: 99:011 or consent of instructor.

**99:162(g). Cultural Change and Evolution—3 hrs.**

Classical and modern anthropological thought on how the present diversity of human cultures developed out of the hunting and gathering groups of the early pleistocene. Prerequisite: 99:011.

**99:163(g). Social Organization of Primitive Peoples—3 hrs.**

Varieties of social structure in selected non-literate societies. Role of kinship, age, sex, environment, economics and religion in determining relations between individuals and groups. Prerequisite: 99:011.

**99:164(g). Cultural Ecology—3 hrs.**

Diversity of human customs and beliefs in light of environmental conditions. Variety of ways in which society can integrate itself with or set itself against the environment. Prerequisite: 99:011.

**99:176(g). Anthropological Theory—3 hrs.**

Major theoretical developments in anthropology, including both historical and contemporary schools and trends. Prerequisites: 99:011 and junior standing or consent of instructor.

**99:180(g). Seminar in Anthropology—3 hrs.**

Selected problems within one of the subfields of anthropology (cultural, physical, archaeology, or anthropological linguistics). Topic for a specific semester to be listed in the Schedule of

Classes. Prerequisites will vary with the topic. May be repeated for credit.

**99:189(g). Readings in Anthropology—1-3 hrs.**  
Prerequisite: 9 hours in anthropology and departmental permission. May be repeated only with permission of department.

### **SOCIAL WORK**

**45:121(g). Mental Deviance and Mental Health Institutions—3 hrs.**

Prerequisites: 98:058; 98:060 or consent of instructor. (same as 98:121)

**45:144(g). Social Welfare Policy and Services III—3 hrs.**

Definition of social policy; impact of social policy on social welfare institutions, social services, and people; frameworks for assessing policy in social work practice settings, their value and power basis, and vested interests served. Utilizes systems centered and problem centered models for assessing and changing policy derived from social work community organizations and social action practice to examine current policies relevant to social welfare and social work. Junior standing required. (same as 98:137).

**45:163(g). Minority Group Relations—3 hrs.**

Prerequisite: 98:058. (same as 98:130)

**45:164(g). Human Behavior and the Social Environment—3 hrs.**

Assessment of the applicability of various perspectives of human behavior to social work diagnosis, planning, and intervention; general

systems theory serves as organizing framework. Student should have a strong base of courses in human behavior. Prerequisite: 31:055 or 20:139; 98:100 or 40:161.

**45:193(g). Therapeutic Communication—3 hrs.**  
Human communication relevant to effective behavior change in the therapeutic relationship. Experiential learning in the core therapist facilitative conditions. Identification of critical therapist—helping person—and client variables which affect communication. Prerequisite: 45:192 or consent of instructor.

**45:195(g). Social Group Work Practice—3 hrs.**  
Social group work theory, and small group dynamics; includes experiential or T-group component as part of educational experience. For student planning to work in group-work practice or in a graduate school. Prerequisite: 45:192 or consent of instructor.

**45:196(g). Community Organization Practice—3 hrs.**

Social work practice dealing with community and agency systems; examination of locality development, social planning and social action strategies, assessment of character of social issues, social worker roles, sources of power, and conflict and consensus models of intervention. Prerequisite: 45:192.



# Speech

**50:100(g). Introduction to Rhetorical Theory**  
—3 hrs.

A systematic examination of rhetorical theory and its place in spoken and written discourse; development of an understanding of the functions of rhetoric; and an introduction to terms and concepts of rhetorical theory.

**50:101(g). Communication in Education**  
—2-3 hrs.

Exploration of new methods and avenues of communication in teaching. Offered opposite student teaching. May not be counted in meeting requirements of a major or minor in Speech.

**50:110(g). Applied Theatre—1 hr.**

Practical work on theatre productions. A maximum of 4 hours credit may be earned.

**50:111(g). Applied Forensics—1 hr.**

A maximum of 2 hours credit may be earned.

**50:112(g). Advanced Interpretation of Poetry**  
—3 hrs.

Analysis of the meaning and structure of poetry and application of the analysis in the oral communication of poems by selected writers. Prerequisite: 50:031.

**50:113(g). Advanced Interpretation of Prose**  
—3 hrs.

The meaning and structure of narrative prose and application of analysis in the oral communication of prose fiction. Prerequisite: 50:031.

**50:114(g). Advanced Interpretation of Readers Theatre—3 hrs.**

Introduction to basic forms of staging and adapting poetry, prose, and drama with emphasis on directing group presentations. Prerequisite: 50:031.

**50:130(g). Creative Dramatics for Children**  
—3 hrs.

Prepares students to guide children in creative drama. Study of the art of spontaneous drama as it relates to the development of the child.

**50:131(g). Speech Composition—3 hrs.**

Composition and presentation of manuscript speeches with special emphasis on style and attention of rhetorical examples and methods of criticism. Prerequisite: 50:030.

**50:134(g). Theatre for Children—3 hrs.**

Reading of children's plays and discussion of production problems related to staging of children's theatre.

**50:135(g). Creative Drama Practicum—3 hrs.**

Experience in learning to adapt materials for spontaneous drama and experiment with techniques of guidance in an actual classroom situation, under the supervision of the classroom teacher and the instructor of the course. Prerequisite: 50:130.

**50:137(g). Communication Theories—3 hrs.**

Investigation of concepts offered by various theorists to explain human communication behavior.

**50:138(g). Organizational Communication**  
—3 hrs.

A study of communication channels and patterns which occur in large organizations where personnel are largely interdependent.

**50:140(g). Persuasion—3 hrs.**

Examination of relationships between speech communication and change in belief/action patterns; emphasis on study of drives, motives, and attitudes as these are influenced by speech. Prerequisite: 50:030.

**50:141(g). History of the Theatre I—3 hrs.**

Examination of plays, production methods, and historical trends in the theatre from the beginnings to the Restoration.

**50:142(g). History of the Theatre II—3 hrs.**

Examination of plays, production methods, and historical trends in the theatre from the Restoration to 1900. Prerequisite: 50:141.

**50:143(g). Advanced Discussion—3 hrs.**

Explores problems involved in small group discussion through examination of reported experiments and literature in the field. Prerequisite: 50:139.

**50:145(g). Argumentation—3 hrs.**

Advanced study in theory and methods of argumentation. The student will study the ethical, logical, and evidential contributions of various authors to argumentation theory.

**50:147(g). History of the Theatre III—3 hrs.**

Examination of plays, production methods, and historical trends in the theatre from 1900 to the present.

**50:148(g). Theatre Aesthetics—3 hrs.**

Theories of the theatre art. For theatre-emphasis students. To be taken in junior or senior year.

**50:150(g). Stage Costume I—3 hrs.**

Discussion, 3 periods; lab., 3 periods. Basic principles of stage costume design and construction, with emphasis on educational theatre.

**50:151(g). Theatre Design I—3 hrs.**

Design theory as applied to the theatre. Analysis of selected scripts to develop design concepts in scenery, costume and lighting. Prerequisite: 50:051 or consent of instructor.

**50:152(g). Directing II—3 hrs.**

Advanced problems in directing. Each student will stage a one-act play for public presentation. Discussion, 3 periods; lab., 3 periods. Prerequisite: 50:154.

**50:155(g). Acting II—3 hrs.**

Application of the skills and techniques of Acting I to more advanced work in the various styles of acting. Prerequisite: 50:153.

**50:156(g). Lighting Design—3 hrs.**

Perception and use of light as a design medium with concentration on its use in stage, television, and film production. Discussion, 2 periods; lab., 2 periods. Requires work on productions.

**50:157(g). Stage Costume II—3 hrs.**

Advanced study of historic dress and costume design. Emphasis on development of design concepts through rendering techniques. Prerequisite: consent of instructor.

**50:160(g). Playwriting—3 hrs.**

Prerequisite: consent of instructor.

**50:162(g). Conference Techniques and Interviewing—3 hrs.**

Communication concepts and techniques for conferences, small group meetings, and interviews common to business settings.

**50:163(g). Business and Professional Oral Communication—3 hrs.**

Communication concepts and techniques for reporting and persuasive presentations in decision making situations.

**50:164(g). Dimensions of Interpersonal Communication—3 hrs.**

Bases, applications, and implications of interpersonal communication. Prerequisite: 50:034 or 50:035.

**50:165(g). Experimental Research in Speech—3 hrs.**

Introduction to research studies and quantitative research procedures. Three emphasis areas: (1) Communications; (2) Persuasion; (3) Theatre. Credit may be earned by taking different sections, but not by repeating the same section.

**50:167(g). Theatre Design II—3 hrs.**

Continuation of 50:151; emphasis on scripts suitable for highly stylized design concepts, including avant-garde, contemporary scripts and presentational forms. Discussion, 2 periods; lab., 2 periods. Prerequisite: 50:151 or consent of instructor.

**50:168(g). Theatre Management—3 hrs.**

An intensive study of business practices in the academic, community, and commercial theatre. Field trips and guest lectures to be included.

**50:180(g). Scene Painting—3 hrs.**

Practicum in traditional scenic art, covering base coating, scumbling, stenciling, texturing, and the use of bronze powder, varnish, aniline, dyes, and a variety of other techniques and materials. Lab., 8 periods. Prerequisite: 50:051 or consent of instructor.

**50:182(g). Stage Fight Choreography—3 hrs.**

Basic skills of modern and historic styles of fencing, swordplay, and other modes of fighting, and application of these skills to the planning and safe execution of an effective and artistic stage fight.





**50:187(g). Contemporary Public Address**  
—3 hrs.

Critical study of subject with emphasis on important American statesmen after World War II.

**50:189(g). Readings in Theatre—3 hrs.**

Intensive investigation of a theatre style, form, period, or concept. May be repeated for a maximum of 6 hours. Prerequisite: Instructor approval.

**50:193(g). Teaching of Speech—3 hrs.**

Credit also as a course in education for a student whose major is speech. Prerequisite: 12 hours of speech. Strongly recommended that this course precede student teaching.

**50:194(g). Method of Directing Forensics**  
—2 hrs.

Credit also as a course in education for a student whose major is speech.

**50:196(g). Methods of Teaching Theatre in High School—2 hrs.**

Theory for teaching theatre in the secondary school; practical experience in techniques for teaching, directing, and relating theatre to high school students. Highly recommended before student teaching. Credit also as course in education for student whose major is speech. Prerequisite: consent of instructor and 12 semester hours of speech.

**50:205. Interpersonal Communication—3 hrs.**

Synthesis of psychological, sociological, philosophical analysis of person-to-person communication.

**50:212. Speech Criticism—3 hrs.**

Comparison of theories of criticism and their application to selected speeches.

**50:225. Bibliography and Methods of Research**  
—3 hrs.

**50:230. Psychology of Speech—3 hrs.**

The analysis of speech communication as a behavior phenomenon. Topic emphasis to be used on professional interest of class. Prerequisite: consent of instructor.

**50:240. Classical Rhetoric—3 hrs.**

Ancient rhetorical theory; emphasis on works of Aristotle, Cicero, and Quintilian.

**50:241. British and American Rhetoric—3 hrs.**

Rhetorical trends from 17th century to the present; examination of works of major rhetoricians.

**50:242. British and American Public Address**  
—3 hrs.

Study of major speakers and movements. Offered in three sections.

(1) British Public Address

(2) American Public Address to 1865

(3) American Public Address, 1866 to the Present.

Additional credit may be earned by taking different sections, but not by repeating the same section.

**50:251. Problems in Theatre Design—3 hrs.**

Study of auditorium design: design of scenery, lighting, costumes, and props for different types of auditorium design and different types of staging. Prerequisite: approval of instructor.

**50:273. Projects in Speech—1-3 hrs.**

May be repeated for a total of 3 hours credit. Approval of departmental committee must be obtained before registration.

**50:289. Seminar in Teaching Speech—3 hrs.**

Emphasis on (1) problems related to organizing and teaching speech courses in the public schools, (2) directing of extra-curricular speech activities, and (3) teaching speech at the college level. May be repeated for a maximum of 6 hours.

**50:289. Seminar in Public Address—3 hrs.**

Class interest determines whether the emphasis will be upon (1) persuasion, (2) rhetoric, or (3) debate and discussion. May be repeated for a maximum of 6 hours.

**50:289. Seminar in Interpretation—3 hrs.**

Section 1, Historical developments of oral interpretation from Sheridan and Walker, to present. Section 2, Contemporary theories of teaching oral interpretation. May be repeated for a maximum of 6 hours.

**50:289. Seminar in Scene Design—3 hrs.**

History and theory of scene design. Laboratory. Prerequisite: 50:053 and 50:151.

**50:289. Seminar in European Theatre—3 hrs.**

Specialized study in some aspects of European theatre history and dramatic literature. Prerequisite: 50:142.

**50:289. Seminar in American Theatre—3 hrs.**

Specialized study in some aspects of American theatre history and dramatic literature. Prerequisite: consent of instructor.

**50:289. Seminar in Stage Interpretation of Selected Plays—3 hrs.**

Specialized study of prompt-scripts and stage histories of selected plays. Prerequisite: consent of instructor.

**50:299. Research**

# Speech Pathology and Audiology

## **51:101(g). Speech Correction for the Classroom Teachers—3 hrs.**

The role of the classroom teacher in dealing with speech and hearing problems. Information on identification, causes, personality, problems, referrals, and remediation procedures. Not to be taken by students majoring in Speech Pathology.

## **51:105(g). Anatomy and Physiology of Speech Mechanism—3 hrs.**

Functional anatomy, physiology, and neurology of the speech mechanism.

## **51:106(g). Language Acquisition in Children—3 hrs.**

Language in children from birth through age five. (The acquisition of the phonological, morphological, and syntactic systems of Standard English will be studied.) Theories of language learning will be studied as well as the effect of physiological, psychological, and environmental factors.

## **51:125(g). Disorders of Articulation—3 hrs.**

Normal and abnormal speech and language plus diagnosis and remediation of articulation problems. Prerequisite: 51:010.

## **51:127(g). Disorders of Language—3 hrs.**

Techniques for rehabilitation of language disorders. The mentally retarded and disadvantaged children will be considered as well as the language-delayed child in the normal classroom. Includes lectures, readings, discussion, and demonstrations. Prerequisite: 51:106 or instructor's approval.

## **51:130(g). Cleft Palate—2 hrs.**

Etiology, nature and principles of remediation of speech problems resulting from cleft palate, and other structural facial deviations. Demonstration of applied techniques. Includes laboratory. Prerequisites: 51:125 or instructor's approval.

## **51:135(g). Introduction to Disorders of Voice—3 hrs.**

Normal and abnormal human voice production. Etiology, diagnosis and treatment of organic and functional voice problems. To precede student teaching; open to Speech Pathology majors only. Prerequisite: 88:008.

## **51:140(g). Stuttering: Theory and Therapy—2 hrs.**

Etiology, nature, and therapy for disorders of rhythm in speech production. Prerequisite: 51:125 or instructor's approval.

## **51:156(g). Clinical Examination—3 hrs.**

Theoretical and practical aspects of the evaluation process.

## **51:165(g). Introduction to Audiology—3 hrs.**

Types of hearing loss and audiometric measurement. Pertinent organic and psychological problems. Prerequisite: 51:105.

## **51:175(g). The Acoustically Impaired—3 hrs.**

Philosophies and history of education of the acoustically handicapped. Relevant organic and psychological problems. Types of programs and vocational training. Introduction to rehabilitation methods.

## **51:180(g). Current Problems in Speech Pathology and Audiology—2 hrs.**

Major issues confronting clinicians, researchers, and training institutions. Seminar discussion topics to be determined by participants. Prerequisite: approval of instructor.

## **51:195(g). Methods in Speech Pathology—2 hrs.**

Intensive investigation of the planning and conducting of speech pathology and audiology programs in appropriate clinical settings. Prerequisite: 51:125 or instructor's approval.

## **51:196(g). Research Methods in Speech Pathology and Audiology—3 hrs.**

Prerequisite: 25:180.

## **51:230. Language Training Strategies—3 hrs.**

Competencies necessary for treating the language delayed/deficient child. Emphasis on specific strategies as indicated in the literature. Successful completion of course requires demonstration of proficiency in each method covered. Prerequisites: 51:106; 51:127.

## **51:240. Aphasia—3 hrs.**

Diagnosis and remediation of aphasia in adults.

## **51:241. Dysarthrias—3 hrs.**

Neurophysiological bases of cerebral palsy. Detailed study of specific dysarthric speech. Therapeutic procedures of Kabat, Fay, Rood, and Bobath.

## **51:255. Advanced Clinical Practice—1-4 hrs.**

Clinical experience in diagnosis and remediation of the speech problems associated with aphasia, cerebral palsy, hearing loss, and disorders of voice. Prerequisite: 51:155. May be repeated for a total of 4 hours of credit.

## **51:258. Audiology Practicum—1-2 hrs.**

Supervised clinical experience in auditory evaluation and training of the hearing impaired. May be repeated for a total of 6 hours credit. Prerequisite: Audiology major.

## **51:265. Pure Tone and Speech Audiometry—3 hrs.**

Fundamental principles and clinical applications of pure tone and speech audiometry. Prerequisite: 51:165.

## **51:270. Anatomy and Physiology of the Auditory Mechanism—3 hrs.**

Functional anatomy, physiology, neurology of the hearing mechanisms. Prerequisite: 51:165 or consent of instructor.

## **51:271. Advanced Auditory Tests—3 hrs.**

Application of pure tone and speech audiometry to complex auditory problems and differential diagnostic question. Prerequisite: 51:265.

**51:272. Hearing Aids—3 hrs.**

Physical characteristics and clinical aspects of auditory amplifiers for the hearing impaired. Prerequisite: 51:265.

**51:273. Pediatric Audiology—2 hrs.**

Development of auditory perception, auditory deprivation, tests and techniques with the neonate, infant, and child. Prerequisite: 51:265.

**51:274 Community and Industrial Hearing Conservation—2 hrs.**

Discovery and prevention of hearing loss, public school and industrial hearing conservation, noise pollution and medico-legal problems. Prerequisite: 51:265.

**51:275. Aural Rehabilitation—3 hrs.**

Speech reading, speech therapy, auditory training and oral language for the hard of hearing and deaf.

**51:280. Individual Readings—1-2 hrs.**

Project must be approved before beginning of semester in which work is to be done. May be repeated. Prerequisite: approval of instructor and head of department.

**51:289. Seminar in Audiology—2 hrs.**

Advanced study of human auditory functions, audiometry or rehabilitation of the hearing impaired. Prerequisite: approval of instructor.

**51:289. Seminar in Hearing—2 hrs.**

**51:289. Seminar: Differential Diagnostics—2 hrs.**

Advanced techniques in differential diagnostics, incorporating a multi-disciplinary approach. Opportunities will be provided to observe and administer appropriate evaluative materials.

**51:295. Seminar in Speech Pathology—2 hrs.**

Seminars in special topics to be announced in the Schedule of Classes. Prerequisite for each scheduled topic will be completion of major requirements in that area. May be taken for a maximum of 6 hours as long as no topic is repeated.

**51:296. Clinical Supervision in Speech Pathology—2 hrs.**

Approaches to clinical supervision; objectives and methods; practicum to be arranged concurrently. Prerequisite: consent of instructor. Enrollment will be limited to six students selected by instructor from those graduate students in their last semester's work in the department.

**51:299: Research.**

## Teaching

**28:250. Advanced Laboratory Practice—2-4 hrs.**

Student may concentrate on any aspect of the school program, such as curriculum, methods, evaluation, remedial instruction, guidance, supervision, administration, public school relations, educational media and audio-visual aids, and extra-class activities. May be repeated for a total of 4 hours. Approval of Head of the Department of Teaching required.



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